1977

Original textile designs based on oriental influences using weaver-controlled techniques

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Original textile designs based on oriental influences
using weaver-controlled techniques

by

Kyung Hee Rhee

A Thesis Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
MASTER OF ARTS

Department: Applied Art
Major: Applied Art (Craft Design)

Iowa State University
Ames, Iowa
1977
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INTRODUCTION

Today contemporary weavers have the opportunity to select from many techniques and materials for giving expression to their designs with fibers. With the multitude of available materials and the possibility of the diverse techniques used by weavers of the past, the artist-designer-weaver, characteristically one person, can produce unlimited variations of woven forms. Awareness of the deep and intimate appreciation of fibers, textures, colors, and the unique interplay between these elements is an inevitable challenge for these contemporary weavers. Alongside such physical experience the ultimate source of inspiration becomes an important part of the design concept. The individual inspiration for creative work is often linked closely to environmental observations. In a sense these observations include historical research. Reinvestigation of preserved ancient textiles from their many aspects seems to be a good approach for broadening knowledge and inspiration for contemporary weavers.

The author was born in Korea. Therefore, she has a deep-seated interest in the art of Oriental people. From her research in historic textiles, she was made aware of the broad interest in and great use of patterns by the people in the Far Eastern countries. Among all Oriental textiles, the Chinese textiles show unsurpassed technical development and an extensive variety of symbolic motifs, therefore, the author has chosen to limit her study to Chinese textiles. The Chinese textiles have had considerable influence on the neighboring Oriental cultures of Korea and Japan.

The first chapter is a historical survey of the Chinese textiles, including the beginning of weaving, existing textile fragments from early
periods, materials, techniques, and motifs. Through this research the author has increased her technical knowledge and has gained inspiration for her original works.

The second chapter is related to the author's interpretations of selected Chinese symbols which she has visualized in her original weavings. She has described each motif according to its source and the meaning given by the ancient Chinese. The production of her 12 wall hangings is chiefly concerned with the weaver-controlled techniques--tapestry, brocade, pattern double weave, plaiting, and braiding. Each hanging was produced on one of a variety of types of looms including the tapestry loom, floor loom, frame loom, and backstrap loom. The author identified each woven piece according to technique employed and, in each instance, has indicated which loom was used. The last chapter is a narration of the slides which illustrate the original works.
HISTORICAL SURVEY OF THE CHINESE TEXTILES

In the general field of historic textile studies, the Chinese textiles hold a place unique by reason of their long history and delicate techniques, as well as their distinctively symbolic designs and color combinations. Due to political, geographical, and linguistic difficulties, these textiles have not attracted as much attention from scholars as have textiles of other locations. Thus, the information about the Chinese textiles is quite scattered, and many controversies have arisen among scholars concerning some part of their studies.

Nevertheless, the author presents a brief history of the Chinese textiles as she traced it: (1) the beginning, (2) textile fragments existing from early periods, (3) materials, (4) techniques, and (5) motifs.

The Beginning

The art of sericulture, or cultivating silk worms and weaving silk fabrics, originated in China, and its history can be traced back nearly 3,000 years B.C. Traditionally Lei-tsu, also known as Hsi-ling-shih who was the concubine of Yellow Emperor (2697 B.C.-2598 B.C.), is said to have taught sericulture to the Chinese (5). Recent archaeologists have proven the presence of Chinese sericulture in early periods. During the years of the Republic, Dr. Li Chi excavated a Hsia dynasty (2205-1763 B.C.) site at the village of Hsi-yin, in Shangsi province, and discovered one-half of a silk worm cocoon which apparently had been split open (5). Oracle bones have been found as far back as the Shang dynasty (1766-1122 B.C.), which include mention of mulberries, silk, and silk worms (21). On the other hand, hemp was another important fiber among the Chinese at that time. In
the Shang dynasty, clothes, cords, and pennants were made of both silk and hemp (18).

It is not clear what kind of loom was used in very early day, but spinning whorls of stone and pottery, similar to those in use today, were found in the course of the neolithic excavations. A number of pieces of pottery and bronzes on which textile patterns were impressed have been found by archaeologists (21). Very little is known about early Chinese looms partly because the Chinese wished to keep their silk monopoly secret but also because the looms may have been more complicated than the Near Eastern weavers cared to manage.

Textile Fragments Existing from Early Periods

From the Chou dynasty (1122-221 B.C.) on, more information about the weaving of the Chinese textiles is available. Unbelievably fine patterned silks with elaborate and minute geometrical designs have been discovered in the tombs in Ch'ang-sha, the old Chou feudal capital in Hunan province, in the 1930's and in later excavations (19).

Textile fragments of Han (207 B.C.-220 A.D.) and T'ang (618-907 A.D.) dynasties were found by Sir Aurel Stein in Tun Huang and in Chinese Turkestan in the 1910's. Most of them were sent to the Museum of Indian Ethnography, Art and Archaeology at New Delhi, and a few of them were given to the British Museum and to the Victoria and Albert Museum. F. H. Andrews discussed the silk fragments from the Han and T'ang dynasties among others in his report "Ancient Chinese Figured Silk" based on 15 illustrations from "the Burlington Magazine," July-September issue, 1920 (1). In 1926 more Han textiles came to light in Mongolia and Chinese Turkestan by the work of
Colonel Peter Kozlov. Those textiles are now the property of the Hermitage Museum in Leningrad.

In addition to those early excavations by foreigners, recently the Chinese archaeologists have found more ancient textiles in Chinese Turkestan, where there has been a great repository of ancient relics of China. It is believed that the ancient textiles were saved only because they were located in sites near the abandoned trade routes in Central Asia where there was little activity through the centuries following their burial. Moreover the dry climate of this region was another factor which helped to preserve those artifacts.

The other main source for the study of Chinese textiles is the Shosoin collections belonging to the Royal household in Japan (16). The collections were assembled in the eighth century by the Emperor Shomu and contain a preponderance of Chinese material of this period.

The textiles produced in periods subsequent to the T'ang dynasty are comparatively rare and scattered all over the world. Sung (960-1208 A.D.) textiles are preserved in the mountings of paintings, the covers of Buddhist textbooks, and a few as pictorial tapestries with various subjects. A number of textiles which belong to the Yuan (1279-1368 A.D.) and Ming (1368-1644 A.D.) dynasties were found among Oriental collections and European church and museum treasures (10). However, from Ch'ing (1644-1911 A.D.), the last dynasty, the great quantity of actual textiles has been preserved.
Materials

Undoubtedly, silk has been the most important fiber used throughout history among Chinese. The production of silk largely began in the two ancient provinces of Yen and Ch'ing which were located in the Shantung peninsula. During the Han dynasty, the center of silk production generally moved southward. From the T'ang and Sung dynasties to the Ming and Ch'ing dynasties, the Chiang-nan region was the principal center of silk production (5). The silk fiber was used as both the long filaments reeled from the cocoon of the domestic silk worm and the short broken fibers from the cocoon of the wild silk worm which needed to be spun into thread.

Besides silk fiber, there were a number of vegetable fibers, including ramie, hemp, banana, and bamboo, from which both plain and fancy linens were woven (18).

Woolen goods were also produced locally in the western part of China. For curtains, draperies, tents, mats, saddle covers, boots, and all sorts of coverings, felt was widely used. It seems to have originated with the nomadic peoples.

Cotton was known to the Chinese comparatively late. It is believed that from mid-T'ang dynasty, the Chinese produced cotton in the southern part of their territory. But the cottons from Indochina and Ceylon enjoyed much greater repute in the T'ang dynasty. Though the Chinese cultivated or imported cotton in early days, it was not until the thirteenth century that cotton became an important item for costumes. By the fifteenth century, China became one of the greatest cotton growing areas of the world.

Metallic thread was often interwoven with the Chinese textiles. Flat strips of leather were covered with gold leaf, and later tough paper
frequently formed the base for the gold. The method of wrapping gold foil on silk thread was subsequently evolved by the Chinese, and this gold thread was more practical for weaving than the flat gold strips, but both were used lavishly in brocades and embroideries.

Techniques

The techniques used in the Chinese weaving have not been studied thoroughly because most of the records have been written by archaeologists rather than by weavers. These records include little detailed technical descriptions and drawings to illustrate the techniques. A complete survey of the Chinese textiles needs to be done by firsthand analysis focusing on their techniques.

With the actual textiles, the techniques of weaving can be traced from the Chou dynasty (1122-255 B.C.). By that time the Chinese were already using complicated techniques for their textiles (19). The famous Han textiles from the time of China's first empire include plain weave, tapestry, warp-patterned weave, and gauze. A variety of plain weave, corresponding to what is technically known as a rib, or rep weave, was used for those that show no decorative figuring. A number of woolen tapestry fragments were found among the Han textiles though the patterns of these are strikingly different from the patterned silks. Some of them are quite non-Chinese and distinctively of Hellenistic character. Alan Priest and Pauline Simmons explained this anachronism by the fact that wool was produced in the greatest quantities in Chinese Turkestan and that the woolen fabrics were undoubtedly made for the local needs (16).
Controversies have arisen concerning the techniques of the patterned silks of the Han dynasty. Various terms have been used in describing the weaving: proto-damask (13), brocade (5), warp twill, or warp rib (16). This fabric has a ribbed surface running horizontally across the fabric because the number of threads in warp are greater than in weft. This makes a warp-faced fabric, and the pattern is formed by the warp threads and presents a kind of dull satin surface, faintly ribbed (5).

Many scholars believe that the drawloom had been used by the Chinese for a long time, and the complicated patterns of silk fabrics could have been woven on that loom. By this drawloom principle, large numbers of warp threads on a horizontal loom might be secured in various combinations, each combination controlled by its own drawcord for patterning in a given shed. Later two artisans worked together on a loom; one is seated below, while the other, perched on top of the frame, worked the treadles (3). The threading of such a loom was a long, tedious procedure; the subsequent weaving merely involved pulling the drawcord on command in a given order as the weaving progressed.

Gauze fragments have been found among Han textiles, which appear to have been made in China ever since that dynasty. This weave corresponds exactly with the true gauze of the West, technically known as leno weave, in which the warp threads instead of lying parallel are arranged in pairs which twist between the wefts. Looms were so far advanced by the Han dynasty that a gauze background could be woven with plain weave patterns (2).

By the T'ang dynasty, the Chinese learned the weft twill weave. Since it was far more practical for patterned fabrics than the laborious warp-
controlled technique, they discarded the old method (16). The Persian influence on the patterns of the T'ang textiles leads one to believe that twill weave may have reached China via Persia sometime between the fourth and the late sixth century. The size of drawloom increased, and some of their flower motifs reached 30 to 40 centimeters across. The technical advance implied by such a general increase in size is supported by the fact that true damasks are found in relatively large numbers among T'ang textiles (13). Finally, in the Sung dynasty, the Chinese weavers developed the satin weave which proved to be suited to the natural gloss of the silk threads. No examples of brocade have been found among the Han textiles thus far discovered, but history records that in the third century A.D. one of the Chinese emperors sent brocades to a Japanese empress (18). If it is true, the weave undoubtedly was known in the Han dynasty, but no examples earlier than the Sung dynasty are recognized by scholars today.

The beginning of silk tapestry which is known as K'o ssū in China is uncertain. There were a number of silk tapestry specimens, now labeled T'ang, excavated by Stein on his first expedition. There are still controversies about those fragments. This weave did not become popular in China until the Sung dynasty, when it was used to interpret in weaving various painting styles of this great period of painting. According to a record of the Sung dynasty, the silk tapestry was woven on a wooden frame loom on which dyed silk was threaded as warp (5). The design was completed by using varicolored threads on small shuttles. Since the weft threads of different colors were not connected, the narrow openings gave a carved effect. It is called k'o ssū, which means "cut silk" in Chinese. Though the basic technique of k'o ssū is the same as that of Western tapestry and
they are both made by the same laborious method, the technical achievement of the Chinese is much greater because of the medium employed. When it is compared with the fine French Gobelins tapestry, the Chinese k'o ssu shows as many as 20-24 warp threads per centimeter and up to 116 weft threads on a centimeter of warp, whereas the best Gobelins tapestry shows 8-11 warp and 22 weft threads per centimeter (3). Later dynasties used it for court robes, furnishing fabrics, hangings, and costume accessories.

There is little information available about early rug weaving in China. Practically nothing has been written on that subject since rug weaving was mainly carried on in the remote northwest regions. Some experts insist that the Chinese were the first to weave rugs with a thick pile and that they were made as early as the Hsia dynasty (2205-1766 B.C.). One basis for assuming that they may have been of native origin is that the motifs on even the oldest known rugs are Chinese. And even more important evidence is that the Chinese technique differs from that used by the rug-makers of Central Asia and the Near East. There is the additional fact that in the course of excavations in Chinese Turkestan along the old Silk Road fragments of the Chinese fine pile rugs were found by Stein and Chinese archaeologists (21). On the other hand, some authorities believe that the idea of weaving rugs was introduced into China only a few centuries ago (11). So far no other examples of early rugs have been found, but in the Shosoin collection at Nara, Japan, there are fine examples of the Chinese rugs of the eighth century. The most interesting feature about them is that they were made, not by a process of knot tying, but by a process of felting which has been lost since that time. For this reason, Leitch explained that the knotted rug was a later adaptation by the Chinese
weavers than their original manufacturing method. The oldest knotted rugs are attributed to the end of the Ming dynasty which occurred in the middle of the seventeenth century.

The Chinese rug weavers used vertical upright looms and wove from the bottom to the top much as our weaving is done on tapestry looms. The knot customary in China was the Persian or Sehna knot. Sometimes they used the Turkish or Ghiordes knot (12). In most cases, the warp and the weft were of cotton and the knots were almost always of wool or silk and rarely jute or cotton (7). Generally rugs were loosely woven without more than about 80 to 150 knots per foot. During the Ming dynasty, "metal and silk" rugs were woven. The technique of silk rugs with metallic wefts was the same as that of other rugs, as far as the silk pattern goes, but the ground fabric or some parts of the design did not have knotting area. Instead the metallic threads were flatly woven into the warp like tapestry.

The earliest velvets of China are ascribed to the latter part of the Ming dynasty. The seventeenth century velvets of China presuppose a considerable experience in velvet weaving. But many scholars agree that this weaving did not originate in China in spite of its prevalence there in later centuries. This was proved by the etymology of the Chinese term for velvet, hui tse jung. Jung means nap, and hui hui or hui tse, since T'ang dynasty, has been the Chinese name for the people of Central Asia, or the Mohammedans (17). This seems to indicate that it came to China via Central Asia and quite probably from Persia. The early velvets were made entirely of silk and can be classified as cut voided cloth velvet, ciselé solid satin velvet, and cut solid twill velvet. The voided velvets were also frequently brocaded.
Motifs

The Chou and Han textiles which have been found through excavations show various elaborate motifs: lozenges, rectangles, cloud bands, heraldic beasts, horses, birds, flowers, and the Chinese characters.

The lozenge motif is not by any means unique to the Chinese decoration. It has been used in China more than elsewhere for a long time. Besides the simple lozenges there were variations of them which may indicate use of later devices. John Lowry classified the lozenge motifs of the Han textiles as follows: single, multiple, faulted, divided lozenges, and lozenges from intersecting diagonals (13). Simple lozenge motifs sometimes appeared as fourfold design. One of the most characteristic of multiple lozenges is the triple arrangement of a large lozenge flanked on either side by a slightly smaller one with their edges overlapping to form still two more smaller lozenges. The faulted lozenge was one which had the omission of parts of the pattern within its main outline, resulting in a zigzag or faulted outline of a single lozenge. By incorporating it with other motifs, its range of possibilities was greatly extended. A variation of the faulted lozenge was also used in the form which divided along its longest axis but not joined in rows. T'ang lozenge pattern shows the clear association with the earlier use of the motif. The style of the earlier lozenges was still influenced by the rigidity and stylization of the Han style, while the latter examples show the beginning of the more flexible and naturalistic T'ang design, combining the lozenges with flowers, hexagons, or tortoise shell motifs.

Apparently the designs based on rectangles were not as widely used as the lozenges. The simplest of these was a checkerboard motif achieved by
contrasting areas of two different weaves such as plain and warp patterned weave. This was also combined with other geometric motifs, zig-zag or V shapes.

The most important group of Han textiles was that comprising polychrome fabric carrying inscriptions in combination with other motifs. These were exceptionally geometrical, consisting mostly of cloud bands and animals executed in such a way that, even without inscriptions, they formed a style sufficiently different from the other to make a distinct group. The inscriptions were usually dedicatory of an auspicious nature and consisted of four to six characters. They were not arranged in straight rows but were integrated with the other motifs.

Besides inscriptions, the main character of this motif was the freedom with which the designs were carried out. This was expressed most markedly in the interpretation of the cloud bands which formed most of the pattern. Separated by the cloud bands were the other motifs, of which the most common were animals. Animals were usually shown in violent movement, running and leaping across the fabric. Birds were also used on polychrome silks. Their integration into the design shows considerable variation; they may exist singly, with the head turned backwards over the body, arranged in pairs facing each other, or in apparent flight, with the neck turned downward below the body. Even though it is impossible to identify each animal, it is believed that the prominent part played by animals in these designs is due, aside from their purely decorative aspect, to their symbolic significance.

However, these inscribed silks had a somewhat striped effect, and this may account for the arrangement of the warp threads in groups so that they
formed counter stripes of different colors. As the stripes did not coincide with the boundaries of the motifs, the crude effect was apparent. Colors which were used on these polychrome fabrics were mainly blue, buff, yellow, brown, crimson, and green.

The Chinese textiles between Han and T'ang dynasties which still exist are few in number. Their importance lies in the fact that they not only represent the transitional style between Han and T'ang, but they also show a specific character of their own. During this period, the Han style which reflects the Chinese insularity and respect for the past gradually disappeared; old patterns were discarded in favor of more modern designs, examples of which were arriving in constantly increasing numbers from the West.

When the Buddhist faith was introduced into the Chinese culture, textile motifs began to show their influence. Trees, elephants, bulls, heraldric beasts, and birds were favorite motifs at that time. Some of these were apparently introduced from India with Buddhism. The design of the textiles generally became simplified both in the number and treatment of motifs used. Animals and birds were still typical subjects, but they were not depicted running across the fabric. Instead they were arranged in rows or in squares making their appearance more formal. The technique of weaving became more sophisticated so that the color stripes coincided with the motifs. The borders surrounding motifs were frequently outlined with contrasting colors—red, yellow, white, blue, and green.

The textiles found in sites from T'ang period and the Chinese silks in the Shosoin collection show a bewildering variety of design. The most striking aspect of the majority of them is their almost complete dissimilarity to Han textiles. John Lowry explained that the main reason for this
marked change in style is probably attributable to the adoption of Buddhism as the main religion in China (13). Textile designs were highly susceptible to outside influences, such as Sassanian and Indian motifs, which were adapted to conform with Chinese taste. T'ang weavers, however, probably stimulated by examples of Western textiles raised the pattern structure to a high level of development and at the same time created through it a characteristic idiom. In a large number of cases, this was achieved by using main motifs which fell roughly within the circumference of a circle. These were arranged in straight repeats, which, while each motif was not always completely symmetrical, created automatically an almost perfect overall pattern.

In the T'ang textiles, animals were closely integrated into the main decorative scheme often being arranged symmetrically either facing each other or turned back-to-back so that movement in one direction was balanced by movement in another. Although they were often shown in movement, animals in T'ang textiles appeared to be much less agitated than in Han textiles, largely as a result of their being arranged in balancing pairs. Due to the greater interest in naturalism during T'ang, there is seldom the degree of ambiguity as to the kind of animal that is represented in textile designs as there is in Han. Amongst other species it is possible to recognize lions, horses, phoenix, ducks, peacocks, and various kinds of horned beasts such as goats, sheep, and deer.

During the T'ang dynasty, bird motifs were used in many ways. As a result their versatility as main motifs as well as supporting patterns to the main design were greatly increased. Usually birds were used with either floral motifs or a variation of the rosette medallion. The phoenix
or other mythological birds similar in appearance, were comparatively com-
mon in the design of the Han textiles, and their use did not diminish dur-
ing the intervening period. However, a more characteristically T'ang type
was developed with a more elaborate tail curved upwards over the back with
the wing feathers shown in greater detail.

The existence of the vine motif in the decorative vocabulary of the
T'ang textiles was presumably due to Western influence. The vine and
leaves formed roundel, in which a quatrefoil or phoenix was enclosed. Each
stem with its leaves is balanced, however, complete symmetry is carefully
avoided. In addition to the vine, the T'ang period introduced other motifs
the most important of which were based on flowers, particularly the lotus
blossom or foliage. The Rosette medallion was one of these flower motif
variations which was found in an almost unlimited variety either alone or
in combination with other motifs.

The Sung period was a renaissance of Chinese textile art. In the West
the barbarian tribes cut off China from the outside cultural influence
which had invigorated the T'ang (20). The Sung weavers, shut in on them-
selves, developed truly Chinese motifs. According to old Chinese records,
more than 50 names of brocade patterns were used during the Sung period
(5). Animals and birds such as the dragon, phoenix, tortoise, crane, pea-
cock, and duck were included. Flowers and plants were also used, mainly
bamboo, pine, plum, orchid, peony, chrysanthemum, and lotus, as well as
natural forms such as clouds, water, mountains, and rocks. In addition,
there were striped and diapered designs of more simple form and a combina-
tion of the Chinese written characters.
On the other hand, silk tapestry, k'o ssū, developed a new vocabulary in the textile design of this period. The allover patterns of birds and flowers that covered the whole area with a dense mass of rich colors were found among the covers of Buddhist text and mountings of paintings (4). In the case of wall hangings, another trend developed; the silk tapestry became a medium for copying all the subjects customarily found in painting. The subjects were Buddhist and Taoist images, birds and flowers, figures, landscapes, and even included calligraphy. A number of k'o ssū pieces which have seals on them were found, indicating that these were highly regarded as paintings at that time (3).

The invasion of China by the Mongols brought the East and the West once more into direct contact. The existence of the Chinese textiles of this period in Europe for the first time since the medieval period was due to the most important accomplishment of the Mongols—the reopening of the old trade routes which for centuries had been mostly unused due to protection difficulties. Through international trade a two-way cultural exchange took place between China and the Western world. In dealing with the medieval fabrics, it is not always easy to draw the line between the Chinese stuff made for home use or for export and those made elsewhere under Chinese influence. The textile designs of Italy were completely revolutionized during this period, and those of other countries were affected to a greater or lesser degree (9).

One of the finest specimens of this period is the Danzig brocade which is a black silk brocade with gold thread, the design being of polygon frames containing parrots with dragons occupying the inner space. The other examples also show a variety of subjects: lozenge, hexagon, phoenix,
chrysanthemum, lotus, and stylized Chinese characters. The distinguishing characteristic of this period in textile design is the combination of two contrasting color values. In many cases, gold threads were brocaded on silk backgrounds. Silk tapestry was continued for the hanging pictures of Buddhist or Taoist figures (10).

During the Ming dynasty, the Chinese developed primarily geometric motifs. Variations of fret work and the famous swastika came into fashion in addition to lozenges and hexagons. The swastika motif is said to be of Chinese origin though it is found throughout the world in carvings and textiles. In China it symbolizes the "heart of Buddha" and "ten thousand," the latter being the acme of perfection among the ancient Chinese (11). Animals and flowers were also interwoven with geometric motifs or cloud bands.

During the later part of Ming dynasty, the sixteenth and seventeenth centuries, there was much cultural interchange between China and Europe. The trading ships of Portugal, Spain, England, France, and Holland brought back home quantities of the Chinese silks, and "Chinoiseries" became the mode in Europe. About this time, besides the purely Chinese motifs, European motifs such as the double-headed eagle and the crown began to appear in China (9).

The textile motifs of the Ch'ing dynasty showed a tremendous variety of design. Especially the eighteenth and nineteenth centuries were famous for the gorgeous court robes woven for the Emperors and the highest mandarins. K'o ssū technique was mainly used for the Emperor's robes which bore the Twelve Symbols: the sun, moon, mountain, dragon, pheasant, ritual cups, flames, grains of rice, axe, and the symbol of distinction. These
symbols represented authority and power as well as the virtues of the wise emperor. Clouds mingled with dragons and the other symbols in the main part of the robe represented the sky while the waves and the mountains, which formed the lower border, symbolized the water and the earth. Later in the nineteenth century the k'o ssū robes became comparatively coarse with a mixture of k'o ssū, embroidery, and painting (16). The Eight Precious Things and the Attributes of the Eight Immortals, both Buddhist and Taoist symbolism, were frequently used as textile motifs during this period. The fretwork which had been popular in the M'ing continued to be used with floral motifs in various ways. Flowers and plants such as the pine, bamboo, plum, orchid, peony, chrysanthemum, and lotus were the popular motifs, as well as the dragon, fo-dog, phoenix, bat, butterfly, and crane.

Due to the quantity of preserved textiles, the changes in style can be traced to some extent. According to the analysis of Hawley in regard to the Chinese rug motifs of Ch'ing period, the general trend of patterns was changed by periods (7). Motifs of the seventeenth century had a geometric character. Dragons were so stiffly conventionalized that the resemblance to the mythical monster was almost lost. The conventionalized flowers resembling the lotus or the peony were arranged with precision in diagonal or perpendicular lines. Variations of the swastika or fretworks are found in the central medallion and in the borders. During the eighteenth century, many of the stiff conventional forms which continued through the seventeenth century and the early part of the eighteenth century disappeared. In their place was a greater refinement of design, a greater accuracy of drawing, which found expression in floral forms that reached their
highest development at this time. Occasionally they were represented in profile as was usually the practice in Western Asia, but more often they were represented as viewed from above. Backgrounds were covered with flowers carefully arranged in grouping of leaves, buds, and flowers but never with the formal and exact balance of Persian motifs. The rugs from the period after the eighteenth century still showed patterns of the preceding period with but slight modification though there was a tendency to use larger and coarser designs.

With the establishment of the Republic in 1912, China became so involved in politics that the arts and crafts were ignored. They still wove beautiful textiles but not in the old manner. It was at this time a matter of commerce and economics rather than the much sought after privilege of producing art.

The textile motifs of China with the long history and many varieties show some specific characteristics: 1) their symbolism, 2) naturalistic treatment, 3) foreign influence, and 4) relation to other art forms.

Most motifs were not ornaments in the European sense--they were more than mere decoration. They were symbolic and based on the Chinese religion, folklore, mythology, and language. Their motifs cannot be understood without knowledge of the symbolism pervading the Chinese daily life. This symbolism, like the Chinese civilization, is of indefinite origin and associated with all phases of their social, moral, and ethical existence.

Free placement of motifs in a naturalistic way is apparent in their treatment of textile design. Animal motifs, for instance, do not have the heraldic pose, but instead of quietly confronting each other or marching in stately procession, they are expressed realistically, full of life and
motion. They run, fly, rush in, or recoil. Even in floral or foliage motifs, complete symmetry is carefully avoided in most cases.

Though China is the one country that has maintained her traditional motifs down through the centuries, the foreign originated motifs were found frequently especially when their cultural exchanges were vigorous. The textiles of the T'ang and later dynasties are good examples showing this influence.

The Chinese textile motifs have been highly related to decoration used in many other media, such as bronze, procelain, lacquer, and painting. A great portion of the motifs used on Ming porcelains—such as the floral motifs, fretworks, and waves—were derived from textile designs, while some of the motifs of porcelain were based on the patterns used on old bronzes (18). In order to date or identify the origin of the Chinese textiles, the motifs of other media in a comparable period have been studied.
ORIGIANL WORK INFLUENCED BY CHINESE TEXTILES

The author, inspired by Chinese textiles, designed and wove 12 original hangings. The motifs, techniques, and colors of the Chinese textiles became factors which influenced the original designs.

Wool, linen, cotton, and rayon were mainly used for the hangings. Her special reasons for using these materials were, first, that these fibers accept commercial dyes readily so that a great range of colors were available for the designs. The designer-weaver chose to dye most of the colors she used in her hangings. Second, because most of the original works were not extremely large, the cost of the materials was not seriously considered, even though jute or acrylic might have been less expensive. Third, in many instances the characteristics of the chosen materials were important for specific weaving processes.

Weaver-controlled techniques, which are also called finger weaves, were employed for the original works. Contrasted with loom-controlled weaves which are created simply by the interaction of the harnesses, the weaver-controlled techniques are achieved by manipulating the shed or a portion of the shed with the fingers or some implement—a needle, crochet hook, or pickup stick (8). With more freedom, the author could visualize the original designs through these weaver-controlled techniques—tapestry weave, pattern double weave, laid-in weave, plaiting, and braiding.

The original works were woven on different types of looms according to the design and technique. The floor loom, tapestry loom, backstrap loom, and frame loom were each used for one or more of the original weavings.
The following descriptions of the original works are ordered according to the technique employed.

**Tapestry Hangings**

Tapestry weave generally refers to mosaic-like patterning with discontinuous wefts in a weft-faced plain weave fabric. The design is often, though by no means always, pictorial. The various colored wefts do not go from selvedge to selvedge but only in those parts where the design occurs.

The exquisite ancient Chinese tapestries woven in fine silk, referred to by the Chinese as k'o ssū, show the technical skill which has remained unsurpassed and is a constant source of wonder. The techniques of these Chinese tapestries were mainly the slit and eccentric tapestry methods which the author also employed on her five original tapestry hangings.

The design of "The Sun and Earth I" (Slide 1) was derived from the early Chinese symbols of the sun and earth, a sphere and a solid square (15). It is believed that these two symbols later became a part of the Taoist Eight Immortals which are found frequently as motifs on the Chinese textiles. As the design consists of accurate lines, the process of weaving had to be developed after careful planning. As soon as the warps were threaded on the tapestry loom, the design was drawn on the warp yarns. During the process of weaving, it became necessary to make some modifications in the horizontal lines of the circle which packed more than originally anticipated. A paper pattern of the same-sized circle was used in determining the right position in order that the precise location of the line was able to be achieved. This piece was of comparatively high warp
and weft count which caused the process of weaving to take much time. The weft yarns were dyed in commercial dyes by the author.

In the second tapestry, the same subject was visualized but in a different manner. "The Sun and Earth II" (Slide 3) was woven on the same tapestry loom. In this piece, the warp-count was reduced to half the density of the previous one, and heavier wool yarn was used for the weft. As a result the texture became coarse, but it took much less time to produce than the previous one.

On a frame loom, the small tapestry hanging "The Sun and Earth III" (Slide 4) was woven with cotton warp and wool weft. The design was again a variation of the same subject using quite different proportions for the shapes of the symbols. The circle this time, shown only in part, appears as exposed warps.

The tapestry hanging "Lozenge Variation I" (Slide 5) was an attempt to use two different sizes of weft yarn. The horizontal floor loom was chosen for weaving this tapestry. The geometric design of this hanging is derived from the diagonal lines of lozenges which were among the most popular geometric motifs of the Chinese textiles. It is believed that the lozenge form, dating to prehistoric times, was used in China as a symbol indicating protective qualities (15). The colored wefts were all dyed in different shades with commercial dye. Three basic dye baths, red, blue, and yellow, were made, and the additional colors were obtained by combining two or more of the hues. Subtle vertical lines were created within the large diagonals or triangles by alternating two different colored wefts. The solid white lines were woven with a heavy novelty woolen yarn. The use of different weights of weft caused a tension problem. As the weaving progressed, in
order to compensate for the two weights, many shots of fine yarn had to be added for each heavy weft. It does not seem to be desirable to use extremely different sizes of wefts for such a precise geometric design. The floor loom was convenient and because of its beater saved much time. Tapestry looms are not equipped with beaters.

The largest of the hangings, "Dragons" (Slide 7), was also woven on a floor loom. The conventionalized dragons and swastika motifs on the Chinese rugs of the seventeenth century became the subject of the design for this work. The most spectacular animal, the dragon, had three aspects in its symbolic interpretation in China. In religion it represented the Diety, powerful and merciful; in its own right, it was the sovereign of the forces of nature; it became the symbol of the Emperor (12). This piece can be divided into two parts according to the techniques employed. One is the vertical-striped part which was woven simply by alternating the different colored wefts from selvedge to selvedge, and the other is the center part which was woven with the more time-consuming slit tapestry weave. The yarns for this hanging were dyed by the author-designer.

These five tapestry hangings were finished by knotting fringes before binding the warps with bias strips. The long slits were also sewn together after weaving.

Brocade Hangings

The brocade weaves, also known as laid-in, inlay, or inlaid, are characterized by additional and usually decorative yarns superimposed on a plain weave or other simple background (8). The simplest method for producing laid-in or brocade weave is to add a pattern yarn to the plain weave
shed along with each ground yarn. The pattern yarn is not used across the entire width but where the texture or color is needed for the design.

With this simple laid-in technique, the "Blue Letters" (Slide 9) was woven on a frame loom. The design of this piece was influenced by the Chinese written characters which originally consisted of drawings of objects or images. The Chinese written character implies a form of written symbol. Some of these characters are often found among the Chinese textile motifs in various stylized forms. In the author's original design, these written characters are abstracted to become blue dots which were exposed between white yarns. Because the warp yarns were threaded continuously on the frame loom, a four-sided selvedge was achieved.

Landscape became the subject of the design for the next two small hangings (Slide 10). While landscape was an important theme for the Chinese painters, the Sung weavers also used this subject on their silk tapestries. The two hangings were woven with ikat-dyed warps. The heavy brocaded wool developed geometric lines in contrast with the subtle background.

After experiencing the simple laid-in weavings, a little more complicated brocade technique was attempted for the next hanging. The Moorman Technique is named for the British weaver, Theo Moorman, who developed and has experimented with it for a number of years. It is also a way of weaving laid-in patterns using two sets of warp--ground warp and tie-down warp (14). For the pilot study of the Moorman Technique, the author produced a set of samples. Included are several which show some of the various possibilities for using this technique.
Sample 1. Study of different textures of heavy and fine laid-in wefts (Slide 11).

Sample 2. Study of the method for joining two laid-in areas (Slide 12).

Sample 3. Study of an overlapping method using contrasting sizes of laid-in wefts (Slide 13).

After completing these samples, the overlapping method of the Moorman Technique was selected for the hanging "Lozenge Variation II" (Slide 14). Red linen size 10/2 warps, except for the midsection of the yarns, were dip-dyed in a commercial blue dye bath. The other set, tie-down warps, was a fine 10/2 cotton which was more elastic than linen. Various sizes and textures of rayon novelty yarns were inlaid. As many as four inlaid wefts were packed into one shed in some parts of the design. A situation which had to be resolved was that many wefts used only in portions of the horizontal shed caused tension problems because of irregular takeup. To solve such a tension problem, Theo Moorman suggested the use of two warp beams. Since two warp beams were not available, an additional iron rod was bound to the main warp beam with separate cords. Whenever the tension became severely tight, the extra iron rod on which the tie-down warps were threaded was extended further from the main warp beam.

Pattern Double Weave Hangings

Basically pattern double weave is produced from two sets of warp yarns and two sets of weft yarns. The two layers of fabric interpenetrate and exchange positions at certain points according to the design. The stylized designs "A Couple" (Slides 16, 17) and "A Woven Charm" (Slides 18, 19) were created with this technique.
The design of "A Couple" was inspired by the idea of the Chinese yin-yang emblem which represents the Great Principle or the Origin of All Things (3). The yin represents the female element or all of the passive, receptive elements such as the earth, moon, and darkness. The yang represents the male or the positive element signified by the heaven, sun, and light. These two opposing elements were visualized as the bases for this original design.

"A Woven Charm" is another hanging created with the pattern double weave. Various types of lines, dots, and squares, which form parts of many Chinese characters, became the main source of the original design. One set of warp was dip-dyed in yellow and red dye baths while the other set of warps and the wefts was dyed completely in several colors. Both "A Couple" and "A Woven Charm" are entirely reversible hangings. The second slide for each is used to show the reverse design.

Plaited and Braided Hangings

After weaving all the described hangings which fall into the two-dimensional category, the author attempted to explore a new mode of expression involving different techniques. The "Lozenge Study with Three Strips" (Slide 21) was done by combining two techniques, tubular double weave and plaiting. Before the process of weaving, various ways of plaiting with paper strips were explored. This experimental work with paper strips was helpful for designing the original hanging. The lozenge forms, created by the plaiting process, exhibited structural character in this hanging. This technique suggests unlimited possibilities for exploitation as solutions for making large pieces with narrow strips.
The three-dimensional hanging "Phoenix" (Slide 23, 24) was created in a quite different way from all of the previous works because no part of it was woven on a loom. The design of this hanging is inspired by the Chinese legendary bird, the phoenix, which is seen only when the land is at peace. It represents joy and warmth, rules over the south and influences summer (3). The phoenix has long been one of the most popular motifs among the Chinese textiles. The warp yarns were measured and attached to the specially designed and formed brass rod. One set of threads was knotted directly on the spiral frame and braided in individual groups. At the end of the sections of braiding, the yarns were threaded through small brass tubes and knotted firmly. The idea of combining fiber and metal in textiles is not at all new. The Chinese were one people who had historically used metallic threads in their textiles.

The body of original textiles combines historic Chinese symbols, colors, and techniques in a modern concept. There are many other design motifs common to Chinese weavings, but the author chose to limit her selection to particular symbols that would be appropriate to her design style. Time was a factor in limiting the number of pieces since many of the processes developed by her were tedious and required much time to accomplish.
SLIDE IDENTIFICATION OF THE ORIGINAL WOVEN HANGINGS

Slide 1. Sun and Earth I
natural linen and wool dyed by author with chemical dyes
tapestry. tapestry loom
29" x 43½", 74 x 110½ cm

Slide 2. Detail of Sun and Earth I

Slide 3. Sun and Earth II
natural linen and commercially dyed wool
tapestry. tapestry loom
30¼" x 29", 77½ x 74 cm

Slide 4. Sun and Earth III
cotton and wool dyed by author with chemical dyes
tapestry. frame loom
8" x 14", 20 x 36 cm

Slide 5. Lozenge Variation I
novelty wool, commercially dyed linen and wool dyed by author with chemical dyes
tapestry. floor loom
31½" x 47½", 79 x 121 cm

Slide 6. Detail of Lozenge Variation I

Slide 7. Dragons
commercially dyed cotton and wool dyed by author with chemical dyes
tapestry. floor loom
41½" x 53½", 105 x 136 cm

Slide 8. Detail of Dragons

Slide 9. Blue Letters
natural and commercially dyed cotton
laid-in weave. frame loom
21" x 34", 53 x 86 cm

Slide 10. Landscape
dyed wool and ikat-dyed linen with chemical dyes
laid-in weave. backstrap loom
21½" x 11½", 54 x 30 cm
21½" x 11½", 55 x 30 cm

Slide 11. Sample 1 of the Moorman Technique
commercially dyed wool, cotton, and linen
laid-in weave. floor loom
6½" x 4½", 17 x 11½ cm
Slide 12. Sample 2 of the Moorman Technique
commercially dyed wool, cotton, and linen
laid-in weave. floor loom
6\(\frac{1}{4}\)" x 4\(\frac{1}{4}\)", 17 x 11\(\frac{1}{2}\) cm

Slide 13. Sample 3 of the Moorman Technique
commercially dyed wool, cotton, linen, and rayon
6\(\frac{1}{4}\)" x 4\(\frac{1}{4}\)", 17 x 11\(\frac{1}{2}\) cm

Slide 14. Lozenge Variation II
commercially dyed rayon and cotton, and linen dyed by the author
with chemical dyes
laid-in weave. floor loom
30" x 41\(\frac{1}{4}\)", 76 x 105 cm

Slide 15. Detail of Lozenge Variation II

Slide 16. A Couple
commercially dyed linen
pattern double weave. floor loom
29\(\frac{1}{4}\)" x 43", 74 x 109 cm

Slide 17. Reverse view of A Couple

Slide 18. A Woven Charm
wool dyed by the author with chemical dyes
pattern double weave. floor loom
22" x 52\(\frac{1}{4}\)", 56 x 133 cm

Slide 19. Reverse view of A Woven Charm

Slide 20. Detail of A Woven Charm

Slide 21. Lozenge Study with Three Strips
commercially dyed wool
tubular double weave and plaiting. floor loom
14" x 17" x 1", 36 x 43 x 2\(\frac{1}{2}\) cm

Slide 22. Detail of Lozenge Study with Three Strips

Slide 23. Phoenix
commercially dyed linen
knotting and braiding. designed frame
18" x 18" x 97", 46 x 46 x 246 cm

Slide 24. Another view of Phoenix

Slide 25. Detail of Phoenix
SUMMARY

The author surveyed the historic Chinese textiles particularly focusing on the design motifs and the techniques used. Existing textile fragments from early periods proved the ancient Chinese weavers to have relentless creative efforts. Among the various techniques which were explored by Chinese weavers for the textiles, the warp pattern weave and k'o ssû technique representing the technical achievement with such fine silk are still amazing from the contemporary viewpoint.

The variety of motifs in the Chinese textiles which were deeply rooted in Chinese daily life almost always had symbolic meanings in addition to the decorative purposes. The treatment of motifs, represented in the naturalistic way, was achieved by avoiding exact symmetrical arrangement. Even though the Chinese weavers persisted in using their traditional symbolic motifs during their long history, the foreign influences were apparent at times.

With the inspirations from the Chinese textiles, the author produced 12 hangings employing some weaver-controlled techniques. The body of original hangings combined historic Chinese motifs as well as their colors and techniques in a modern concept. There are many design motifs common to Chinese weavings, but the author has limited her choices to such abstract forms as the lozenge, dragon, phoenix, landscape, and the Chinese written characters, which were appropriate to her design approach. The author considered the techniques to be used first and chose appropriate designs according to each technique. When she selected techniques which were new to her (i.e., plaiting and the Moorman Technique), she experimented with
them to understand the process before designing the main projects. The hues which were used for these designs were few in number including many different values. Since most hangings were woven on various looms, they had two-dimensional characters except the pieces which were done by plaiting and braiding. During the process of weaving, the material, technique, and the loom were of extreme concern relative to the time consumed in the project.

The vast amount of knowledge about the Chinese textiles has enriched and inspired the author. Through this paper she hopes to demonstrate how historic research of textiles can become a way of observing one's heritage, which can enrich the creative work of the contemporary weaver.
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ACKNOWLEDGMENTS

The author wishes to express her deep gratitude to Miss Shirley E. Held for her helpful guidance throughout this study. Appreciation is extended to Miss Mary L. Meixner and Dr. Margaret C. Warning, who served with sincere interest on her graduate committee. This thesis also owes its existence to the devoted support of her mother. She also wishes to thank her husband, Jeong J. Rhee, for his encouragement and assistance, which have been essential ingredients in this work.
APPENDIX A: GLOSSARY

Attributes of the Eight Immortals: Also called Pa an hsien. The Taoist symbols of China, which include the fan, sword, gourd, castanets, flower basket, bamboo tube and rods, flute, and the lotus blossom (16).

Ciselé solid satin velvet: A velvet weave. Some of the loops of the pile are cut and others left uncut, producing patterns by contrast; the foundation fabric is of simple or compound satin (17).

Cut solid twill velvet: A velvet weave. The loops of the pile are cut, and the foundation fabric is of simple or compound twill (17).

Cut voided cloth velvet: A velvet weave. The pile is intermittently lifted in loops above the surface and then hidden in the foundation fabric so that a velvet pattern (or background) appears with a background (or pattern) of the foundation which is of plain weave (17).

Eccentric tapestry: Tapestry having wefts that deviate from the horizontal and their normal right-angled relation to the warps (6).

Eight Precious Things: Also called Pa shi hsiang. The spiritual attributes and symbols of the Buddhist in China, which include the parasol, fish, vase, lotus blossom, sea shell, mystic diagram, canopy, and the wheel (16).

Fo-dog: A mystic animal of China, which resembles a lion rather than a dog. This animal is supposed to watch over the Buddhist holy place (12).

Slit tapestry: Tapestry having slits caused by no structural connection between adjoining areas (6).

Yin-yang emblem: A Chinese Taoist symbol which consisted of two interlocked embryonic figures; the male (yang) and the female (yin) element of creation from whose union all life springs (12).
APPENDIX B: EXAMPLES OF CHINESE MOTIFS

Single lozenge  Multiple lozenge  Faulted lozenge  Divided lozenge

Cloud bands and a beast

Tortoise shell  Trees  Flowers
Flowers

Stylized flowers

Flowers and birds

Birds in roundel
Attributes of the Eight Immortals

Eight Precious Things

Yin-yang  Swastika  "Shou" (Chinese letter)