A Study on the Characteristics of the Designs on Coptic Textiles of Ancient Egypt

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Abstract

Textile and clothing in Ancient Egypt have carried long history and tradition. Especially, Egyptian textile culture, created mostly by the Copt, has the originality of weaving technology and the artistic beauty of the weaving motifs, making the textiles comparable to modern textiles.

The purpose of this study is to research on the characteristics of Coptic textile designs of ancient Egypt and the tunic, a basic garment made of Coptic textiles, and offer materials for the development of the textiles and designs with artistic values which can be shared in the modern era, not just for the research of the relics of the past.

Therefore, this study will follow the historical background of Coptic textiles and the process of the development, and look into the distinct features under the categories of material, colors and motifs. In addition, the tunic and its weaving technology will be explained and this will help understand the originality of Coptic textiles.

The scope of this study is limited to the period of the 3rd to 12th centuries when the Egyptian weaving technologies advanced dramatically and many of the ancient Egyptian textiles discovered from the grave goods dates back, the research method of the tunic as well as books published at home and abroad, research paper and photograph works.

The textiles had developed along the Egyptian history which was influenced by different cultures such as Greek, Roman, pagan, Christian, and later, Islamic. For the textiles, they used a variety of pictorial motifs including Greek goddesses, pastoral scenes related to the Nile River and animals, human figures, geometrical figures and Christian icons. They are symbolic, natural, and mythological characters, and this explains that the world views and religions of the weavers influenced the development of specific motifs.

Coptic textiles was used to make a tunic, a simple straight–sided gown without sleeves worn by men and women and was woven in a combination of linen plain weave and woolen tapestry weave for a tunic. Not only the excellence of the weaving technologies and the beauty of the colors used in the textiles, but also the diversity of the textures through weaving, embroidery, and knotting are detected in Coptic textiles.

Key Words : Ancient Egyptian textile, Copt textile, Tunics, Tapestry, Christianity
I. Introduction

Textile culture of ancient Egypt was created by the Copt. Diverse exchange of cultures made the textiles prevalent in the transitional phase between the ancient Oriental and the medieval European textiles. Coptic textiles were unearthed from burials in the upper river of the Nile and as most of them were discovered in the wraps of the dead and the burial finds, it is found that there existed specific motifs and weaving technologies according to eras.

Coptic textiles, one of ancient Egyptian textiles, where dyed wool yarns were woven into basic linen (flax) grounds to create the decorative elements, inherited Egyptian traditions while in the position of transitting to the medieval tapestry by overcoming the linen-only fabrics in the Egyptian dynasty.

This paper will research the characteristics of the Coptic textile designs of ancient Egypt and the tunic, which were made of Coptic textiles, to proffer materials for the development of the textile and fashion designs with aesthetic values that can be shared in the modern era, not just for the study of the relics of the past.

Therefore, this paper will explain the historical background of Coptic textiles and the phases of the development, and look into the characteristics under the categories of material, colors and motifs. The motifs are analyzed according to the times but the research on the materials and colors are focused on the general traits instead of chronological analysis due to the lack of sources and literature on the subjects. Besides, the tunic and its weaving technology will be studied and this will help understand the originality of Coptic textiles.

Most of the existing Coptic textiles were unearthed from burials so that the research materials on the textiles are limited to clothes and grave goods which were buried with the corpses. The colors of these materials survived relatively well over the centuries due to the dry Egyptian climate and sandy soil. Accordingly, even fragmental pieces of Coptic textiles have allowed the researchers to make inferences about their colors, materials, techniques, and manufacturing dates.

Therefore, the scope of this study is limited to the period of the 3rd to 12th centuries when the Egyptian weaving technologies advanced dramatically and many of the ancient Egyptian textiles discovered from the grave goods and pieces of Coptic tapestries dates back.

This study was conducted through the literature and pictures from museums on the ancient Egyptian textiles, as well as books published at home and abroad, research paper and a collection of photographs.

II. Historical Background of the Textiles of ancient Egypt

The textile is a critical source to show the life phase for an era since it reflects the history, religion, and culture of those days. As for the Egyptian textile culture, built up by the Copt, the originality of the weaving technology and the artistic beauty of the weaving motifs make the textiles comparable to the modern one.

The word “Copt” denotes the Egyptian native Christians and the “Copt” was derived from ancient Egyptian language. Greeks who made into Egypt from 7th century B.C. called them “Aiguptios” from which “Egypt” originates. Following the Arabic conquest in 640 A.D., they were called “Kipt.” Today the word “Copt” denotes only Egyptians of Christian faith, who
did not converted to Islam.

The Copt lived along the Nile River of Egypt, and escaped from the big cities following the Arab conquest in the mid-7th century and settled down in groups in the backwoods of upper regions of the Nile or oases in the desert, forging a unique Christian culture. Therefore, Coptic textiles can be one of Christian lineages made in Egypt but, compared to the textiles in the Egyptian dynasty which were woven only with linen, Coptic textiles used dyed wool yarns to add the decorative motifs on the linen grounds.

The level of Egyptian weaving technology enhanced dramatically around the 4th century and it is assumed that Coptic textiles emerged in that period. In particular, one of the most renowned Coptic arts is saturated-colored tapestry weave. Most of the Egyptian Copt tapestries were produced, from 4th to 10th centuries, especially 5th to 7th, and a majority of them were embellishments woven into or seamed to tunics and cloaks. On white linen grounds decorative tapestry bands with a variety of widths and geometrical motifs in multiple lines were woven with wool fibers, silk, or sometimes metallic yarns. Due to the influence of Islam, Coptic textiles, which survived until the 12th century, underwent profound changes in weaving technology in the later period. Therefore, Islamic readings were woven into generally used textiles or typical Egyptian Coptic textiles that are produced between the 11th and 12th centuries.

Furthermore, through Byzantine, Coptic textiles prevailed in the transitional period from the ancient Orient to the medieval Europe. That is to say, they emerged in the Egyptian dynasty, and later under the Roman Empire they were incorporated into the early Christian history and survived until the Arabic conquest. As a result, they absorbed the influences of Sassanian Persian, Byzantine, and finally Islamic styles. Those textiles contained their own indigenous materials, technologies, and designs as much.

In spite of the influences from the foreign conquerors, the Copt built their own unique local arts of Christianity, which was proved by the textiles discovered in the tombs in Akhmim and Antinoe following the late 19th century. The Coptic arts are divided into three periods as below.

In the first period, from the late 3rd to the 5th centuries, Hellenistic traditions strongly remained and it is called the ‘early Copt.’ There were more ancient mythological figures than Christian themes on the textiles, and pagan temples and Christian churches are assumed to coexist. Particularly, by interpreting the ratios of human figures in exaggerated or free manners, muscular depiction disappeared and the surface of the figures turned smooth unlike the ones in the past.

In the second period, from the late 5th to the mid-7th centuries, many Christian-themed murals were discovered. Strong, decorative reliefs with Acanthus, grapes, and geometrical motifs are seen on the head part of pillars.

The period of the Islamic rule is the third, in which the Coptic churches continued to exist despite the Islamic suppression and the Coptic art maintained its independence under the influence of the Islamic art. Most of the Coptic textiles were unearthed in the tomb furnishings and their colors did not fade even though they were interred over a long period of time, meaning that the reliability of dyeing technologies in the Greco–Roman era was handed down to Coptic textiles. With the
III. Characteristics of Coptic textiles

Coptic textiles of ancient Egypt are closely related to the Christianity. The Egyptian artisans were the Christian Copt and their faith is established as a denomination. Their textiles brought them the reputation.

Most of the existing Coptic textiles were unearthed from burials so that the research materials on the textiles are limited to clothes and grave goods which were buried with the deceased. In particular, insufficient sources on the materials and colors frustrated an analysis in depth beyond the general characteristics. But when it comes to the motifs, the characteristics will be explained according to the times.

The ancient Egyptian textiles will be categorized according to materials, colors, and motifs and the characteristics of them will be explained.

1. Materials

The distinguished points of Coptic textiles are not only the weaving technologies using different kinds of materials but also beautifully dyed colors. In this period, they were not more colorful than Syrian, Byzantine or Persian, and apparently, they were not sophisticated in technical aspects, and were mainly made of linen or wool.

Since growing Flax, discovering linen and using it in producing traditional and ritual costumes and clothing was critical in the Egyptian civilization. Next to linen, the second most characteristic textile is Coptic textiles in tapestry style in which woolen fibers with a variety of colors were used as weft thread and woven into the basic linen grounds. Even though Egyptians had already raised sheep for many centuries, it's only Hellenistic era that wool was widely used. Linen and wool are very different in their characteristics: flax has high level of tension.
and wool has strong elasticity. The Copt used the characteristics properly and came up with their own unique weaving technologies.

To display diverse colors on the textiles, the artisans used a combination of two different textiles and they solved problems that resulted from the aforementioned method, as below.\(^{1)}\)

For tapestry weave, two or three plies of linen warp threads are twisted together or grouped in one when needed, to widen the intervals between the warp threads so that thick and soft wool yarns can be filled in around the tight linen weft threads. Or, when the textile is completed, warp threads are cut out or part of the threads are left without using them.

Flax was mainly used for warp and wool for weft. One of the most unique Coptic textiles is a combination of flax and wool which were mostly used in plain-weave fabrics such as rep\(^12)\) and tapestry. Since there are many reps – a stripe pattern – in linen part, and tapestries, covering the warp threads, in decorative wool and linen part, the weave structure of the pattern part and the basic ground fabric appear different.

2. Colors

To overcome the limit in the expression of colors, the Copt added motifs instead of colors on the simple fabrics by mixing wool and linen. When it comes to colors in the textiles, from the late 5th to the early 6th centuries, garment ornaments were mostly monochromatic. Only after 6th century, did a variety of hues begin to be used due to the Byzantine influence. In most early pieces, red violet was used for rectangular decorations on the white or natural colored ground fabrics and purple, on the edge. These colors were extracted from a variety of crustaceans like shellfish and lichens. Dip dyeing for numerous colors, block, and resisting with wax or mud were used as methods of dyeing. Deep blue as well as vivid red, orange, and purple were used in the textiles.\(^{13)}\) Besides, the weavers used primary polychromatic colors such as navy blue, black and purple\(^{14)}\) and dim single colors of purple or brown designs and background.\(^{15)}\)
The colors found on the textiles were produced mainly from the nature. Red was created from plant source like Rubia tintorum or insects. Indigo and woad resulted in blue. Green was spawned by overdyeing indigo or woad with saffron yellow. Purple was created by dyeing in madder and indigo, or by using clam, shellfish, lichens or other replacements. Alum, ferric salt, and copper salt were used as a mordant to setting in the colors and dyes. The dyes used in the textiles allow us to trace back the dates of the textiles. It is likely to assume that the more diverse colors used, the later they were produced.

The early textiles other than garments sometimes take on rich colors, but when the theme is figurative, the colors are close to natural colors. However, weavers of polychromatic fabrics described animals in unconventional colors.

3. Motifs

The motifs displayed on Coptic textiles of ancient Egypt will be explained according to two periods.

1) The Former Period (from the 3rd to 7th Centuries)

Greco-Roman and Islamic elements, which melt into Egyptian history, worked together in harmony on the motifs that are displayed on Coptic textiles. Especially in the Coptic pieces of the former period, even under the influence of Byzantine, the motifs were diverse ranging from natural motifs, which are ancient Egyptian basic decorations, to Hellenistic influence and to simple Christian symbols.

The textiles produced in the period of 3rd and 4th centuries took on diverse themes including Greek mythologies, natural motifs - ancient traditional -, geometrical patterns, portraits, and human figures. Yet, it is unusual that feathers, decorated lotus, or Egyptian letters, which Egyptians used typically as motifs, were not detected in the textiles.

The motifs of the early period are stripes and circles that are assumed to come from Rome, and gods and goddesses from Greek mythologies appear on the textiles along with flower patterns. There are simply-designed motifs and animal-flower combination patterns, and straightforwardly-depicted portraiture or whole bodies of humans. Despite the rough outlines and naïveté felt from most of the motifs, they left simple and strong impression. The Copt decorated motifs on the most weak and vulnerable parts in the human body. This custom came from the belief of the ‘evil eye’. This belief that an askance look damages the object’s body lasted until the later years of the Copt.

On the textiles produced before the 5th century Christian crosses were found or simply designed Christian images, T-shaped motifs appeared as hieroglyphic figures. In the 5th and 6th centuries, the prime time of Coptic textiles, as Egypt was under the rule of Byzantine, the center of the world’s trade, an abundance of diverse Coptic textiles were exported to many places including the Black sea and the Mediterranean. Byzantine influence, human figures or supernatural motifs rather than landscape ones were mostly used and in spite of the strong influence of Christianity in this period, Christian motifs rarely appeared and Greco-Roman mythological and pagan motifs prevailed.

The motifs in the 6th century show that they were not limited to one theme but they reflected...
the contacts with diverse cultures according to the periods: geometric patterns, an animal figure put in a circle<Fig. 10>, a human figure revealing the white of his big eye put in a circle and a square, and pastoral scenes related to the Nile River<sup>19</sup>. The motifs displayed on the textiles of the 7th century took complicated and extremely beautified shapes. A short period of time under the Islamic rule also had substantial influences on Coptic textiles. Symmetrical patterns such as people leaning against or a complicated form of animals’ symmetrical shapes were prevalent in the 11th and 12th centuries.<Fig. 11><sup>20</sup>

2) The Latter Period (from the late 7th to 12th Centuries)

The Byzantine Empire attempted to harmonize with Christianity, but following the Arabic conquest in the 7th century, the Copt were forced to convert to Islam from Christianity, but some adhered to their own culture without submission. Therefore, the Copt reflected these seismic shift in their society on the textiles. They displayed Christian images on the textiles or produced the Coptic textiles that were influenced by the Islam. Compared to realistic
descriptions of humans and animals and geometrical expressions in the early period, abstract and illegible forms prevailed: a ludicrous human figure or a human with huge, rectangular eyes. <Fig. 12>

One of the biggest characteristics of Coptic textile motifs of the later period is dualistic expressions of Christianity and Islam, which were interpreted as virtue and evil, and civilized world and barbarous world. Quoting Greek mythology, which was prevalent due to the Hellenistic influence, craftsmen exhibited this dualism in the motifs. By describing battle between human and dragon, a mythological animal, or lion, they also displayed spiritual conflicts between Christianity and Pagan.

Components in the well-known legends and mythologies were presented as symbolism on the textiles. These symbolic meanings are not clear-cut but other motifs with factual meanings are assumed to arise from the weavers’ world view, superstition and faith. The motifs symbolizing Coptic textiles are mainly divided into two groups.

The first group is figurative motifs derived from human or inhuman subjects, and the second is geometrical motifs created with straight lines and curves: geometrical rectangular, circles, and bands in monochrome like violet or dark blue were woven into the undyed grounds.

The First group is divided into two groups again: monochrome and polychrome. Realistic and mythological beings are the frequent subjects: vegetable, vine, leaf, flower, vase, basket, and a variety of birds, fish, and other animals. <Fig. 13>

Human figures including warrior, flag bearer, dancer and hunter appear on the motifs and the creators seem to have identified themselves as legendary figures. As inhuman figures, gods and goddesses in the ancient Pantheon, mermaid, and half-human, half-horse were displayed in the motifs. Even though these subjects were miniaturized in size, the figures have emphasized eyes with active posture and liveliness and they were described delicately and roughly, so that the meanings may not be caught. <Fig. 14>

The styles exhibited in the content of the textiles are diverse: animals and natural motifs, human figures, religious symbolism, still life, and daily life.
IV. On the Tunic

The most important role of textile is to carry out a daily life function like a garment. Ancient Egyptian textiles were used in the tunic. In this part, the characteristics and weaving technologies of tunics, made of Coptic textiles, will be explained.

1. Tunic

Coptic textiles of ancient Egypt were widely used in society. In particular, the tunic was one of the products made out of the textile. The tunic is a simple straight-sided gown without sleeves, worn by men, women, and children. Men wore tunics made of white linen. Tunics, the Copt wore, rarely underwent changes except decorative elements from the 4th to the mid-7th centuries.

The concept of tunics is a garment fitting to the body like Egypt’s woman’s clothing and Greco-Roman one. T-shaped tunic is a flat garment without any dart worn by general men and women. Rectangular clothes are folded in half at the shoulder line and then its neckline is cut in T shape or round. It is sewn from the armholes down to the skirt’s edge. When weaving the tunic, weavers made a slit for neckline or sew the two rectangularly woven fabrics with holes for neck and arms left. It was worn instantly without tailoring. Uniquely, the garment shows the entire fabrics which were woven without considering cut-out or tucked-in part in tailoring.

Tunic is worn like a shirt or layered under a heavy outfitter. A tunic usually runs down to the knees and people wore it with a belt so that they could tuck in the extra but mostly they wore it without a belt. By estimating the number of the patches used to make a tunic we can assume how much the weaving technology developed. Some of the earliest tunics to survive today in the whole piece were woven entirely in one piece including sleeves, body, decorative parts, as indicated by the illustration.<Fig. 15>

When it comes to decorations of tunic, a wide vertical stripe extends over the both shoulders, decorations or stripes are around the neckline, a few of narrower lines or dual lines embellish sleeve and shoulder lines and rectangular or round decorations were woven into shoulders or around knees.<Fig. 16> Children’s tunics, made of wool, assumed to be worn in the 4th century, have wide shoulders, smaller sleeve openings and decorations on each part. <Fig. 17> In the 5th century, the entire tunic was woven in tapestry with wool fibers and ornaments and stripes in silk decorated the tunics.

Most of the tunics were woven simply by shuttle work and tapestry bands, vertical decorations, or netting embellishes them, which were also found in the garments made of Peruvian tapestry. These tunic, manteau, and toga played a black tent for a funeral: it is wrapped like a cushion on which legs and a head of the dead were laid; these cushions were made of tapestries with dual faces of the same themes.

Coptic textiles was widely utilized in many ways: shawl, head cover, band and belt and knitted Coptic socks, wall hanging, screen, cover, mat, ornaments, and wall hanging tapestry. However, since these textiles were found only in fragments, it is not easy to exactly understand the original forms and usages.

2. Weaving Technologies of the Tunic

The oldest type of loom to produce tunics may not be very different from the one from Greece and Rome and should be devised to
enhance the potential of the linen. A handloom used in those days is a high-warp loom. A warp beam crosses the upper frame, and a cloth beam does the lower frame, so that tension, necessary for warp, could be controlled\(^{24}\). A high-warp loom gradually transformed to a low-warp loom with a pedal, and therefore, which made both hands carry easily weft threads. Looms continued to change their forms and artisans also used a draw-loom\(^{25}\) to make lines or ribbons which emphasized decoration lines and patterns in the edge for tunics\(^{26}\). Except individual ornaments, tunics were produced without distinguishing man and woman.

Coptic textiles used to make tunics was mostly tapestry. Fragmentary tapestry which survived today is clavi and patch to ornament tunics\(^{27}\). <Fig. 19> The weaving technology of Coptic textiles used in tunics is firstly a combination of linen plain clothes and woolen tapestry. After most part of a tunic is woven with flax yarns, four threads of flax warp or a few threads according to designs are combined to one ply and then tapestry weave is carried out with dyed wool fibers for decorations like neckline or skirt edge <Fig. 20> Second, warp of frontal side of the textile was woven in linen and weft was done in tapestry weave according to motifs with diverse, colored wool fibers\(^{28}\).

To make ornaments for tunics requires elaborate techniques. On the plain tapestry textile grounds, thin and long straight line
patterns, woven with extremely thin linen threads, are the features of Coptic textiles. This method was called crapaud\textsuperscript{29} or ressaut, which was sometimes incorrectly named as flying shuttle\textsuperscript{30}. It was developed from the principle of a spindle. The decorations by this method look like embroidery but they were woven with other parts at the same time, not added to the textile separately.

The Copt did not stick to general principles but challenged to weave in the opposite way or by moving weft in the way they wanted. Sometimes they weaved main part first and then weaved the rest by moving a shuttle regardless of relative positions of warp and weft.

The Coptic tapestry weaving is similar to the medieval and modern weaving. Changes in colors which take place in parallel to warp threads allow a slit \textit{<Fig. 21>} and when the gap is bigger, it can be seamed. The delicacy of the texture used in Coptic textiles is more outstanding than any other tapestry’s even in the medieval Europe or other eras. The Copt attempted relief–like sense of volume by using double cloth or changes in materials. To distinguish the background from the main motifs, they used diverse methods like applying different styles of weaving structure. There are not only

\textit{<Fig. 19> Tunic Fragment, A.D. 9C,}  
\textit{Tissu COPTES, p.14.}  
\textit{<Fig. 20> Tunic, A.D. 12C,}  
\textit{Musee du Louvre, departement des antiquites egyptiennes : inv. E 10130.}  
\textit{<Fig. 21> Slit,}  
\textit{Tissu COPTES, p.32.}  
\textit{<Fig. 22> Knotting,}  
\textit{Tissu COPTES, p.32.}  
\textit{<Fig. 23> Pile weaving,}  
\textit{Tissu COPTES, p.32.}
weaving but also texture-specific spring, knitting and pile weaving<Fig. 22>, and plaiting. For the garment decoration and ornament lines, embroidery and knotting<Fig. 23> were used.

V. Conclusion

The Copt, offsprings of Pharaoh Egyptians, had to weave clothing for Persian and Greek conquerors and Roman rulers. There were few of the Egyptian traditional designs in their textiles and they had to weave textiles in each ruler’s own style and only Egyptian symbols as design elements appeared in the decorations. The results of this research through a variety of literature on Coptic textiles of ancient Egyptian and tunics on Coptic textiles are as below.

First, Coptic textiles of ancient Egyptian is closely related to Egyptian history and the societal development. Coptic textiles are based on the Christian faith but influences of Greek Hellenism, Roman Byzantine, Iranian Sassanid, Syria and later Islam, which allowed the artisans to create unique textile.

Second, linen, wool and rarely silk were used for Coptic textiles and a combination of linen and wool enabled them to produce more innovative textile. Linen and wool have different characteristics but due to distinguished weaving technologies they could make elaborately woven textile with a variety of colors.

Third, the early pieces were simple and modest purple textiles on the unbleached natural colored or white ground fabrics and they gradually became more brilliant and colorful.

Fourth, The Copt displayed their Christian faith by quoting Greco–Roman mythologies instead of Christian traditional motifs. They came up with the motifs from geometrical patterns, a variety of animals and plants and god figures. The world view or religious faiths of the weavers played a critical role in such development. In the later years there were many motifs showing dualism of Christianity and Islam through display of virtue and evil and civilized world and barbarous world.

Fifth, Coptic textiles was used in many ways including wall hangings and mat and especially tunics which were sleeveless long straight gown, worn by both men and women.

Sixth, one of the weaving technologies of the tunic is Coptic textiles that combine linen pain weave and wool tapestry. The other is tapestry weave in the motifs that uses linen warp threads on the frontal fabrics and diversely colored wool weft threads. Not only the excellence of the weaving technologies and the beauty of the colors are revealed, but also the diversity of textures resulted from techniques such as weaving, embroidery, and knotting is discovered.

Studied as above, this study help perceive that Coptic textiles of ancient Egypt should not be limited to the relics of the past and they can offer a new figurative possibility to modern textiles and fashion designs and momentum for the development of today’s weaving culture.

Reference

2) Ibid., pp.55–56.
4) Cloak : An outfitter or manteau without
sleeves
9) Kim hyunkyung (1990), A Study on The Coptic Textile, Graduate School of Industrial Craft Hong-ik University, p.11.
10) Ibid., p.13.
12) Rep : A kind of plain weave and also called furrow patterned stripes
13) Musee du Luvre, departement des antiquites egyptiennes : inv. AF 5472
14) Brooklyn Museum, New York : inv. 44.143.
19) Ibid., p.34.
22) Jung hongsook op.cit., p.23.
24) Diane Lee Carroll, op.cit., p.34.
25) Draw–Loom : Used to weave many different kinds of patterns–such as simplified human figures, plants, animals, and geometrical–designs in line.
26) Michiel Thomas, Christine Mainguy, Sophie Pommier, op.cit., p.40.
29) Crapaud, Ressaut : A decorative technique that weft thread are used as floating threads. Decorative lines float freely and sometimes traverse on to a few of weft threads in one time. Often mistaken for embroidery.
30) Flying Shuttle : A decorative technique. It is called flying shuttle to avoid confusion with “shuttle” that John Kay invented in 1733.

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