MODERN ADAPTATIONS OF PERUVIAN MOTIFS IN TEXTILE FABRICS

By

BOBBIE CALLAWAY

Bachelor of Science

Oklahoma Agricultural and Mechanical College

Stillwater, Oklahoma

1949

Submitted to the Faculty of the Graduate School of

the Oklahoma Agricultural and Mechanical College

in Partial Fulfillment of the Requirements

for the Degree of

MASTER OF SCIENCE

1952

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THESIS AND ABSTRACT APPROVED:

Walter E. Temple
Thesis Adviser

Adaline M. Ledbetter
Faculty Representative

D. G. McCulloch
Dean of the Graduate School

Acknowledgment

The author wishes to express her sincere appreciation to Dr. Wathena Temple, professor of Household Arts, for her stimulating counsel and supervision in the development of this work; to Miss Sara D. Meador, associate professor of Household Arts, and Mrs. Adaline Ledbetter, head of Household Arts, for their helpful suggestions and constructive criticism; to Senor Alfonso Expinosa of the Peruvian Embassy in Washington, D. C., for the original sample photographed in this paper; to Miss Anna H. Gayton of the University of California, Mr. Henry B. Collins, Jr. of the Smithsonian Institution and Miss Bella Weitzner of the American Museum of Natural History for their suggestions and aid in collection of data; and to Mr. Frederick Pleasants of the Brooklyn Museum for his interest in obtaining valuable copies of journals for the author.

The author is particularly indebted to the library staffs of Oklahoma Agricultural and Mechanical College and the University of Missouri for their cooperation, and to her parents who made this accomplishment financially possible.

PREFACE

The purpose of this study is to focus attention on some typical Peruvian motifs that could be adapted to commercial textile patterns. The problem involves a brief historical outline of Peruvian cultures; an analysis of Peruvian fibers and weaves that influenced design; a discussion of outstanding colors and dyeing processes; a study of motifs and textile design; a comparison of characteristic Peruvian designs and some adaptations of them found in the United States; a collection of photographs illustrating original motifs and textiles employing adaptations from Peruvian designs; and a group of original adaptations by the author.

As the world grows smaller day by day, the North and South Americans seem to be knitted more closely together. The "good neighbor" policy has started not only a transfer of ideas from the United States to her southern neighbors, but more important the acceptance on our part of some of the South American traditions. The North American consumer today selects decorative fabrics modified from the designs of many countries and cultures. The great influences of South American arts on modern United States textiles is becoming increasingly evident. For this reason, the author was interested in obtaining some historical data and correlating it with modern adaptations in motifs.

Peruvian designs were chosen because the advanced culture of the Inca nation presented many outstanding decorative features in their arts and crafts, and these features have been brought to international attention by the recent archaeological discoveries in Peru.

As comparative studies in museums and private collections were not possible, original study was limited to the observation of the collections in the American Museum of Natural History and the selection of fabrics produced in the United States and available to the author through stores and decorators' studios.

The illustrative materials were obtained from prints of museum collections, the Peruvian Embassy, and private manufacturers. Information for this paper was obtained from books, magazines, and publications of governmental and historical agencies.

The motifs illustrated were chosen because of their historical repetition in cultural periods and their frequency in adaptation. The museum prints have been reproduced by photography. Sample cuts of the commercial adaptations were not advisable, as the motifs were very large; therefore, the entire repeat of the motif was photographed. The original adaptations were photographed from the plates designed and rendered by the author.

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Chapter I

HISTORICAL BACKGROUND

Peru, a South American country of rich traditions, is divided into three geographical regions: the low coastal desert, the tropical jungles, and the highland sections of the Andes mountains. Archaeological research has been influenced by these geographical divisions. The highlands have yielded few examples for historical study, but in the coastal desert areas the materials were well preserved.[1]

No aboriginal history exists except the archaeological records.[2] The nation developed from nomadic tribes into the great Inca Empire. The Spanish priests offered some information on the final stages of Peruvian development, but their reports were often unscientific and influenced by their distaste for native pagan practices.

The following classification of cultural sequences was based upon the studies of Wendell C. Bennett, Professor of Anthropology at Yale University. He classified the cultures as (1) Early Farmer, (2) Cultist, (3) Experimenter, (4) Mastercraftsmen, (5) Expansionist, and (6) City Builder.

The Early Farmer cultural group appeared between 3000 and 1000 B. C., and the discovery of bone weaving tools indicates that weaving was practiced in some form.

Cloth fragments from the Cultist period between 1000 B. C. and 1 A. D. were rare, but a true loom weaving knowledge was shown in the implements that were preserved. A stylized feline design characterized the majority of preserved

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1 Thomas A. Joyce, South American Archaeology, pp. 199-200.

2 Wendell C. Bennett and Junius B. Bird, Andean Culture History, pp. 104-105.

fabrics from this cultural group.

All cultures of the Experimenter period between 1 A. D. and 600 A. D. practiced loom weaving. New techniques and new controls were present.

The weaving arts were further advanced in the Mastercraftsman cultures between 600 and 1000 A. D., and many technqiues were employed to produce beautiful fabrics.

A great number of textiles has been preserved from the Expansionist cultural groups which existed between 1000 and 1200, and the outstanding development of tapestry was included among the weaving techniques.

Sometime during the City Builder period between 1200 and 1450 the Inca Empire arose.[3] According to an ancient legend recorded by Garcilasso de la Vega, a sacred couple was sent from heaven by the god of the sun to found the dynasty in the valley of Cuzco.[4] The emperor taught agriculture to the men, and the sister-wife taught household duties and weaving to the women. The cold, damp climate of the high Cuzco region made clothing essential; and textiles became an important part of the imperial civilization.[5] Fabrics and garments were part of the tax paid to the Inca family and the temple. The textiles were used in burial ceremonies, in sacrificial offerings, in robes for the temple officials and the nobles, in uniforms for the army and, for the robes of the Inca family.[6]

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3 Bennett and Bird, Op. cit., pp. 121-198.

4 William H. Prescott, History of the Conquest of Peru, pp. 8-9.

5 Florence Arquin, "Indians of the 'Altiplano': Their Arts and Crafts," School Arts, XLVII (April, 1948), pp. 254-288.

6 Gosta Montell, Dress and Ornament in Ancient Peru, pp. 179-186.

Schools had to be organized and maintained by the state to supply the vast weaving staff needed to meet the constant demand for textiles. The schools were for women only and were directed by an Inca Empress who instructed in the weaving arts.[7]

Pizarro, the Spanish conquistador, with the aid of a few adventurous invaders conquered Peru in 1530 and made it a Spanish colony. The conquistadores stripped the palaces and temples of their treasures, including many lovely textiles, and sent them to the Spanish throne.[8] Thus it was that the Peruvians were conquered by the Spanish at the peak of their cultural development. The Peruvians had known no personal freedom and readily fell under the governmental yoke of the Spanish ruler; therefore, the weaving arts and other handicrafts were greatly influenced by the conquistadores. The rich costumes of the Spanish and the ceremonial forms of catholicism brought bolder colors and patterns into the somber and restrained native products.[9] The blend of the two cultures, Spanish and Peruvian, produced many decorative arts during the three hundred years of colonial rule. Although some of the cities saw a rise of textile factories, textiles were primarily woven at home by part-time craftsmen whose products were intended for local consumption.[10]

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7 Fernando Romero, "Inca Finishing School," Americas, Vol. 2 (September, 1950), pp. 17-18.

8 Christopher Sandeman, A Wanderer in Inca Land, p. 117.

9 Truman E. Bailey, The Manual Industries of Peru, p. 12.

10 Harry Tschopik, Jr., "Peruvian Folk Art," Magazine of Art, XLII (January, 1949), pp. 15-17.

Much of the decorative art in Peru today is copied from the colonial work. A lack of patronage for the hand arts and an increased supply of low-priced manufactured objects has caused a decline in handicraft production. The Peruvian government turned to the Inter-American Development Commission for aid, and in 1942 Truman Bailey was sent to Peru. After two years of research study, Mr. Bailey established a school in which he encouraged the use of Peruvian materials, methods and traditions in hand arts and crafts.[11] Describing the project, Mr. Bailey says, "....we sought to revive the native inventive genius and give it once again a profitable outlet. With that end in view we made a careful study of the original methods."[12] The textiles produced at the present time in the school organized by Mr. Bailey are copies of the ancient textiles rather than adaptations.

Ancient Peruvian fabrics are recognized for their unique qualities of fiber, weaving technique, color and dye, and design. Natural fibers were plentiful in a variety of colors and textures. Almost every weaving technique known in modern times was practiced by the ancient Peruvians. Some of the techniques are impossible to recreate with a mechanical loom because of the unusual fineness of the weaves, and others would be impractical economically for modern weaving methods. The natural colors of the fibers, plus an exceptional skill in the dyeing processes, produced a vast range of colors for the textiles. An appreciation of color harmony, an artistic sense of proportion, a high degree of skill in technical development, and the selection of familiar animated subjects made their designs unusually distinctive.

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11 Florence Arquin, "Reviving Peruvian Crafts," Bulletin Pan American Union, LXXXI (November, 1947), pp. 622-626.

12 Bailey, Op. cit., p. 31.

Chapter II

FIBERS

A number of natural fibers were accessible to and used by the ancient Peruvian weavers.[1] Three natural fibers, cotton, animal fibers, and bast were most frequently used; human hair and some other animal hairs were often added for some desired effect.

Cotton and animal fibers were used in Peruvian fabrics during all cultural periods. Cotton was the earliest fiber used appearing before 1000 B. C., and the early cultures seemed to use more cotton fibers, according to Junius Bird.[2] The appearance of some animal fibers in the early cultures, however, influenced weaving techniques more adaptable to those fibers.[3] In the middle cultural groups, the use of cotton and animal fiber combinations became more frequent through the weaving of tapestry, while the late cultures, including the Inca dynasties, showed a preference for all cotton constructions.[4]

Although difference of opinion exists among authorities on the varieties of cotton fibers used by the ancient Peruvians, most experts agree that there were at least two: a pure white and a reddish or golden brown. The brown variety may have been a wild form of the white,[5] or may have been changed from a white to

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1 Bennett and Bird, Op. cit., p. 256.

2 Ibid., p. 259.

3 Lila M. O'Neale and Alfred L. Kroeber, "Textile Periods in Ancient Peru," University of California Publications in American Archaeology and Ethnology, XXVIII, No. 2, p. 26.

4 Loc. cit.

5 M. D. C. Crawford, "Peruvian Textiles," Anthropological Papers, American Museum of Natural History, XII, Pt. 3, p. 64.

a brown tone by dyes or pests.[6] The cotton fibers in Peruvian textiles were as fine as silk, and the pure white fibers appeared to be much better than the brown fibers.[7] Cotton fabrics also displayed fibers of other colors which may have been natural to the plant[8] but are not recognized by all authorities. Don Pedro Gutierrez de Santa Clara observed the naturally colored cottons in 1550 and stated:

> .... there is in this country much cotton which of itself is blue, brown, tawny, yellow, and the colour is so fine that it is something to be noted, as though it had been in dye for a long time, for the painter of the world gave to it those vivid colours.[9]

Some references in early literature designated brown cotton for rulers only.[10]

The bast fiber, the nearest resemblence to linen known by the ancient Peruvians, was a kind of hemp produced from maguey. It was used in cords, ropes, netting, and for some mummy cloths, which resembled those of ancient Egyptian linen.[11]

The animal fibers used in Pre-Spanish Peru came from the hair of three animals of the camel family: the llama, the alpaca, and the vicuna. Different parts of the animals yielded different grades of fiber; generally, however, the llama produced a coarse fiber; the alpaca, a finer type; and the vicuna, the finest.[12] Recent research has shown that alpaca fibers can be more easily spun

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6 Philip A. Means, Ancient Civilizations of the Andes, p. 454.

7 Crawford, Op. cit., p. 69.

8 Bailey, Op. cit., p. 22.

9 Means, Op. cit., p. 455 quoting Gutierrez de Santa Clara, Historia de las guerras civiles del Peru, Bk. III, Ch. lix.

10 Crawford, Op. cit., p. 69.

11 Ibid., p. 65.

12 Ibid., p. 70.

than can vicuna, and many of the fabrics formerly classified as vicuna may be a fine grade of alpaca fiber.[13] The natural colors of the animal fibers were also useful in textiles. The llama was usually a creamy or a brown tone; the alpaca fiber could be white, bluish gray, orange, light or dark brown;[14] and the vicuna was a beige or cinnamon color.[15] In Inca times the vicuna fibers were supposedly limited to the nobility, while the llama fibers were used by the Indians.[16]

In tests conducted by Truman Bailey between 1942 and 1946, several unusual fibers appeared in ancient fabrics under the microscope. Human hair of a black or bluish-black common to South American Indians was often used when black appeared in a design, particularly as the outline of a motif. The hair was coarse and gave lustre to fabrics woven of animal fiber; however, it was not used in all periods.[17] Viscacha, a long-tailed rodent, closely resembling the chinchilla, had a coat of clear yellow fur, which was often used to add brilliancy to the finish of a fabric. During Inca times these fabrics were used only by the nobles and were very much prized by the Indians.[18] Spider webs; rat and mouse furs; bat's fur; numerous grasses and reeds; and banana, cactus and kapok fibers were also found in ancient textiles.[19]

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13 Bailey, Op. cit., pp. 21-22.

14 Means, Op. cit., p. 455.

15 Bailey, Op. cit., p. 22.

16 Bennett and Bird, Op. cit., P. 259.

17 Ibid., p. 260

18 Means, Op. cit., p. 457.

19 Bailey, Op. cit., p. 22.

The Spanish brought sheep, as well as silk and linen fibers, into Peru from Europe. The silk and linen fibers were woven primarily for the conquistadores, but the wool fibers from sheep were used in native textiles.[20]

Although many of the ancient fibers cited previously in this chapter are found in Peru today, they are not used for fine textiles. Truman Bailey found colored cottons growing on the northern coast, but the commercial value was not sufficient for the Indians to exercise the extreme care needed in growing these cottons.[21] Vicuna fibers are still woven today in Peru; but it is illegal to take these fabrics out of the country.[22] The alpaca is the most important commercial fiber and is woven both for export and for domestic use.[23] The llama fiber is woven, as it always was, for native use, but wool fibers from sheep and white cotton fibers are used for fabrics of homespun quality in most domestic production.

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20 Tschopik, Op. cit., p. 15.

21 Bailey, Op. cit., p. 22.

22 Sandeman, Op. cit., p. 182.

23 Grace G. Denny, "Impressions of Folk Arts in Peru," Journal of Home Economics, XLII (March, 1950), pp. 190-193.

Chapter III

WEAVING TECHNIQUES

The early Peruvians utilized their wide choice of fibers by developing fabrics with many variations in weaving techniques.

The fabrics of the ancient Peruvians were primarily woven as wearing apparel. Most of the finer textiles in collections were identified as caps, mantles, shirts, belts, and wraps. Many of these garments were utilitarian in purpose, while others were used as ceremonial pieces or grave garments, which were made larger to cover a mummy and showed no signs of wear. The garments were not cut; they were woven in parts shaped by the loom and stitched together.[1]

Although textiles from the early period between 1000 B. C. and 1 A. D. were poorly preserved, most of the fragments were of cotton in a plain weave, while some weft stripes and creped threads appeared. A sudden increase in woven fabrics occurred as the Christian era was neared, and examples of monochrome tapestries and some fabrics with a woven design have been found.[2]

From about 1 A. D. to 600 A. D. the Paracas Caverns group was particularly distinctive for gauzes, but brocade, weft patterns, embroidery, and painted cloth also appeared during this period.[3]

During the next four hundred years preceding 1000 A. D., the cultural groups presented the textile world with almost every known technique found in any later time.[4] The Nazca and Necropolis fabrics were numerous and showed a distinct inclination to over-all embroidery. The coastal textiles of the

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1 William H. Holmes, "Textile Fabrics of Ancient Peru," Bureau of Ethnology, Vol. 7, pp. 8-9.

2 Bennett and Bird, Op. cit., p. 130.

3 Lila M. O'Neale, "Textile Periods in Ancient Peru. II: Paracas Caverns and the Grand Necropolis," University of California Publications in American Archaeology and Ethnology, XXXIX, No. 2, p. 177.

4 Bennett and Bird, Op. cit., p. 172.

north introduced and developed tapestry to a more popular position, and the middle cultural periods reflected a persistence for brocade, gauze, lace, double cloth and flat braid.[5] Three dimensional knitting was also introduced during this time.[6]

By the rise of the Expansionist period from about 1000 to 1200, skill had been developed in known techniques and fine tapestries were characteristic of the last cultures before the rise of the Incas. During this era brocade, double cloth, knitting, interlocking warp, velvet-like pile knot and warp patterns were frequently used.[7] The wrapped weave technique, which was practically absent in earlier periods, was introduced.[8]

The next two hundred and fifty years saw the rise of the Inca nation and the unification of the empire. The textile industry continued the weaving of tapestry, particularly to finish borders and for small inserts in corners of textiles. Gauzes, brocades, and pattern weaves appeared less frequently, while the entire group of woven fabrics increased in quantity; and wrapped weave became common in the late cultures.[9] The Inca cultures were characterized by the frequent use of double cloth technique and the use of all cotton constructions on the coast.[10]

By about 1450 the compulsory emigration imposed by the Inca family as a form as punishment brought about a mingling of techniques between the cultures. There were comparatively few pieces of fine textiles preserved from this period,

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5 O'Neale and Kroeber, Op. cit., p. 35.

6 Ibid., P. 34.

7 Bennett and Bird, Op. cit., p. 198.

8 O'Neale and Kroeber, Op. cit., p. 34.

9 Loc. cit.

10 Bennett and Bird, Op. cit., p. 212.

but fabrics with creped yarn, brocades, and delicate gauzes seemed to fill the collections from the later cultures affiliated with the Inca Empire.[11]

Most techniques of weaving used by the Peruvians appeared to some extent in all periods; some had their principal popularity in an early, middle, or late culture, while others were characteristic of one or two geographical groups.[12] Among the outstanding techniques, the ancient Peruvians included plain weave, twill, repp, gauze, pattern weaves, brocade, double cloth, and tapestry. These techniques will be discussed individually on this and the following pages.

The plain weave structure, with one warp crossing one weft, was the basic weave learned by any people. In Peru the plain weave was most frequently made of cotton and became the background for embroidery and other superstructure techniques in the later periods. The variations by weft and warp stripes, checks and ginghams, were made in plain weaves both in cotton and animal fibers.[13]

Repp and twill were two related techniques practiced by the ancient Peruvians. Both of these weaves had a ribbed effect; repp had a raised area perpendicular to the selvage, and twill had a diagonally ribbed area. Repp appeared rather frequently in the late periods, but few examples of twill have been found. The twill weave was difficult to produce, and the known examples were collected from the middle cultural periods. Although it is possible that many twills existed, it can be assumed that the twill technique was mastered by the Peruvians but had a restricted distribution among the cultures.[14]

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11 Joyce, Op. cit., p. 204.

12 O'Neale and Kroeber, Op. cit., p. 31.

13 Means, Op. cit., p. 486

14 Bennett and Bird, Op. cit., pp. 275-276.

The gauze weave technique was an open mesh construction which greatly resembled lace. The gauzes of the Peruvians required skillfull workmanship, as the warp and weft were locked and did not pull. Both light-weight and heavy-weight gauzes have been found. The gauze technique, however, was particularly suited to some of the warmer climates of Peru and the coastal cultures were foremost in gauze production.[15]

Two forms of simple pattern weaves, the warp pattern and the bobbin weave, were used in most of the Peruvian cultures. The warp patterns were relatively easy to create and were very popular. The best examples of the technique were found on the southern coast in a later period.[16] The bobbin weave was made by inserting the weft or bobbin to produce a surface design that resembled the figuring of a modern Jacquard loom. The bobbin weaves required at least two colors, and two types were produced; one with a surface design only, and another with both sides of the fabric finished.[17]

Brocading was also known to the ancient weavers of Peru. This technique, which consisted of inserting an extra ornamental weft or several wefts, was completed during the weaving process. The finished textile was difficult to distinguish from embroidery in the Peruvian examples, and it is assumed that this skill at the loom shortly followed the development of the decorative additions after the weaving process had been completed.[18] Most brocades had a cotton base, with the extra bobbin or weft of animal fiber.[19]

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15 M. D. C. Crawford, "Peruvian Fabrics," Anthropological Papers, American Museum of Natural History, XII, Pt. 4, pp. 141-142.

16 Bennett and Bird, Op. cit., p. 276.

17 Crawford, "Peruvian Fabrics," pp. 147-148.

18 Bennett and Bird, Op. cit., p. 277.

19 Means, Op. cit., p. 487.

Double cloth, using two sets of warp and two sets of weft with weaving done on both sides of the loom, was produced in some beautiful fabrics by the Peruvians. The designs worked into a fabric of this kind were the same on both sides though reversed in color. Using the double cloth method, almost any design, by careful arrangment, could be created.[20] In other countries this technique was often employed to construct a warm, heavy fabric; but, as many of the Peruvians had no need for warmth, fabrics of the double cloth construction were most frequently used for bags or charms buried with the dead.[21] There is a possibility that the origin of the double cloth technique arose from the weaving of plaid ginghams or from some form of basketry.[22]

Perhaps the most outstanding fabric constructions produced by the ancient Peruvians were the tapestries. The relatively simple procedure required manipulation of the weft alone; the warp remained stationary. The weft was darned over or under the warp and produced a textile of fine quality. The weft was usually of animal fiber on a cotton warp.[23] A distinctive feature of Peruvian tapestry appeared in the border construction often attached by an extra thread. The Coptic tapestries often showed a border that had been sewed to the fabric, but this was never done by the artistic Peruvians.[24] Tapestry appeared in the middle cultures on the north coast and gradually became the most outstanding technique used in weaving. During the Inca reigns, tapestries were given new support; but no

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20 Crawford, "Peruvian Fabrics," p. 135.

21 Means, Op. cit., P. 488.

22 Crawford, "Peruvian Fabrics," p. 140.

23 Means, Op. cit., p. 484.

24 Crawford, "Peruvian Fabrics," p. 119.

direct influence in the general development occurred.[25] At the time of the Spanish conquest, the tapestries were superior to the European products and received great admiration from the conquistadores.

Some of the early hand-woven tapestries had slits, formed when the colors changed parallel to the warp. This slit construction was usually known as kelim tapestry. While the earlier cultures may have interlaced the weft to avoid slits, others left them to accentuate designs.[26] In an original sample of ancient construction obtained through the Peruvian Embassy (note Plate VIII), the author was privileged to examine the slits formed at all of the color change lines perpendicular to the fringe. Plate I shows a diagram of the frequency of the slits in the fabric observed by the author.

Several techniques of less importance were known to the ancient Peruvian weavers. They were familiar with pile construction but seldom used it. The most outstanding of the little-used techniques was patchwork, which was sometimes identified as interlocked darning. Patchwork created geometric squares of different colors.[27] The entire construction was accomplished on a loom, with one yarn being turned to form both warp and weft, making the warp threads crossed only by weft of the same color.[28]

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25 Bennett and Bird, Op. cit., p. 279.

26 Joyce, Op. cit., p. 200.

27 Bennett and Bird, Op. cit., p. 281.

28 Lila M. O'Neale, "A Peruvian Multicolored Patchwork," American Anthropologist, XXXV, p. 87.

> To manipulate a single length of yarn so that it became not only warp and weft within a patch, but coincidently created four selvages interlocked to the selvages of as many other adjacent patches is a technical feat. To add to a problem of such proportion a self-imposed adherence to a complicated color rhythm is manifest proof of an ambitious craft ideal.[29]

It is most extraordinary that such complicated weaves as those practiced by the early Peruvians should have been created without diagrams or drafts. Although their counting system of knotted strings could have been used as a guide to weavers, there has been no evidence discovered to this effect, nor have ancient work baskets yielded examples of this method of counting. It is, therefore, presumed that the geometric figures and the realistic representation of them were known only to the weavers, who had to think out the structures independently.[30]

The most important influence of the Spanish conquest on weaving was the introduction of a large upright loom that made large-sized wall hangings and draperies possible. The Spanish appreciated the techniques employed by the Peruvians, and the native products soon found their way into the homes of the conquistadores.[31]

In the twentieth century the native Peruvians made an effort to become industrialized. The hand-woven costumes, used on special occasions, were called barbaric by commercial interests; and the Indians were urged to wear the white man's apparel. Some of the so-called "lost arts," including many weaving techniques, became dormant; and the textiles made by machines became the most valued products. Even then, the natives would not part with the hand-

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29 Lila M. O'Neale, "A Peruvian Multicolored Patchwork," American Anthropologist, XXXV, p. 94.

30 Crawford, "Peruvian Fabrics," p. 151.

31 Bennett and Bird, Op. cit., p. 279.

woven fabrics and persisted in using the ancient techniques to some extent in home production.[32] When Truman Bailey conducted his research project, he found some hand-woven fabrics and the weavers who made them. He learned that different geographical groups retained old weaving techniques but often were not familiar with techniques practiced in other areas. Some groups created a pattern using the weft, while others formed designs on the warp threads. New designs of the ancient double cloth method were created by a weft weaver on one side of the loom and warp weaver on the other.[33] Inspired by Mr. Bailey, the Indian weavers became interested in decorative textiles and were quick to learn old and new methods.

The ancient and modern folk arts in weaving techniques practiced in the research project are not typical of the twentieth century native production; they are a revival of the ancient methods applied to modern products. At the present time, many textiles are still being copied from the colonial period; but, in the weaving techniques, the Indian characteristics still predominate and ancient methods are apparent.[34]

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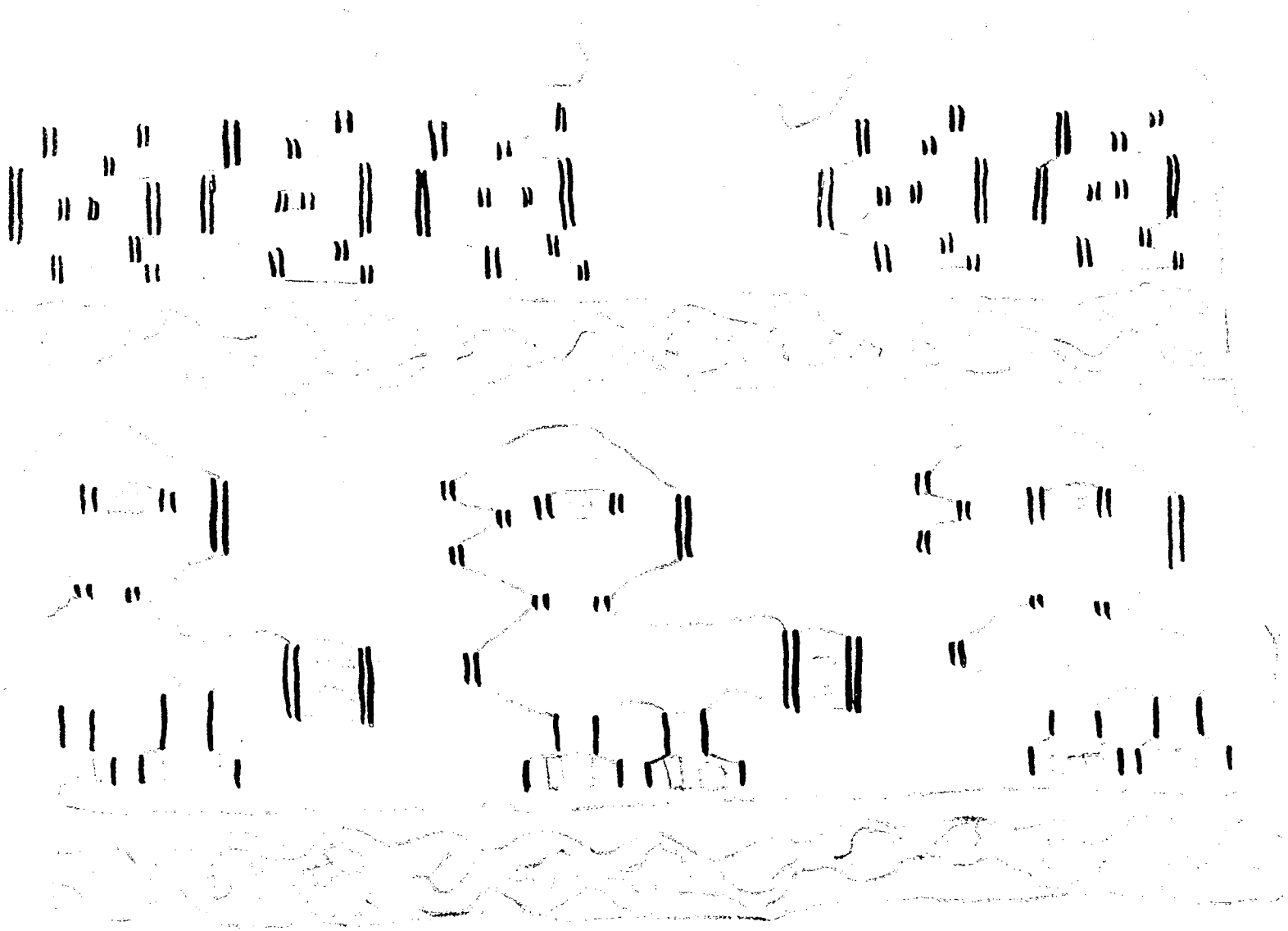
32 Truman E. Bailey, "Native Arts Shape the Native Future," Natural History, American Museum of Natural History, LIII, No. 6, pp. 258-271.

33 Bailey, The Manual Industries of Peru, p. 33.

34 Tschopik, Op. cit., p. 14.

Diagram of Slit Construction



Chapter IV

COLORS AND DYES

A great variety of colors, many of which were obtained either from the natural fibers or from dyes, was used in the ancient Peruvian fabrics. The earliest cultures seemed to use the naturally colored fibers, but the later groups broadened their color range by the use of dyes.[1] The dyes and dyeing processes must have been unusually effective, as the colors have remained clear and harmonious through the ages. Although colored cottons tended to darken slightly when exposed to light, and some fading must have occurred, the fabric sent from the Peruvian Embassy and the examples viewed by the author in the American Museum of Natural History were of a relatively intense hue.

The colors differed in certain locales and cultural periods,[2] and in the following discussion, the colors will be mentioned as they were used chronologically. It can be assumed that many of the colors were known in all periods, although some were more favored by one group than by another. The chapter will be concluded with dyes and dyeing processes that appeared at more or less indefinite times and will be discussed generally.

The pre-Christian ages used red and blue dyes with natural fibers, and these combinations provided a narrow range of colors.[3] From the birth of Christ until approximately 400 A. D., a range of ten or twelve colors was recorded. The cultures of this period used the natural fiber hues; they retained the blues and reds, shading both toward purple; and they made an addition of yellow, orange,

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1 Bennett and Bird, Op. cit., pp. 262-263.

2 O'Neale and Kroeber, Op. cit., p. 31.

3 Bennett and Bird, Op. cit., p. 262.

and bluish-green tints. A gray color was produced by combining, before spinning, brown and cream animal fibers. This technique was used by most of the following cultures.[4]

Between 600 and 1000 the cultures developed color and dyeing processes that included one hundred and ninety hues.[5] During this period there was a distinct preference for clear and bright colors. Blues, greens, reds, rose hues, and browns predominated, and the blacks and purplish hues favored by earlier periods appeared less frequently.[6] Combinations of five, six, or seven colors in stripes and patterns seemed to be preferred by some groups, and combinations of from seven to thirteen colors in motifs were used by other cultures.[8] Many early fabrics could have been lavish in color, had the wide range been utilized; however, research and observation has shown definite color limitations. Most embroidered textiles had a white ground; the red cotton cloths were mainly left undecorated. Striped fabrics were most frequently brown and blue or brown and white; light pink was sometimes substituted for the white.[9]

The fabrics used during the middle cultural periods showed a tendency toward fewer colors; red and yellow predominated, and some smaller areas were woven in vivid blues. Some cultural groups favored cloths with rose red as the ground color, and they usually combined four to seven colors in patterns. Repetitions of color units did not appear as frequently in the middle cultures as they had previously, and the colors tended away from the rich, dark tones.[10]

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4 O'Neale, "Textile Periods in Ancient Peru. II," p. 178.

5 Ibid., p. 180.

6 Ibid., p. 183.

7 Ibid., p. 181.

8 O'Neale and Kroeber, Op. cit., p. 37.

9 Ibid., p. 40.

10 Ibid., pp. 42-44.

During Inca times, which embraced all the late cultures to some extent, all colors were used in fabrics. The late textiles favored somber colors, blacks and brown, with subdued shades from the primary group.[11] The brown tones were favored for ground colors; and sequences of three, four, or more colors formed repetitive combinations, particularly typical of the late culture fabrics.[12]

Very little is known about the dyestuffs used by the ancient Peruvians.[13] The early Peruvians must have known that the smooth, lustrous fabrics from their looms tended to fade more quickly than fabrics of a coarser variety. They may have slightly corroded the fibers, which enabled them to absorb the dye and retain a permanent beauty.[14] The use of a mordant in the dye was apparent to some extent, and the few attempts at chemical analysis have confirmed an early historical reference to alum for this purpose.[15] In 1931, M Valette discovered that silicate of chalk, aluminum, silicate of aluminum, and oxide of iron were all used as mordants in ancient Peruvian textiles.[16]

The dyes used were probably obtained for the most part from vegetable sources. In his experiments, Valette found indigo used for some of the blues, and others believe that a brilliant blue may have been obtained from a mixture of powdered turquoise with an acid.[17]

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11 Joyce, Op. cit., p. 204.

12 O'Neale and Kroeber, Op. cit., p. 46.

13 Letter from Anna H. Gayton, Associate Curator of Textiles, Museum of Anthropology, University of California, May 10, 1951.

14 Sandeman, Op. cit., p. 182.

15 Bennett and Bird, Op. cit., p. 261.

16 Means, Op. cit., p. 467.

17 Sandeman, Op. cit., p. 182.

The insect family provided an important dye source in the cochineal, a parasite whose dried body was used in making a red dye. The cochineal was valued commercially as an export by Mexico and Peru before the discovery of synthetic dyes. There may have been another type of dye produced from the shellfish, concholepa.[18]

Truman Bailey, in a research project conducted between 1942 and 1946, used a seventeenth century chronicle to secure data concerning dyes. He then searched for the ancient native plants and experimented with herbs, barks, roots, wild flowers, and berries. The plant forms, trees, and shrubs yielded many dyes: deep yellow from the Molle, soft yellow from the Ruda, green from the Tara, and blue from the Chejche Spina. The cochineal was again employed for red dye. The total research has produced formulae for two hundred and fifty colors, which did not fade readily; if fading did occur, the colors did not change. They merely became muted shades of the original colors. Four hundred and twenty-five shades can be made from the original two hundred and fifty formula colors. It may be assumed that these dyes are either the same or closely related to the dyestuffs used by the ancient Peruvians.[19]

Most of the dyeing done by the ancient Peruvians was in the yarn rather than in the piece. The use of animal fibers was probably responsible for the use of dyes, as animal fibers took dye more readily than cotton fibers.[20] There was some dyeing of raw stocks of cotton with the seeds still attached; however, the dyeing of raw stocks of animal fibers was not common, as the fibers would become tangled by such a process.[21] Ample evidence of yarn and fiber dyeing,

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18 Bennett and Bird, Op. cit., p. 261.

19 Bailey, The Manual Industries of Peru, pp. 22-24.

20 Bennett and Bird, Op. cit., p. 259.

21 Ibid., pp. 261-262.

however, has been provided by looms with unfinished fabrics in them and by ancient work-baskets.[22]

Two resist dyeing processes, the resist tie-dye and the ikat, were probably the only forms used by the early Peruvians. Batik, the wax resist process, has not been found in Peruvian fabrics.[23] The ikat process, which required careful planning of the entire pattern before dyeing or weaving, was a resist method that dyed a pattern on the warp threads. Ikat was not frequently found in Peruvian fabrics; however, it has appeared in the late cultural periods.[24] Some of the Central American countries used the ikat process for both warp and weft threads, but in Peruvian fabrics only the warp ikat was known.[25]

The tie-dye process was probably the only piece dyeing process used by the ancient Peruvians. Portions of a fabric were bound with fibers or yarns to be preserved from the dyeing action, and thus a pattern was created. One form of tie-dyeing in Peruvian textiles consisted of doubling the cloth on the bias and rolling it into a long cylinder. This process resulted in a striped fabric with stripes running diagonally to the warps. The stripes were usually similar and precluded the possibility of painting the stripe and later rolling the fabric. This procedure was seemingly peculiar to Peru.[26] Several colors could be used in the tie-dye process, but the Peruvian fabrics usually showed only the natural color with an addition of one or two others.[27] With the exception of Peru, the tie-

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22 Means, Op. cit., p. 467.

23 Bennett and Bird, Op. cit., p. 285.

24 Lila M. O'Neale, "Weaving," Handbook of South American Indians, Bureau of American Ethnology, Bulletin 143, V, Pt. 1, p. 126.

25 Bennett and Bird, Op. cit., p. 285.

26 Crawford, "Peruvian Fabrics," p. 154.

27 Bennett and Bird, Op. cit., p. 285.

dyeing process can be definitely traced to an Asiatic origin, but at the present time no historical proof links the Peruvian and Asiatic tie-dye methods.[28]

The Peruvian colors seemed to form a cycle from the early limited use of more somber colors, through the bright, clear colors of the middle cultures, a return to the somber colors during the Inca reigns, and concluding with a revival of the brighter colors after the Spanish conquest. In the twentieth century two concepts influence colors. The industries have promoted the use of synthetic dyes, and the Bailey project has tried to revive the use of natural dyes and naturally colored fibers. At the present time Peruvian natives do both yarn and piece dyeing; however, they still seem to prefer the yarn process. Mr. Bailey urges a return to yarn dyeing and other ancient dyeing processes.

In this and the preceding chapters the basic elements in the development of fine fabrics have been discussed. These include the fibers, the weaving techniques, and the natural colors and dyes. Each of these elements influenced the creative minds of the ancient Peruvians toward the development of many interesting designs distinctively different from other historical examples.

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28 Crawford, "Peruvian Fabrics," p. 154.

Chapter V

DESIGNS AND MOTIFS

The Peruvian fabrics were fundamentally ornamented with strange conventionalized animals and human figures. The Peruvian designers were influenced by basketry and loom techniques, by a desire for details, by the world of nature, and by religious and mythological beliefs.

The ancient weavers may have repeated the designs they used or saw in basketry, as most of the forms of design could be transferred to the weaving processes by warp and weft. The actual weaving techniques also produced a series of step-like lines when colors contrasted obliquely across the warp. The step-like pattern may not have been seen by an ordinary observer; but it was certainly apparent to the weavers, who enhanced the pattern by accentuation. From this simple step-like line the weavers soon created rectangles, that at times produced an accidental likeness to some realistic form and after became geometric figures. These were found profusely in the early textiles.[1]

The Peruvian designers had no paper for recording ideas and relied fundamentally on memory. The craftsmen, as they worked, had to remember all of the details of form and construction. However, a small number of samplers have been found, indicating that some of the more complex designs and processes might have been plotted and recorded.[2]

In addition to the designs woven into a fabric, the Peruvians applied surface motifs by several methods; embroidery, sewn braid, featherwork, and painting. These methods permitted unusual curvilinear motifs to be produced and gave a greater freedom of detail to the artist than did the limited angular techniques of the woven design.

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1 Crawford, "Peruvian Fabrics," pp. 173-174.

2 Bennett and Bird, Op. cit., p. 293.

Embroidery was used in the earliest cultures, and the additional ornamental yarns permitted diagonal and curvilinear designs. The earliest forms of embroidery covered large surfaces; the later cultures used this technique to apply lines, edges, and borders as decorative features.[3] Narrow strips of braid were sewn to some fabrics for surface design.[4]

Featherwork was a unique art used by the Peruvians. The mosaic-like patterns were produced by sewing many different colored feathers to a base cloth in an arrangement that created a motif or a definite design.[5] These feathers were carefully strung in color sequence to create designs and were most frequently sewn to a cotton fabric.[6] These specimens are in perfect preservation today, and the feathers are so closely sewn that they resemble the coat of a bird.[7] The visitor in the South American Hall of the American Museum of Natural History will be immediately attracted to the exhibition of Peruvian featherwork. The colors of the feathers from tropical birds are unusually vivid, closely sewn, and carefully arranged to produce intricate designs.

The Peruvian designs were perhaps more curvilinear in painted cloths than in other techniques. The pre-ceramic cultures used only a plain red pigament; however, artistic applications of many pigaments appeared in the later cultural periods.[8] Most often the painted designs were copied from woven pieces and were not as intricate or as carefully planned as the woven designs.[9]

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3 O'Neale and Kroeber, Op. cit., p. 32.

4 Charles W. Mead, "Conventionalized Figures in Ancient Peruvian Art," Anthropological Papers, American Museum of Natural History, XII, Pt. 5, p. 210.

5 Bennett and Bird, Op. cit., p. 212.

6 Arquin, "Indians of the 'Altiplano': Their Arts and Crafts," p. 257.

7 Sandeman, Op. cit., p. 182.

8 Bennett and Bird, Op. cit., p. 286.

9 Holmes, Op. cit., p. 17.

The motifs of the Peruvians were predominantly animal in character.[10] The animal form of decoration was undoubtedly influenced by some religious significance, which gave the native craftsmen an incentive to glorify their techniques.[11] In all South American arts the influence of magical beliefs and religion molded Indian design.[12] Many of the natives believed that after death the body was changed into an inanimate object of nature or possibly into some living animal. The worship of the elements of nature and of the heavenly bodies as deities also prevailed.[13] The desire to establish some relationship between the deities and the native himself brought many of these motifs into the textile arts.[14]

Throughout all of the cultural periods the animal, human, and geometric motifs appeared in some form; but some variations made the designs of the different periods distinctive.[15] Simple geometric forms were most frequently used in the early cultures. The human figures and animal motifs that appeared, however, were realistic and curvilinear; and they were usually created through embroidery or were painted on the fabrics. Alternating figures of reverse and upright positions were characteristic designs of the early cultural periods.[16] The distorted figures resulting from geometric representation in the latter groups of these Peruvian cultures probably occurred as the result of weaving limitations. The sizes and shapes of the animal or human motifs were altered to fit the space available and the technique used by the weavers.

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10 Mead, Op. cit., p. 217.

11 Montell, Op. cit., p. 180.

12 Rafael Karsten, The Civilization of the South American Indians, p. 264.

13 Alfred Metraux, "Religion and Shamanism," Handbook of South American Indians, Bureau of American Ethnology Bulletin 143, V, Pt. I, p. 563.

14 Arquin, "Indians of the 'Altiplano': Their Arts and Crafts," p. 265.

15 Joyce, Op. cit., p. 203.

16 O'Neale, "Textile Periods in Ancient Peru. II.," p. 178.

The designs of the middle cultural groups were generally complex and seem to have been less realistic.[17] The motifs were more religious than worldly in nature and indicated no severe class distinctions in the society.[18] Stylized and geometric motifs were developed through variants in structural techniques.[19] Some groups in the middle cultures created bold patterns unemphasized by outline; other groups combined geometric forms, entire animals, and parts of animals for fabric design.[20] The puma was used in complete form; or its claw, eyes, mouth detail, or nose were used independently with plain or stepped outlines.[21]

In the late cultural periods an outline became a regular feature of design, and the Inca textiles were often ornamented with stripes of different colors.[22] Diagonal lines became more emphasized; and the motifs were often enclosed in squares, step frets, lozenges, and rectangles. Human and animal forms became more conventionalized generally; however, forms were used geometrically, realistically, and fancifully.[23]

The Peruvian motif was found in the world about the Indian: in the fish, symbol of sea worship to the coastal groups; in animals, particularly birds and cats; in man; and in religious symbols and forms of a god.

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17 O'Neale and Kroeber, Op. cit., p. 44.

18 Bennett and Bird, Op. cit., p. 180.

19 O'Neale, "Textile Periods of Ancient Peru. II.," p. 175.

20 Joyce, Op. cit., p. 203.

21 O Neale and Kroeber, Op. cit., p. 42.

22 Joyce, Op. cit., p. 203.

23 O'Neale and Kroeber, Op. cit., p. 45.

The fish motif has been used in the art and religion of many ancient people. In the Peruvian coastal fabrics it appeared most frequently in strip designs, particularly in belts and borders. The fish was represented in both woven and painted fabrics, but the painted fish motif appeared more frequently on large coarse cloths used to cover mummy bundles.[24] The form usually portrayed two fish facing opposite directions; however, the fish may have appeared either in a top or a side view. Plate II shows the fish motif in a top view from a tapestry border, and the more conventionalized form using the top view is presented in Plate III. Both of these motifs were produced by the late cultural groups. In Plate IV, the fish appeared in the center of a border in an interlocking pattern where the fish faced opposite directions, side views.

The bird motif was greatly favored by the Peruvians and has appeared more often than any other motif in Peruvian decoration.[25] It was easily recognized in most of its forms, and degeneration in design has not affected it as much as it has affected the other motifs. The condor, a bird worshiped for his ability to fly to the mountain tops,[26] the king vulture, the pelican, the hummingbird, and many others were realistically and conventionally represented in Peruvian design. The birds were used in an interlocking pattern much like that of the fish, and the birds also faced opposite directions.[27] In Plate IV, the bird motif in the outside borders was alternately inverted and appeared in a very common form, with one side of the figure bounded by a straight line and the other by a zizzag.[28] In the textiles of the early cultural periods the humming-

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24 Mead, Op. cit., pp. 204-205.

25 Ibid., p. 209.

26 Alfred Kidder, II, "Ancient Peruvian Textiles," Bulletin Pan American Union, LXXIX (October, 1945), p. 575.

27 Mead, Op. cit., pp. 209-210.

28 Loc. cit.

bird, as shown on a painted cloth in Plate V, was very popular. Another common motif was the pelican, which, with other large birds, was often pictured catching fish. In Plate VI the highly conventionalized pelican was presented by a late cultural group. This example portrayed the pelican and smaller bird forms, but it neglected the fish. The bird form in Plate VII was produced in a late period and is conventionalized within a square. The motif was a top view of the bird with smaller more realistic side views in the border of the fabric. In a fabric sent to the author by the Peruvian Embassy, Plate VIII, the bird motif was used in a tapestry border design. Although this motif seems to be easily recognized, it was more conventionalized than the early realistic forms.

The jaguar, the puma, and the mountain lion made important appearances in the textile motifs. The Peruvian Indians regarded these members of the feline family with superstitious fear, and the skin and teeth of the jaguar were kept as charms against the spirit of the dead. Some Indian tribes believed that the spirits of their medicine men were often found in the jaguar after death and that evils could follow the killing of this animal.[29] The cat motif appeared early in pottery and textiles in all parts of Peru. The designs were fairly simple to identify, as the arched or raised back and the tail of the cat family were characteristic of the Peruvian interpretation. The Peruvians liked to put two designs together, and the cats may have had a raised back in common or may have had two puma heads joined by a curved band. Cat designs of many cultures were similar in Peruvian design; and the nose, mouth or eyes might be interchanged with previous design periods.[30] Plate IX shows a realistic cat motif with a prominent tail, although the design lacks the arched back. In Plate X the motif

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29 Karsten, Op. cit., pp. 267-269.

30 Mead, Op. cit., pp. 211-212.

has been distorted with the feline claws, eyes, and other details used in the design. In Plate XI the more stylized cat motif is shown, with the side body and the front face view. In this plate the characteristic arched back and tail are clearly evident and identifiable. The cat motif appears in a similar pattern in Plate XII, where the back is arched and the tail curves in a downward arch that almost repeats the back. The cat motif in the upper specimen of Plate XIII has been placed in a lozenge form and combined with a small bird motif and several other geometric forms.

In woven patterns the conventionalized animal figures were often linked or connected by geometric designs. These geometric forms may have been a part of the animal design, or the medium of balance forming the mass of decoration that unified a textile pattern.[31] The background of the fabric presented in the upper portion of Plate XIII is typical of this design procedure.

The lower example in Plate XIII shows six highly conventionalized figures on a wide border between two narrow bands of step frets. This plate is an example of the method used to impose some animal forms upon an ordinary scroll pattern with "the head of each repetition taking the place of the interlinked ends of the scroll units, whilst the various parts of the body appear along connecting curves."[32] Many of the hieroglyph-like figures used in Peruvian design were parts of animal forms or markings, and several of these may have been grouped together to form a design. The hieroglyph-like figures may have appeared where free hand designing and the step form lines of the weaving techniques were present.[33]

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31 Ibid., p. 202.

32 Holmes, Op. cit., p. 9.

33 Mead, Op. cit., p. 214.

The mythological figures portraying various gods were typical of the representation of natural forces. These figures were usually combinations of the human and animal forms, and they appeared in many parts of Peru before the Inca period. The bird and man combination signified the Condor god; the fish and man combination portrayed the Fish god; and the cat and man combination represented the Puma god.[34] The fabric from an early culture in Plate XIV has men either winged, possibly representing the Condor god, or men with outstretched shawls. Plate XV shows a man-like motif from a later period and is quite stylized. The narrow border of this fabric has a bird motif and may have been a mythological figure whose symbolism has been lost with the culture that created it.

Occasionally the Peruvians used other motifs in textiles. Plant forms with blossoms, the cactus, lizards, llamas, and serpents have been recognized in design; however, these were not characteristic of Peruvian art. Other combinations have been rare examples and should not be considered as typical motifs of the textile arts.[35]

In summary, the Peruvian motifs may be divided into four groups: realism, or animate and inanimate objects familiar in daily life and represented in a recognizable form; conventionalism, or animal forms and parts of animal forms whose identity was not wholly lost; symbolism and mythological forms of religious significance; and geometric figures, scrolls, and frets common to the decorative art of many people.[36]

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34 Arquin, "Indians of the 'Altiplano': Their Arts and Crafts," p. 263.

35 Mead, Op. cit., p. 215.

36 Ibid., p. 201.

The Spanish conquest brought a new selection of designs, particularly the cross and others symbolic of their religion. These motifs were important during colonial rule; however, in native products of modern Peru the design elements of the ancient cultures still predominate and are being promoted in the school organized by Truman Bailey.[37]

The strange animal and human figures and the many geometric forms used by the ancient Peruvians offer an expansive source of Indian designs inspirational to modern arts.

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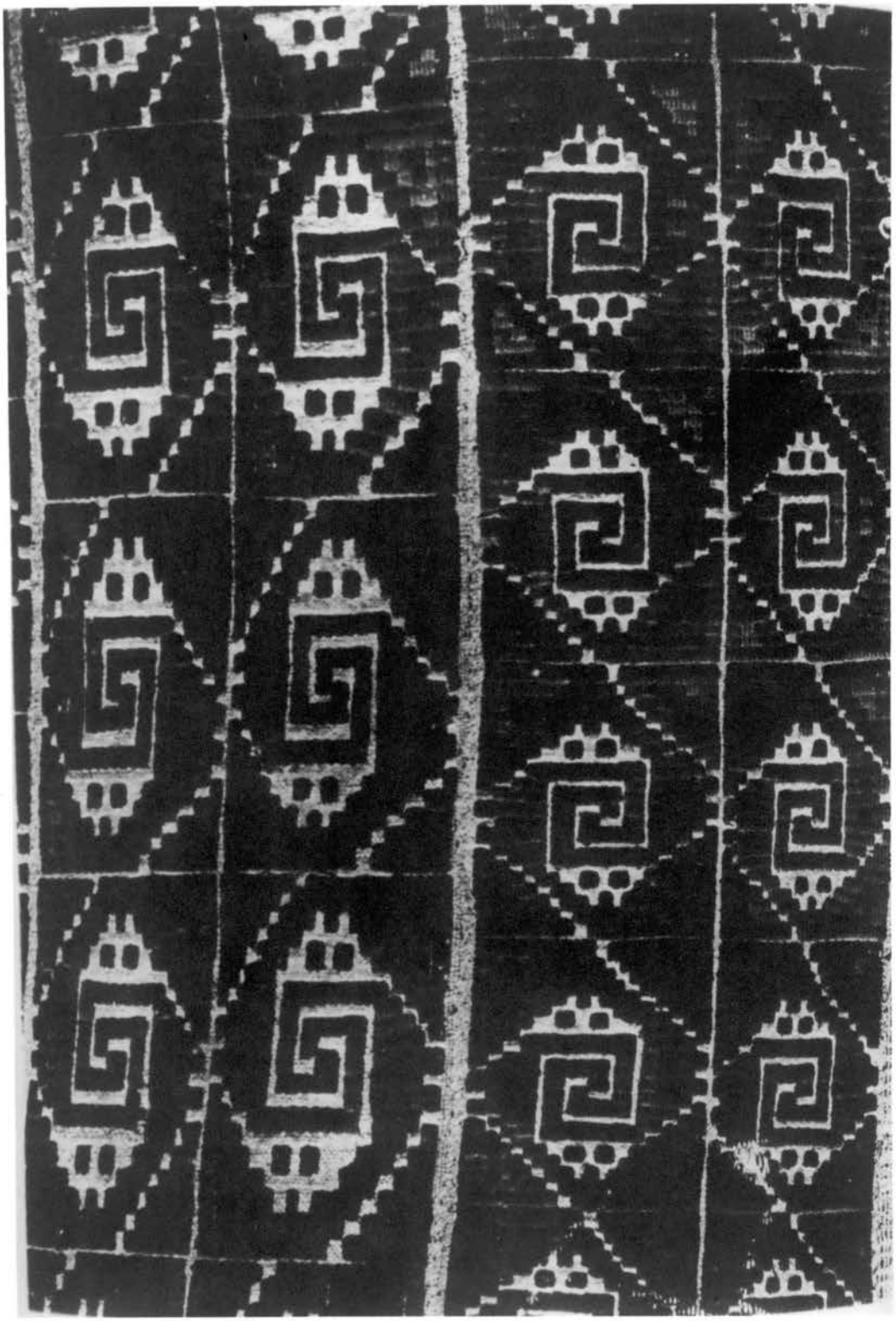
37 Bailey, The Manual Industries of Peru, p. 12.

Fish Motif, Late Chincha
Tapestry border of animal fibers

Courtesy, Museum of Anthropology
University of California

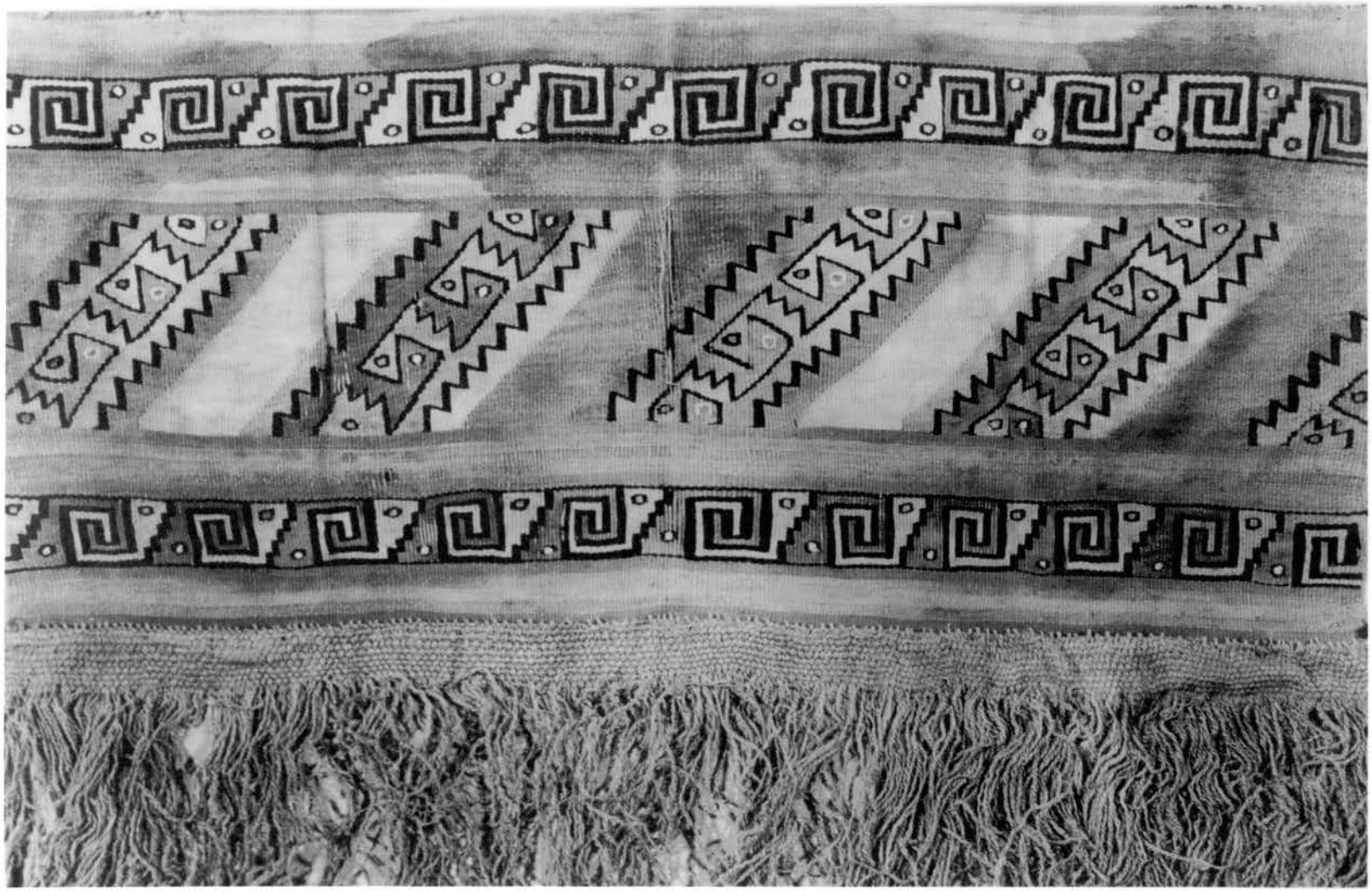
Fish Motif, Late Chimu
Tapestry of animal fibers on cotton web

Courtesy, Museum of Fine Arts, Boston



Fish and Bird Motif, Late Chimu
Tapestry border, cotton and vicuna fibers
Pink, yellow, black, white

Courtesy, Museum of Fine Arts, Boston

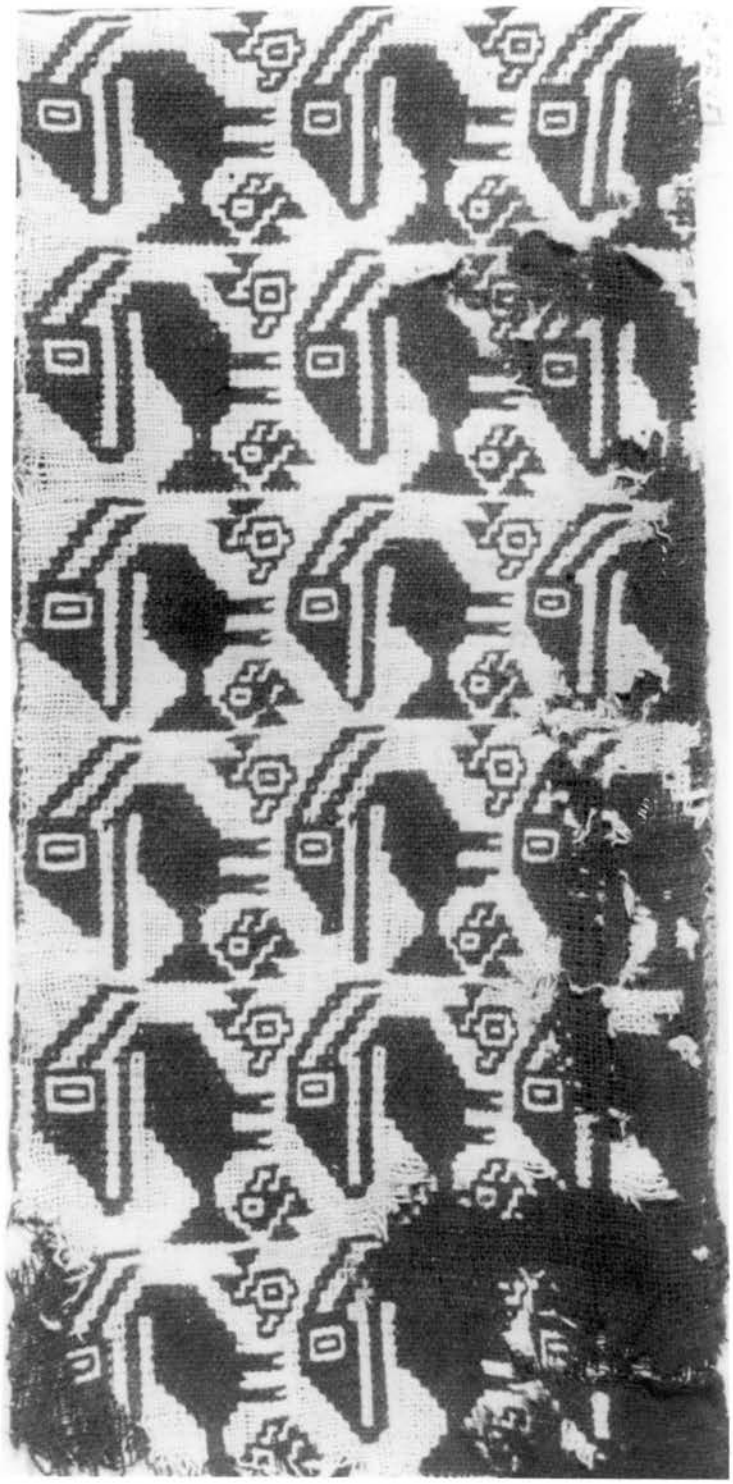


Hummingbird motif, Early Nazca
Painted cotton cloth

Courtesy, Museum of Anthropology
University of California

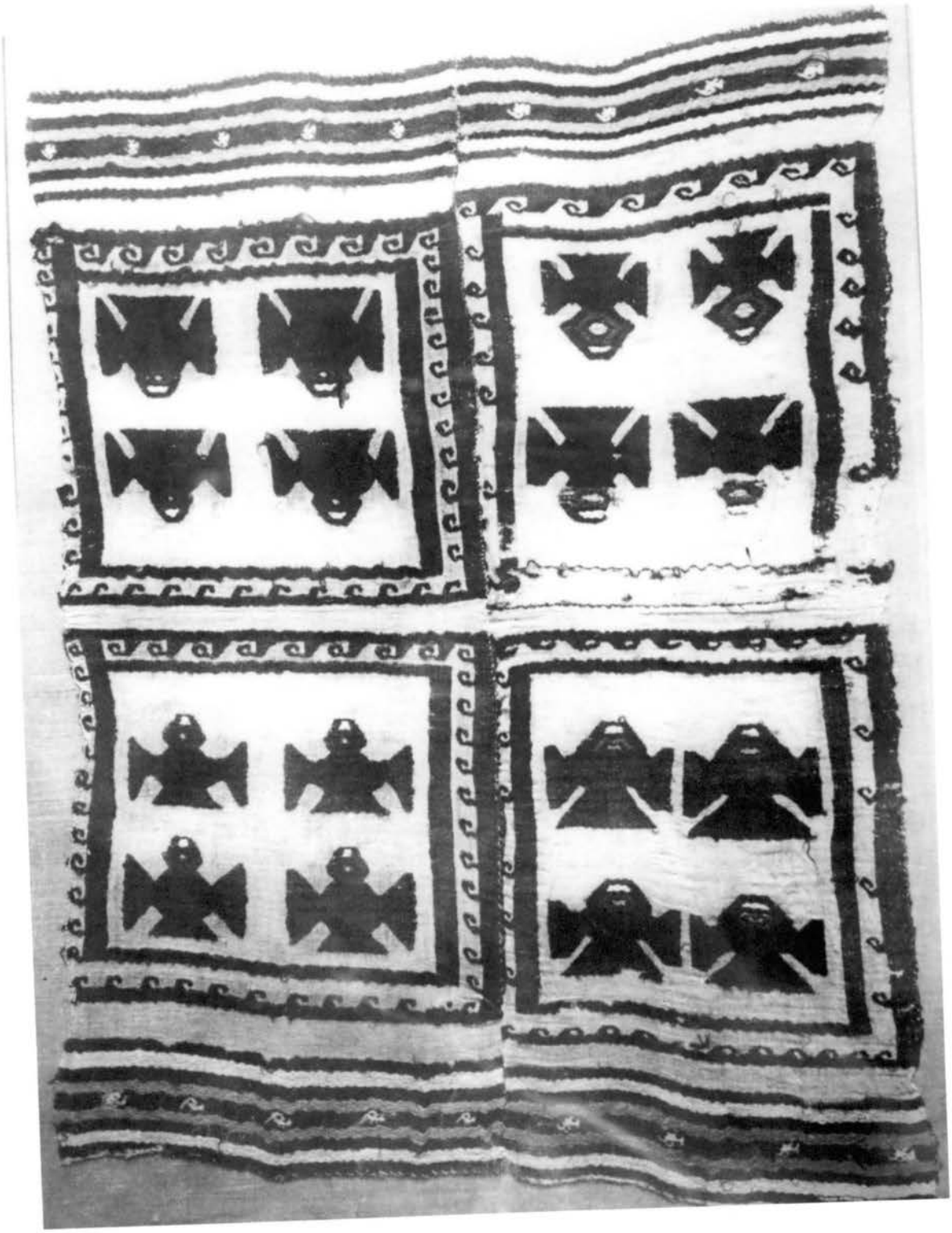
Pelican Motif, Late Chincha
Double-faced cotton cloth
Brownish black and white

Courtesy, Museum of Fine Arts, Boston



Bird or Fish Motif, Late Ica
Brocade of animal fibers on cotton crepe

Courtesy, Museum of Anthropology
University of California



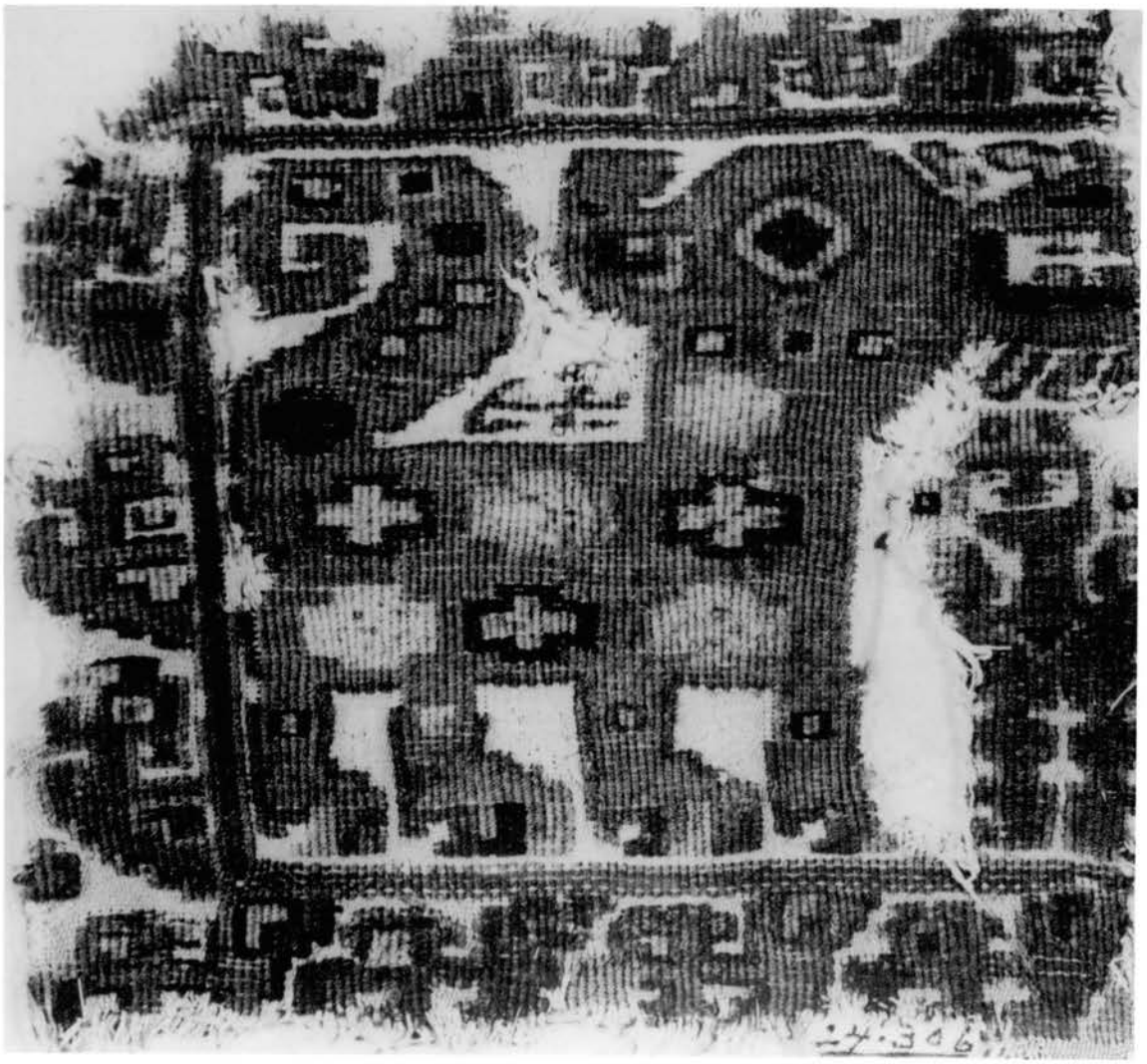
Bird Motif

Tapestry

Courtesy, Peruvian Embassy

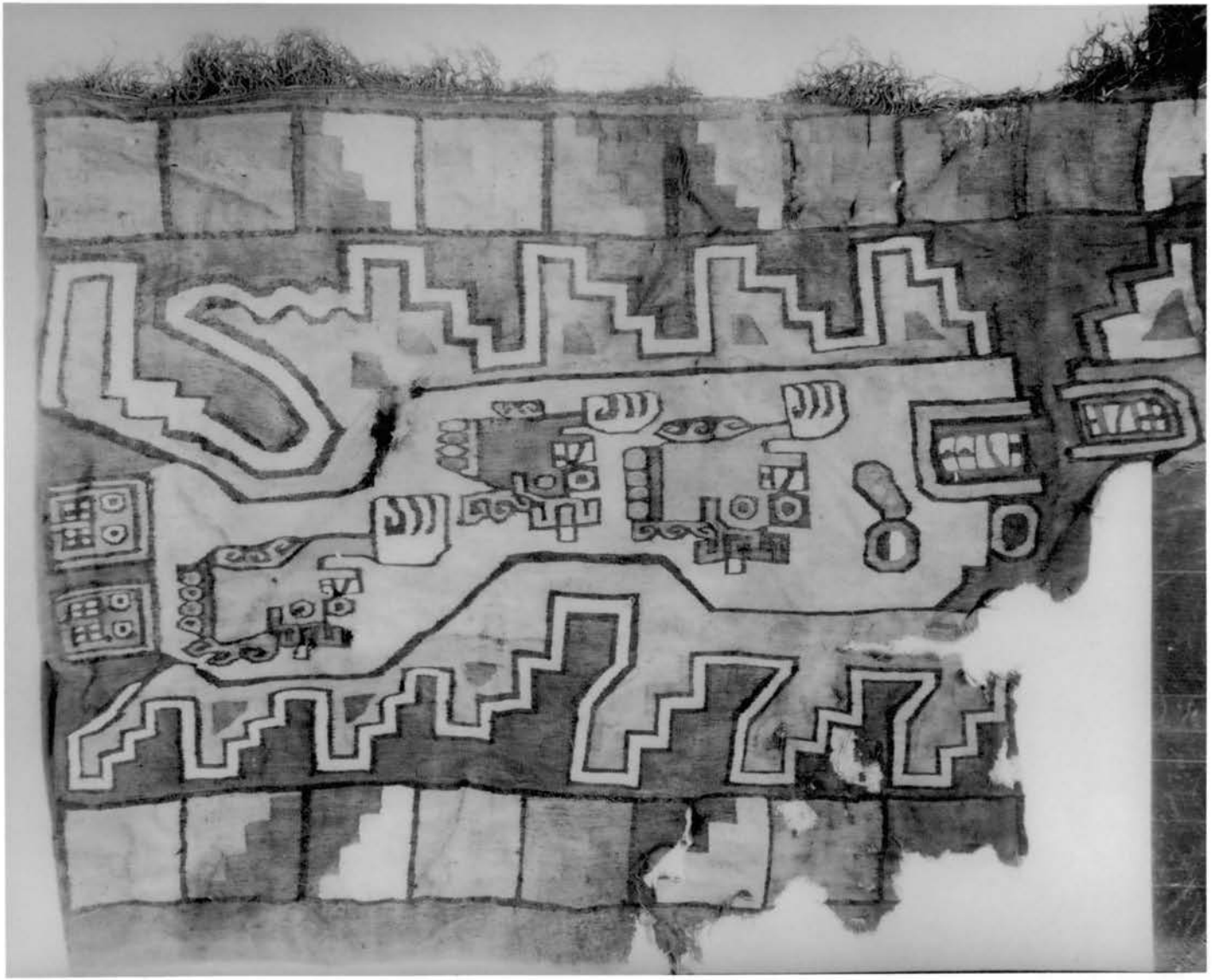
Cat Motif, Tiahuanaco II
Animal fibers embroidered on cotton
Dark red, dark green, yellows, black

Courtesy, Museum of Fine Arts, Boston



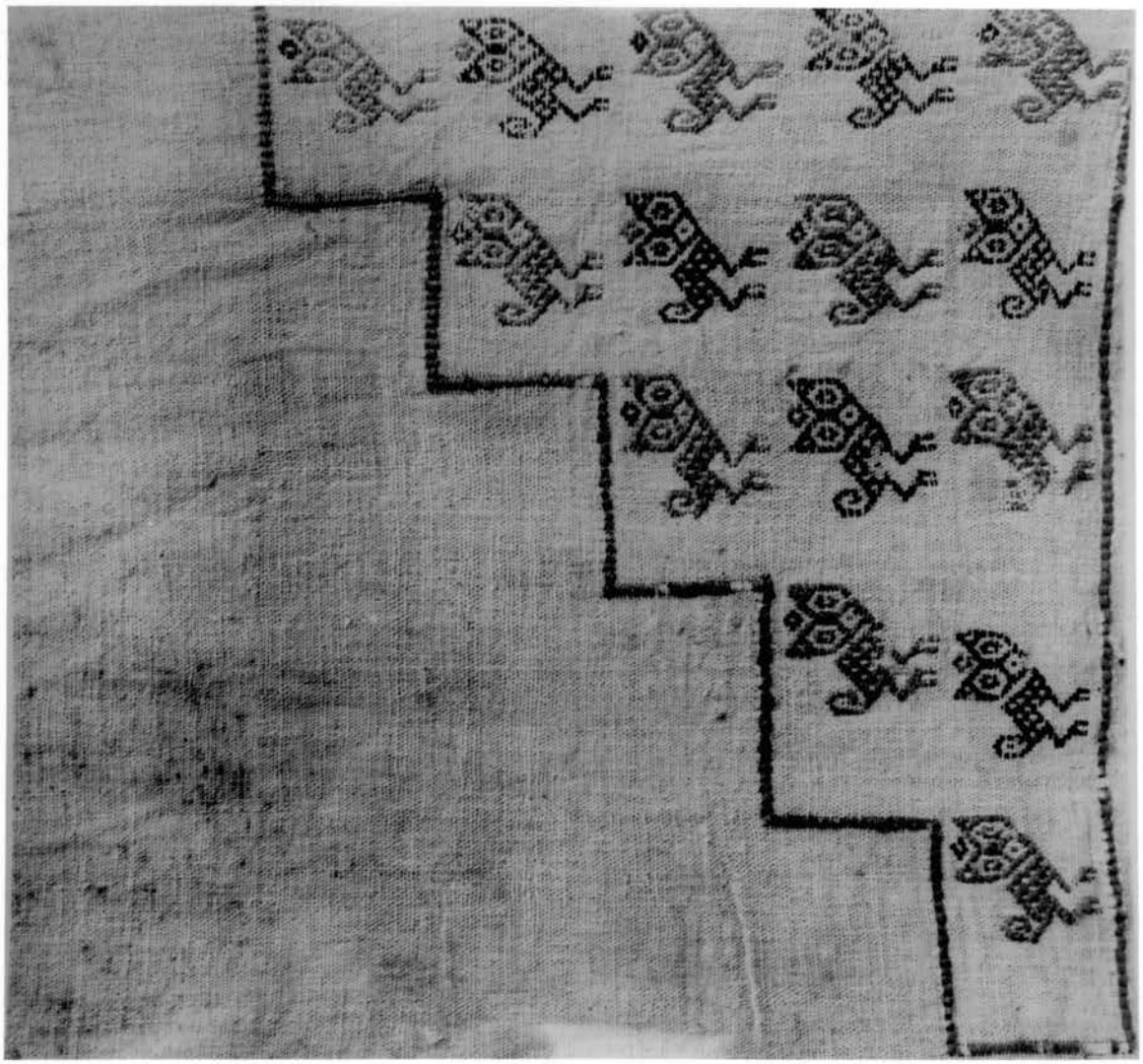
Cat Motif, Epigonal Nazca

Courtesy, Museum of Anthropology
University of California



Cat Motif, Late Ancon
Animal fibers embroidered on cotton
Red, black, natural

Courtesy, Chicago Natural History Museum

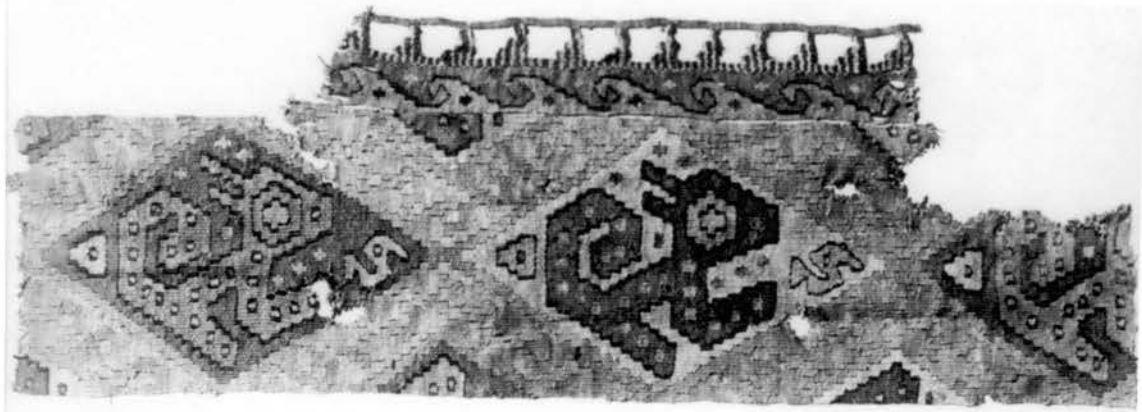


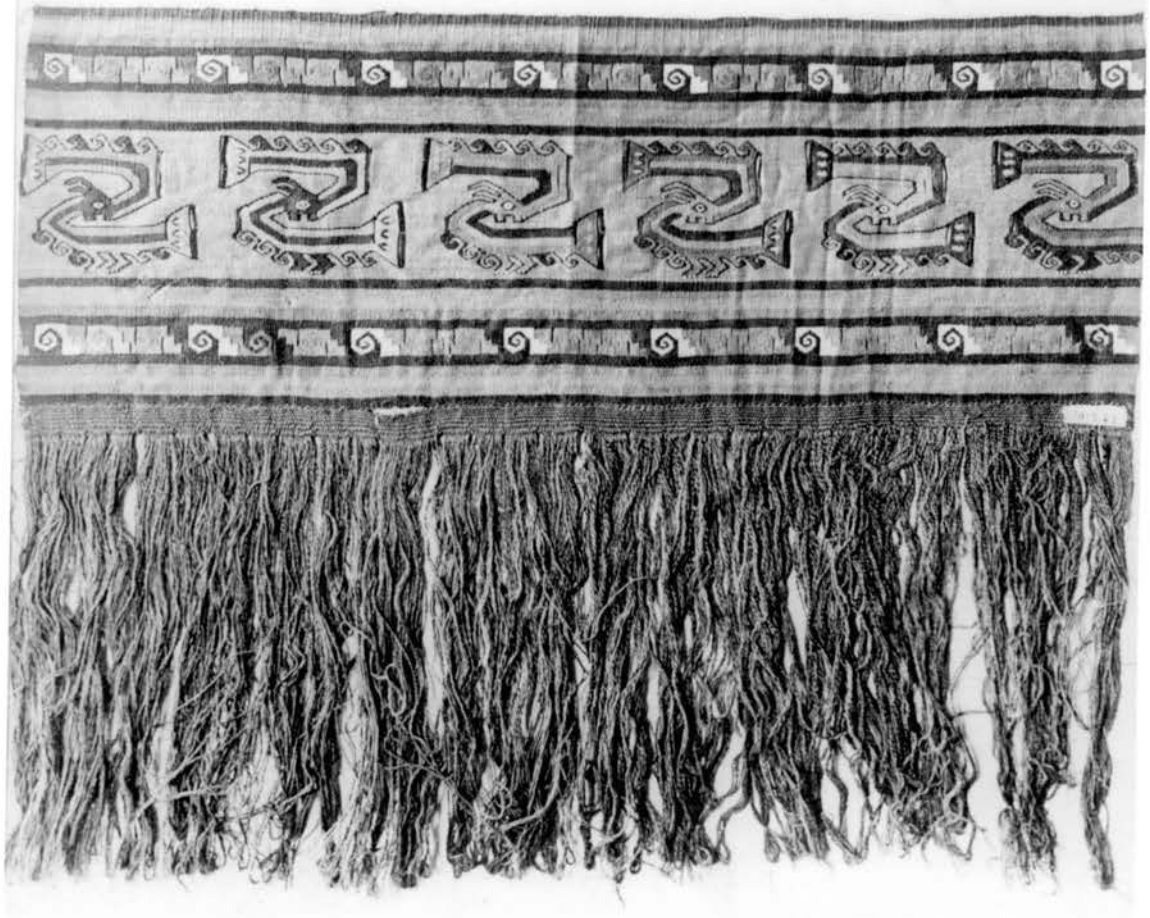
Cat Motif, Late Chincha
Brocade of animal fibers on cotton; Tapestry border

Courtesy, Museum of Anthropology
University of California

Conventionalized Figures, Late Chimu
Tapestry with Slits
Crimson, deep pink, yellow, black, white

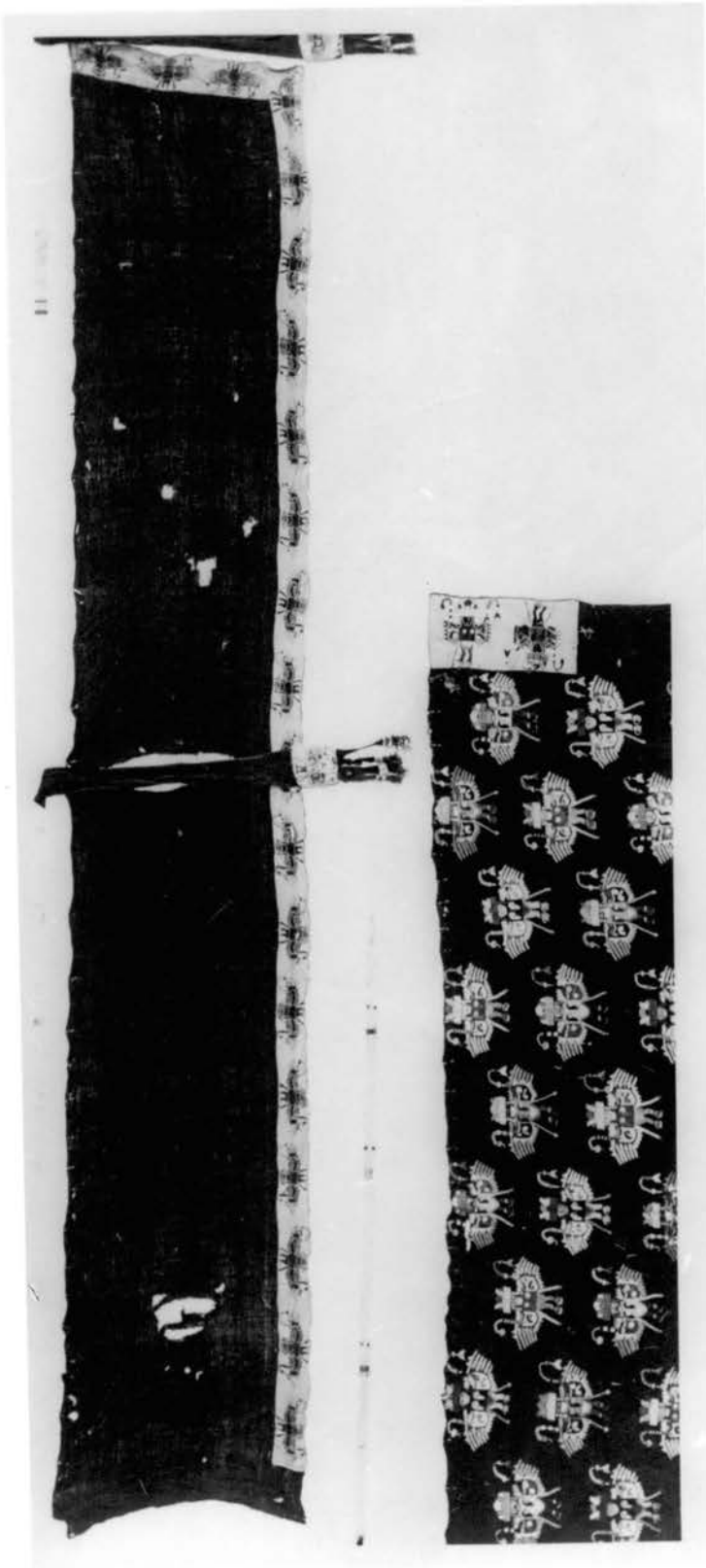
Courtesy, Museum of Fine Arts, Boston





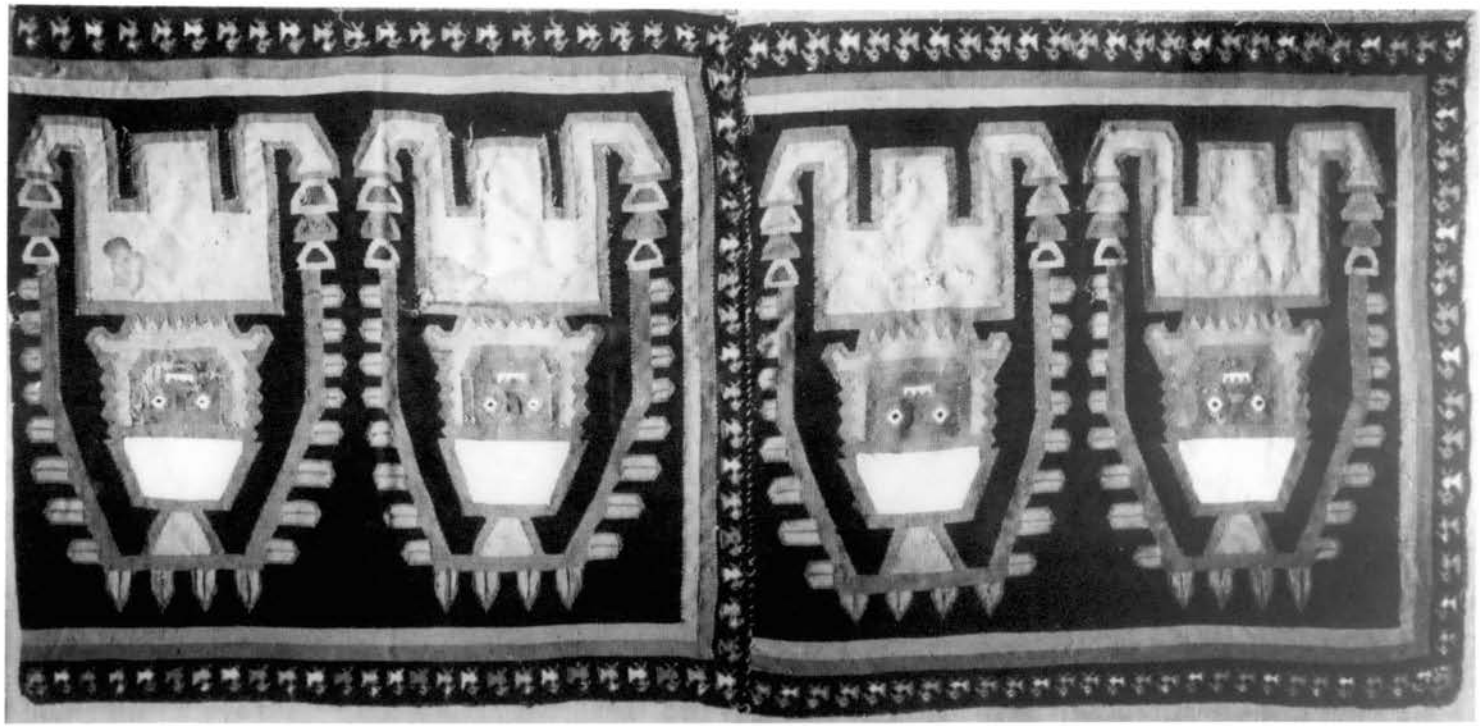
Human or God-like Motif, Early Nazca
Cotton dyed black; Embroidery in colored animal fibers

Courtesy, Museum of Fine Arts, Boston



Human or God-like Motif, Late Ica
Tapestry of animal fibers; White portions of cotton yarn

Courtesy, Museum of Anthropology
University of California



Chapter VI

MODERN MOTIF ADAPTATIONS

The Peruvian motif appeared in simple realistic forms, in conventionalized designs, and in complicated geometric patterns. The conventionalized and geometric forms in motifs offer an interesting challenge to the designer of contemporary fabrics. The Peruvian motifs seem to be particularly adaptable to abstract forms of design. This feeling of abstraction can be easily adapted in drapery fabrics that are presented in an interior emphasizing geometric forms, and could be enlarged to include upholstery materials, carpet designs, and fabrics for clothing. The inspiration offered by these motifs seems boundless and should find an accessible market as contemporary designs gain public favor.

The Peruvian motif is an American source of art, formed and traditionalized by a people whose heritage closely resembles that of the North American Indian; and it offers a hemispheric individuality comparable only to the Mexican Maya and the Indian designs of the United States. For these reasons, the adaptations of Peruvian designs seem to produce a feeling of the primitive unity of the New World.

It is surprising that the vast inspirational source of Peruvian designs has been comparatively neglected in design adaptation. Until the last few decades European influences have remained predominant in design, but our South American neighbors have fostered an interest which may be the beginning of new design inspirations in fabrics. Until the comparatively recent archaeological discoveries, the study of ancient Peruvian designs was definitely limited, and the present museum collections in this country are relatively small. As the textile artists become more familiar with the character of Peruvian motifs, the influence on fabrics will undoubtedly become more pronounced.

At the present time, Peruvian adaptations in textiles are not numerous. The few fabrics employing the Peruvian motifs obtained by the author are shown in Plates XVI, XVII, XVIII, and XIX. Plates XVI and XVII both portray the human figure predominantly. Plate XVI presents a realistic bird in the upper left hand corner and a stylized cat in the lower left hand corner. This example also introduces a bow and arrow arrangement on the right side of the motif, which is probably not characteristic of the ancient motifs; however, the bird, cat, and man motifs are definite forms from the early designs of the Peruvians. Plate XVII again portrays a human figure, and the winged motif on the right side of the design may have been derived from a Condor-god motif. Characteristic details in the side view of head, hands, and feet appear in both of these designs.

The puma head embodied in a scroll design in Plate XVIII presents a curvilinear adaptation. The curved lines of the Peruvian puma head seem to lend themselves to the flowing lines continued in the scrolls. This adaptation appears on modern imported Peruvian linen.

The motif used in Plate XIX again represents a human figure with face and body front view and the legs in the side view. The fish motif is used in one corner, with the fish heads all facing in the same direction. The motif in the middle of the block was probably adapted from some ancient Peruvian architectural detail. In this adaptation, the blocks are faced in the same direction in horizontal rows, with every other row reversed.

The author has presented six original adaptations from Peruvian motifs in Plates XX, XXI, XXII, XXIII, XXIV, and XXV. Plate XX shows an adaptation of the fish motif in a repeat pattern inspired by the original motif in Plate II. This design was prepared for a fabric used in clothing and could be printed or woven. Plate XXI presents the bird motif adapted in a border design that was expanded from the bird design in the border of Plate IV, and the design could be woven,

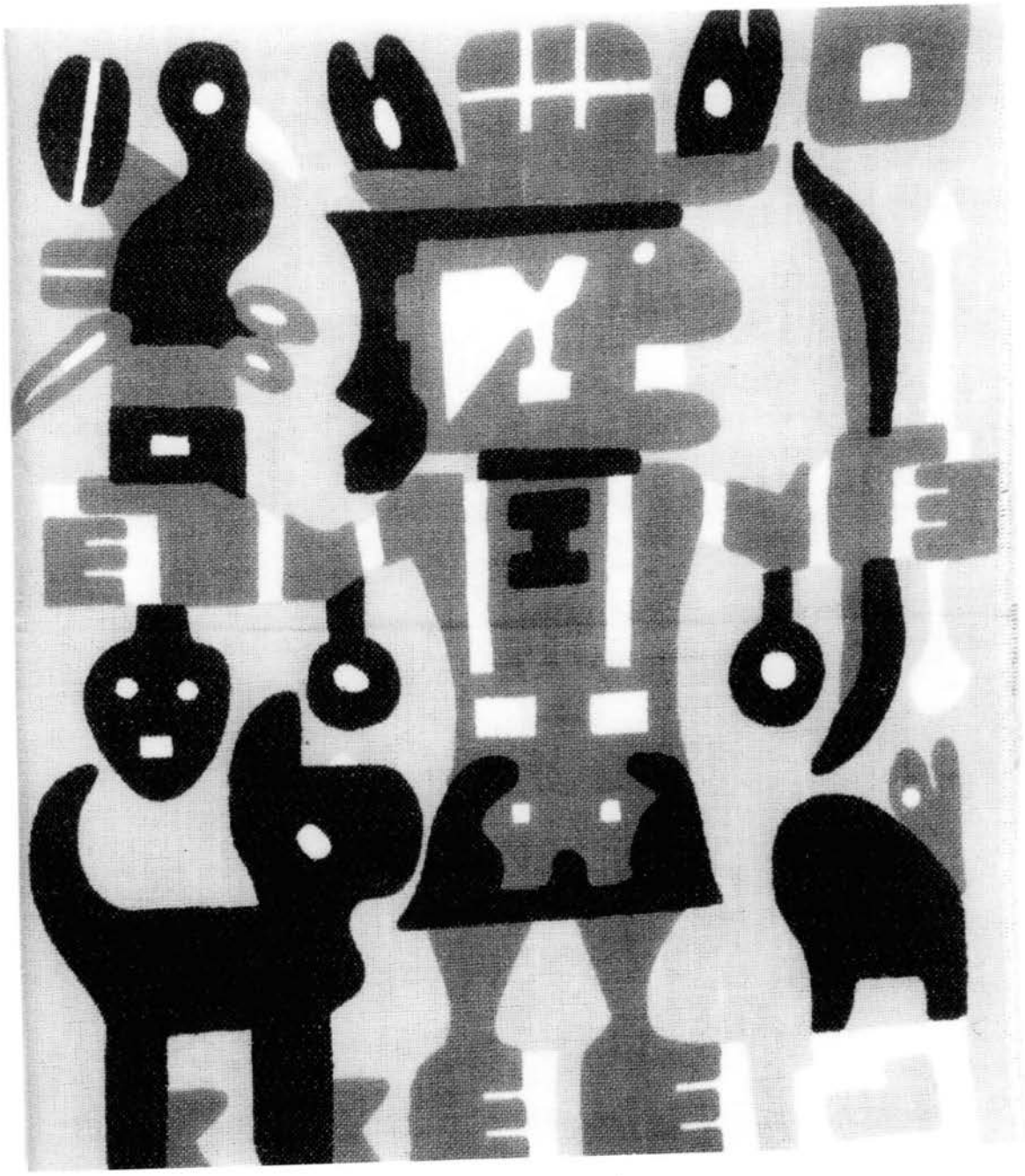
painted, or embroidered. The bird border could be adapted in a horizontally striped fabric used for drapery or upholstery. The cat motif has been adapted from the original designs in Plates XI and XII for a striped fabric as shown in Plate XXII. This adaptation would be particularly suited to embroidery. The human or god-like form has been presented in a repeat design in Plate XXIII and was influenced by the motifs in Plate XV. The block print or silk screen processes could be used for this design prepared for a drapery fabric. In Plate XXIV the small bird motif from Plate VI and the conventionalized fish motif similar to the original in Plate III have been combined and adapted in a border design that can be applied to a tablecloth, either by embroidery, printing, or weaving. The last creation by the author presented in Plate XXV follows the diagonal pattern so frequently used by the ancient Peruvians, and the motifs were inspired by Plate XIII. This pattern could be easily executed in embroidery or could be woven.

Through the original adaptations the author has shown the versatility of the Peruvian motif and has pictured some of the limitless possibilities of fabric adaptations, both for costume design and for interior design. The Peruvian motifs are adaptable to many textures and can be used effectively on the sheer smocking of a child's garment. They can be interpreted with equal interest on the rough, heavy construction of upholstery textiles. The author found that the Peruvian motif can be interpreted in many techniques. It can be embroidered, printed, hand painted, or woven into a fabric. The colors used by the ancient Peruvians emphasize light hues, bright colors, or dark somber shades and lend themselves to modern adaptation. The motifs are as charming on a petite scale for a narrow border design of a costume as they are in large scale adaptations suitable for drapery fabrics.

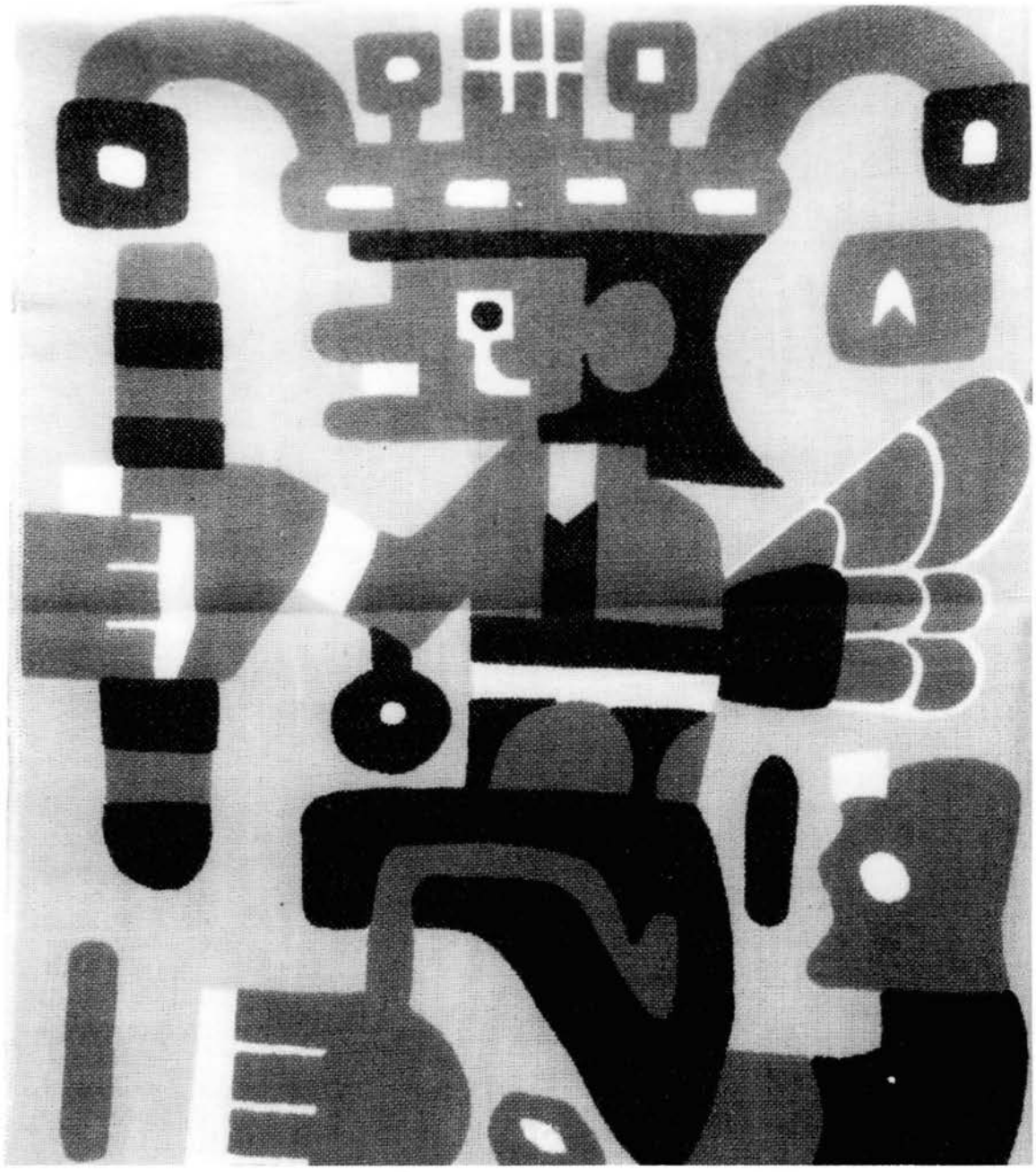
The research program carried on by Truman Bailey between 1942 and 1946 has furnished some unusual information on the use of natural fibers, the weaving techniques, and the dyeing processes used by the ancient Peruvians. No information has been published on the activities of his school for the last five years; however, other data have undoubtedly been compiled. Little attention has been given to design influences in recently published materials. The history of Peruvian designs and the mythological symbolism introduced in the Peruvian motif present open research areas for the interested student.

Mr. Bailey has fostered an interest in Peruvian arts and crafts that would be valuable if continued. As the design centers of the world continually change, the unusual characteristics of Peruvian design may become prevalent, the mythological symbolism of the motifs may acquire meaning, and the beauty of the Peruvian arts and the other South American arts may be an important inspiration for the United States textile designer of the future.

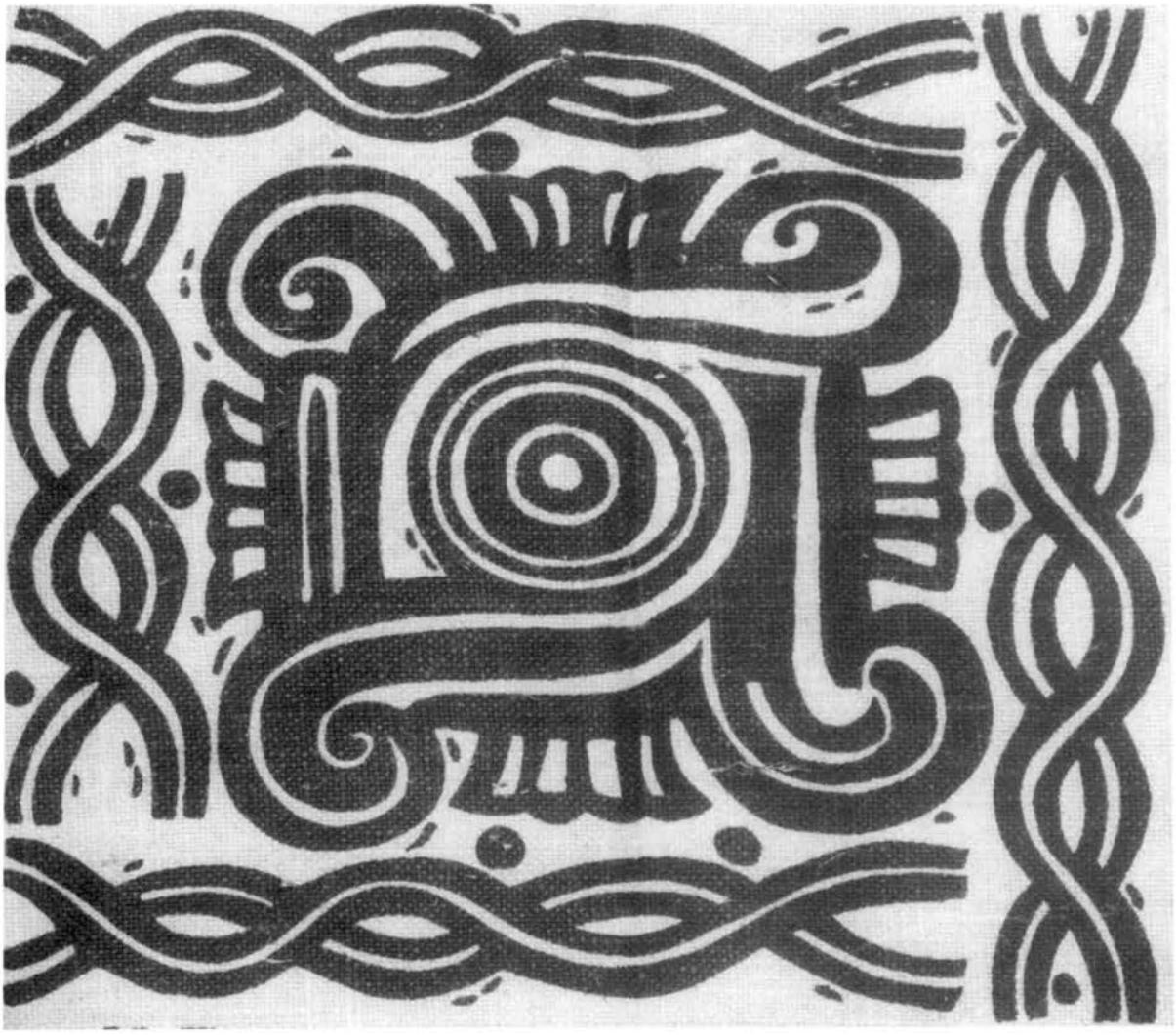
Commercial Adaptation, Goodall Fabrics
Bird, Cat and Human Motifs



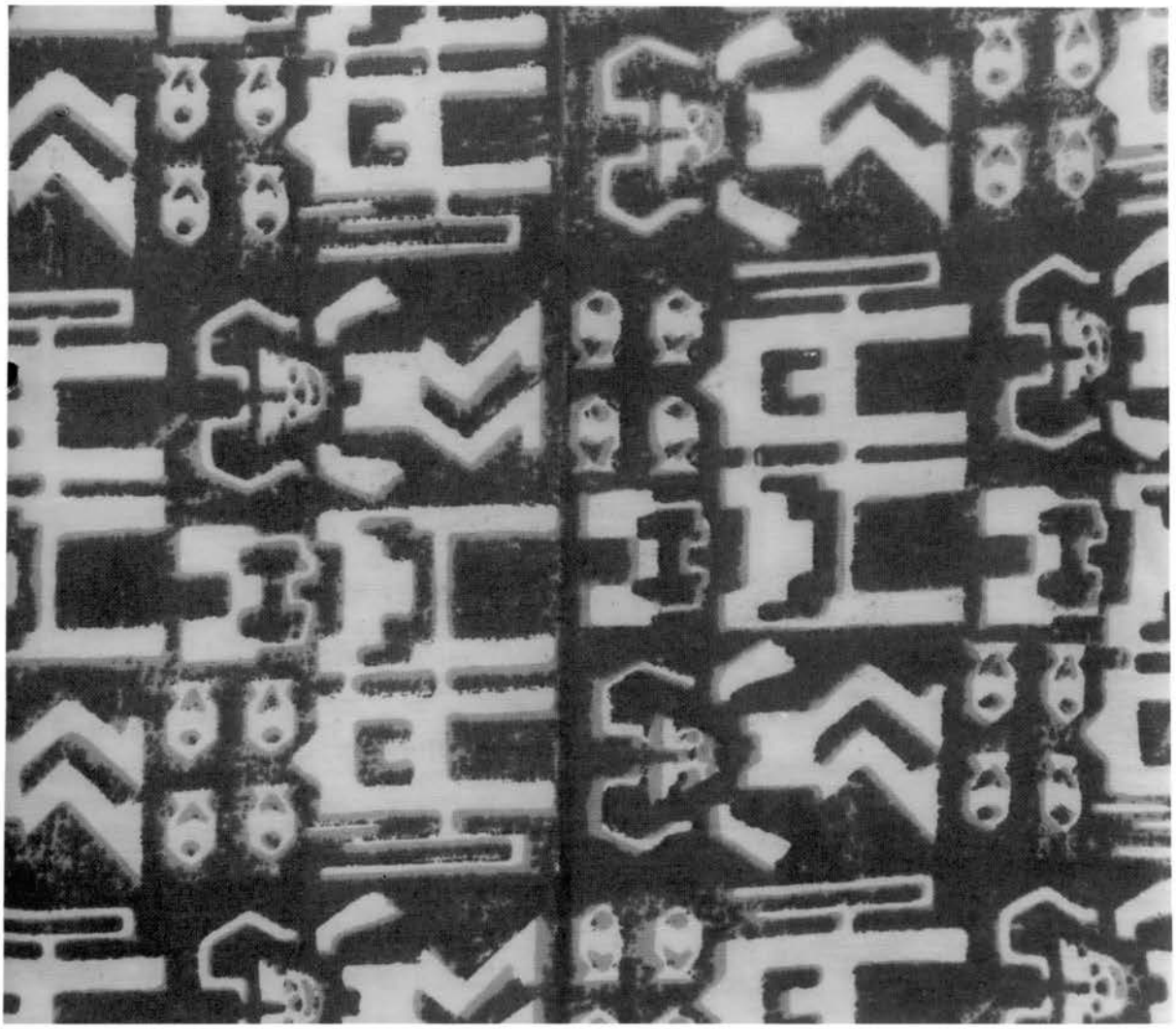
Commercial Adaptation, Goodall Fabrics
Human or Condor-god Motif



Commercial Adaptation, Silkar Studios
Cat motif, Puma head

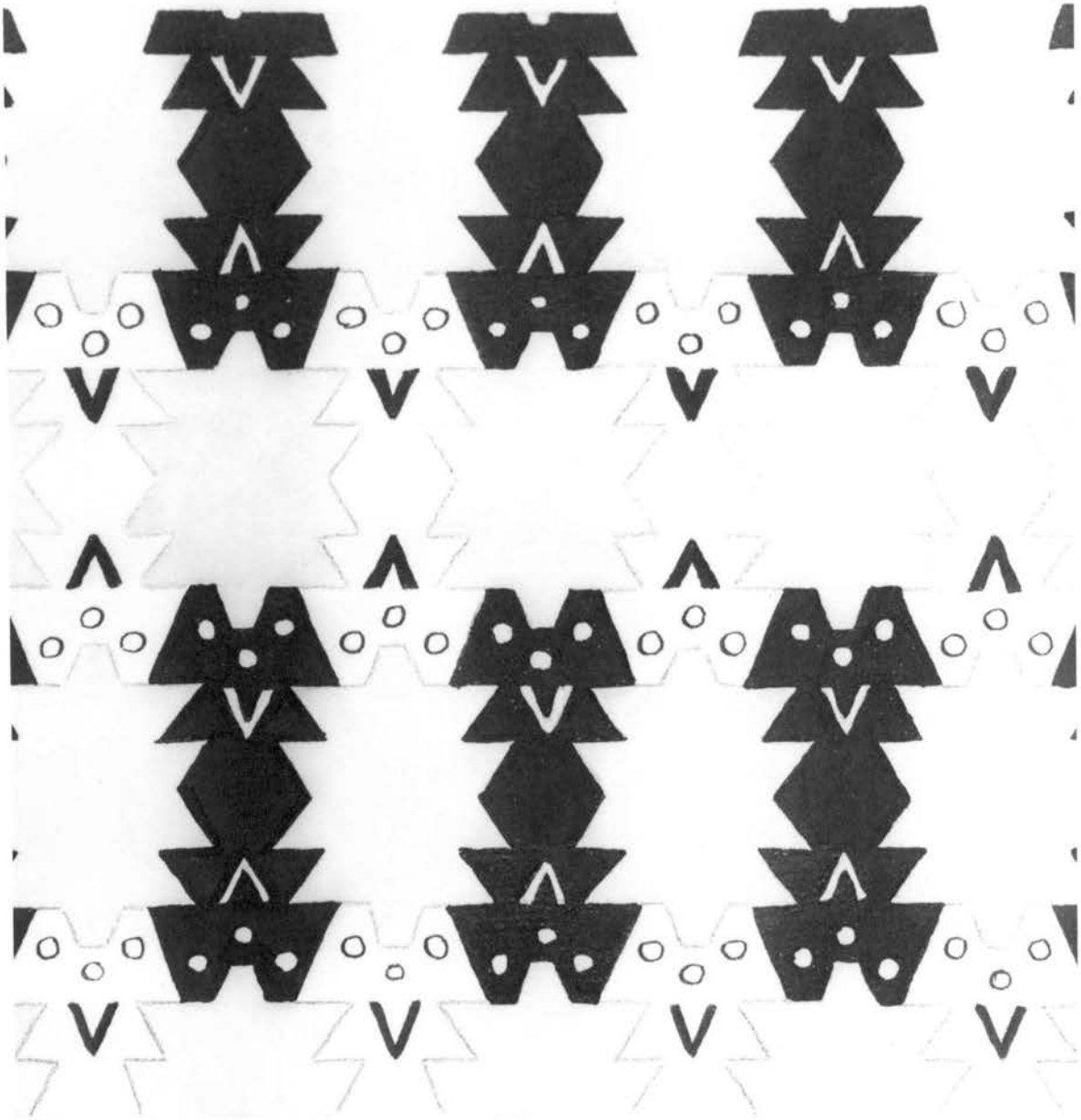


Commercial Adaptation, Goodall Fabrics
Fish and Human Motif



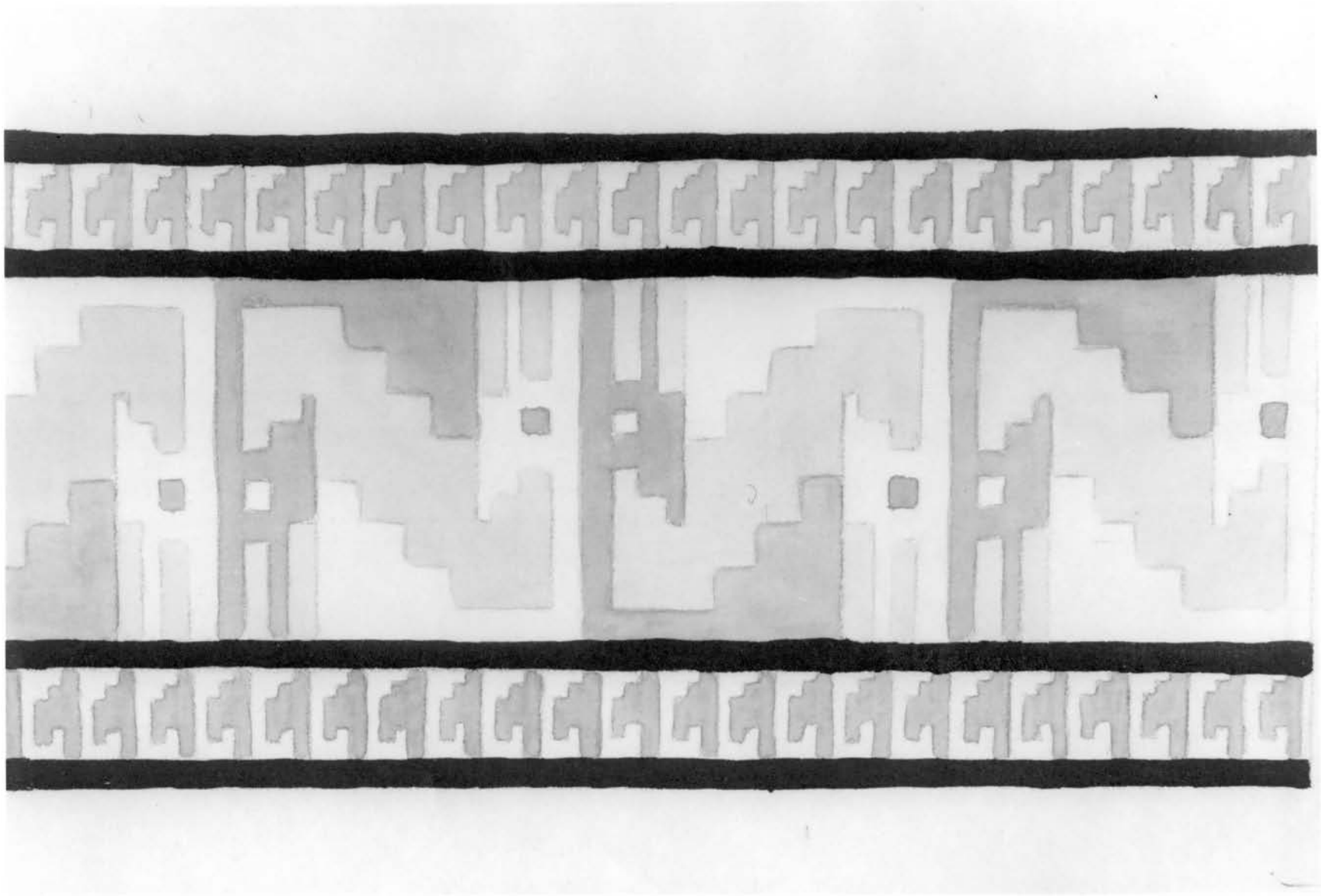
Original Adaptation

Fish Motif



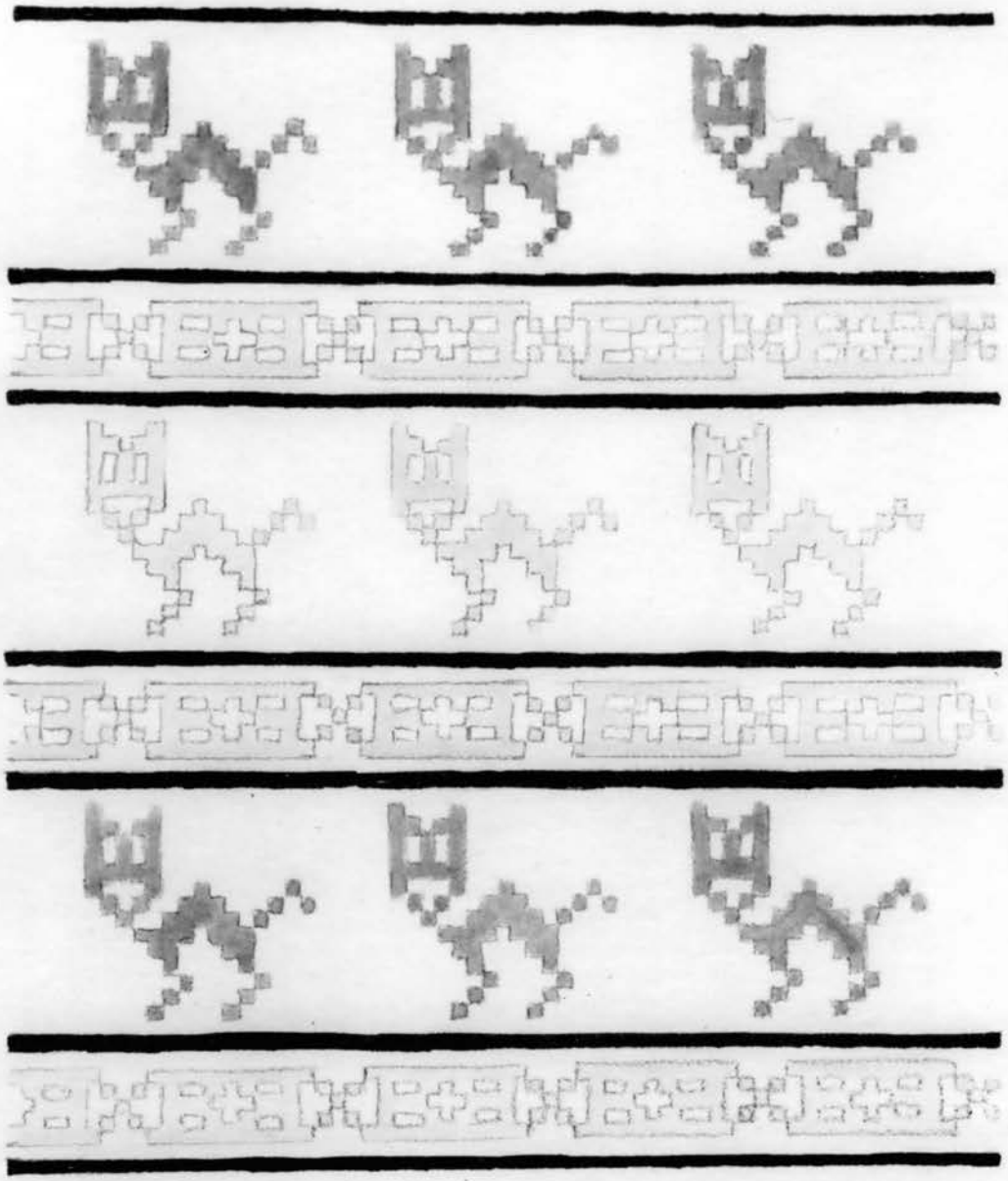
Original Adaptation

Bird Motif



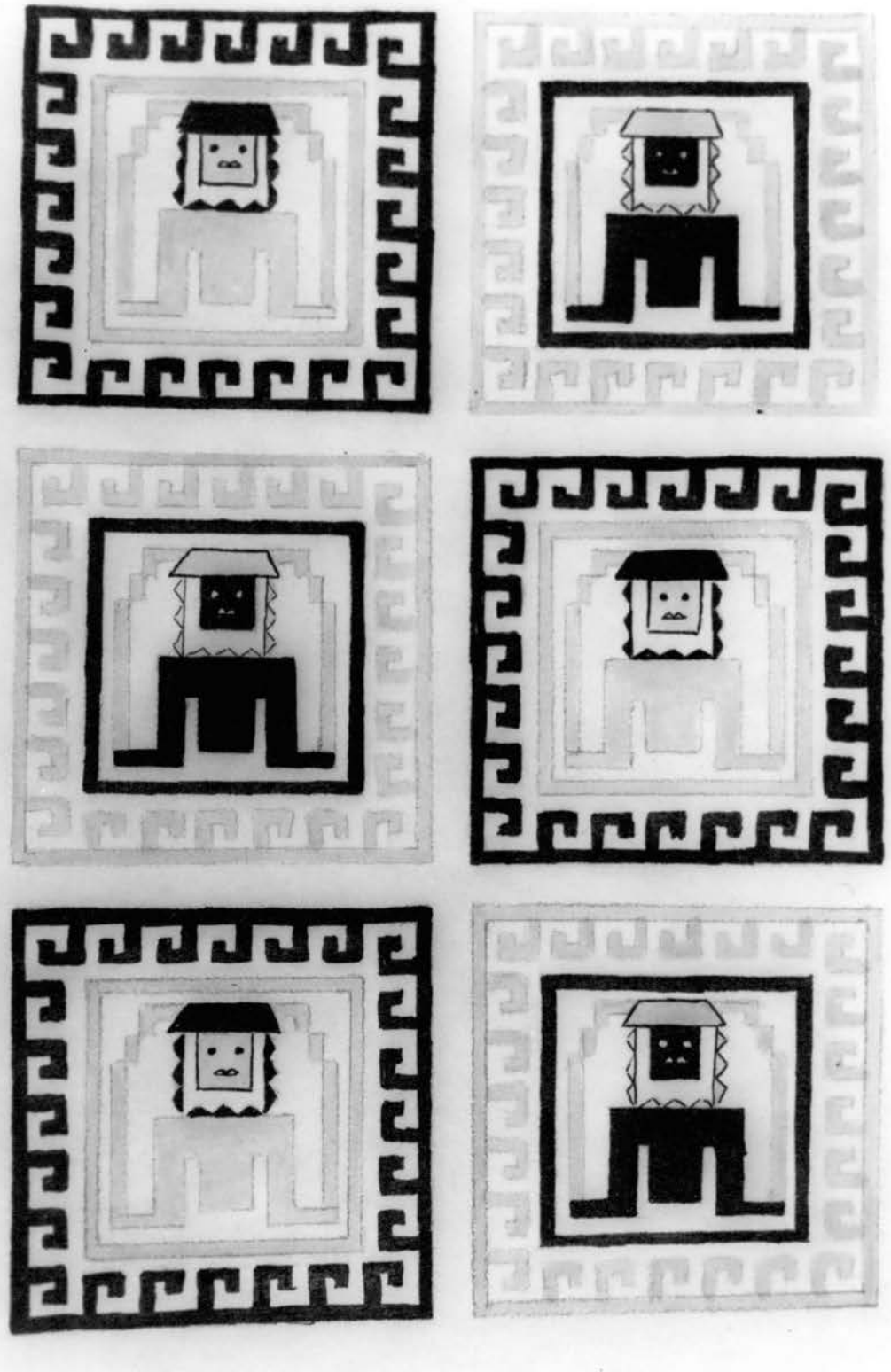
Original Adaptation

Cat Motif



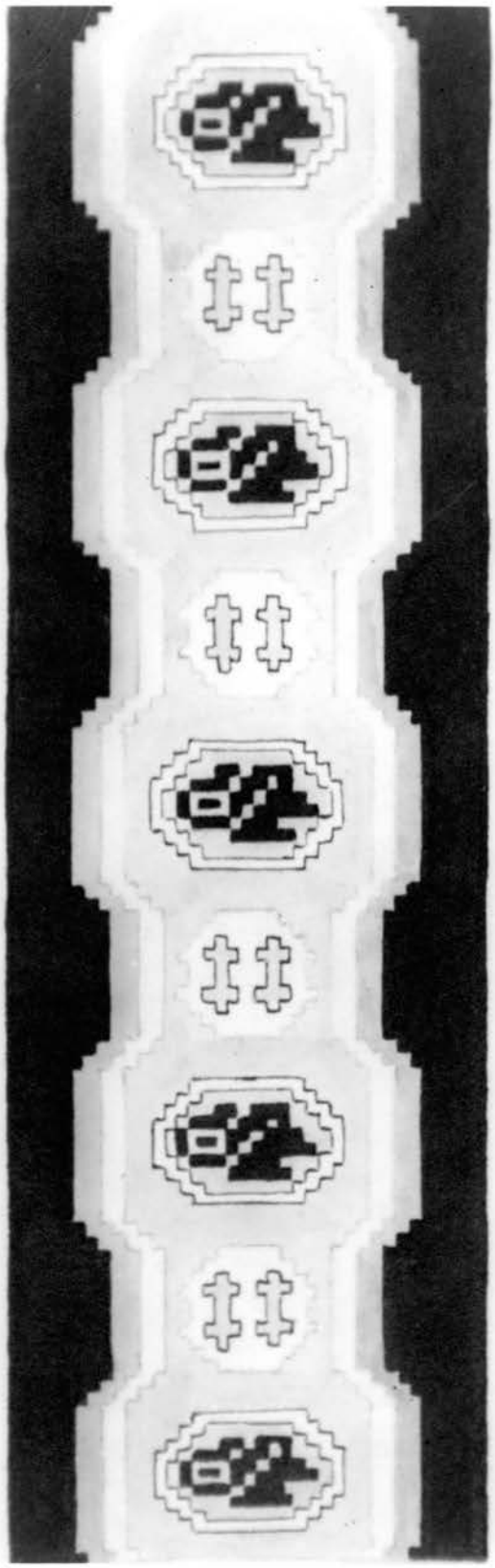
Original Adaptation

Human or God-like Motif



Original Adaptation

Fish and Bird Motif



Original Adaptation

Cat and Geometric Forms

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TYPIST PAGE

THESIS TITLE: Modern Adaptation of Peruvian Motifs in Textile Fabrics

NAME OF AUTHOR: Bobbie Callaway

THESIS ADVISER: Dr. Wethena Temple

The content and form have been checked and approved by the author and thesis adviser. "Instructions for Typing and Arranging the Thesis" are available in the Graduate School office. Changes or corrections in the thesis are not made by the Graduate School office or by any committee. The copies are sent to the bindery just as they are approved by the author and faculty adviser.

NAME OF TYPIST: Carolyn Rosile