

THE CULTURAL SIGNIFICANCE OF PERUVIAN TEXTILES: PRODUCTION, FUNCTION, AESTHETICS

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In writing this article I am indebted to two great predecessors: Alfred L. Kroeber for his comprehensive and perceptive appreciation of Peruvian art as a cultural expression, and Lila M. O'Neale for her objective analysis of textiles as a measure of Peruvian technical development. Neither of them was indifferent to the values which the other emphasized. In assessing the Andean arts Kroeber recognized the technical limitations of the textile medium, while O'Neale frequently commented upon aesthetic aspects such as color and design. The former saw in textiles, as in ceramics, differentiating elements of style that would aid in establishing the time sequences of Andean subcultures; the latter perceived the technical data she must extract to aid in elucidating the chronological distinctions. As pioneers who advanced the systematic study of ancient Andean culture, they have been succeeded by able scholars whose investigations are continuously broadening and clarifying our knowledge of that civilization. Yet, so far as textiles are concerned, the developments largely have followed the basic interests of Kroeber and O'Neale--the significance of art styles and techniques as time-indicators.

Outside the professional field Peruvian textiles have received their share of acclaim from the current popular interest in "primitive art" which has been publicizing by turns of fashion Oceanian, African, North Pacific Coast, Andean, and Mexican native arts. Through exhibitions and illustrations the finest of Peruvian textiles have been presented to a public pleased by their beauty but indifferent to their original sense or their sundering from their cultural context. Such display textiles are selected for their aesthetic values alone. Often unable to represent a specific time-place style because of dubious provenience, neither do they exemplify the general quality range of textile products from which they have been extracted. However appreciatively Peruvian textiles have been regarded for their utility in providing chronological clues, their technical distinctions, and their aesthetic worth, the use and meaning of the fabrics to those who wove and wore them have somehow been lost to sight.

The aim herein is to engender some comprehension of Peruvian textiles as tangibles, as necessities, and as pleasures in their former human context. This approach is compatible with Kroeber's interests in Andean prehistory which were always those of the culture historian. He regarded "all native Peruvian civilization as a unit--a larger historical whole, a major areal culture with time depth." That the materials were archaeological and the ordering of their stylistic data a methodological necessity were but incidental to his prevailing objective--an understanding of the manifold nature of culture through time. As he has said, "The data on the major South American arts are inextricably intertwined with archaeology." The archaeological research and related textile analysis which Kroeber initiated in the 1920's have continued to accumulate, through succeeding decades, sufficient ramifying data to support reconstructive thoughts on the role of textiles in ancient Andean life.

Like all products of human hands, the textiles of Peru were enmeshed with material and social aspects of the culture which created them. Technical developments can nourish yet delimit the product as a substance. The numerous ways in which cloth can be utilized can encourage production. If the decorative possibilities serve not only aesthetic aims but political and religious ends as well, as was the case in Peru, the role played by the medium can become entrenched and even powerful enough to keep rival media in abeyance. In this articulation of material and social factors, as exemplified here by fabrics, the interplay may be such as to reinforce social aspects and possibly in periods of simplest beginnings even to initiate them.

However much the finest of Peruvian fabrics have been exhibited, illustrated, and lauded in print, they represent but one extreme of an enormous range of quality. A large proportion of textiles, while not lacking in simple touches of embellishment, were made primarily for rugged uses. Coarse, burlap-like cloths were the usual outer wrappings of mummy bundles; similar cloths must have been employed in many ways--as containers for carrying in the harvests, baling goods for markets local or distant, as household utility cloths, and as garments by the poor. From north to south and east to west in the Andean area through twenty centuries, many thousands of sturdy, homely fabrics were produced as a normal necessity in the ordinary business of living. Ignored by collectors, this huge class of textiles is now known only in a small percentage of its original bulk as extracted from modern, controlled excavations--worn, patched, dirty and ragged.

Of domestic furnishings in ancient Peruvian homes we still know little, yet occasional specimens offer clues suggesting that people of some status, not only the elite, had padded quilts, small cushions, and cradling cloths. Fabrics hung in tombs may represent similar usage in dwellings; certainly some decorative textiles, because of their size or odd shapes, could hardly have been costume parts. Triangular, patterned cloths hung from the feathered canopy of the Inca's litter, as drawn by Guaman Poma de Ayala. A specimen in the Uhle Collection at Berkeley brings to mind portières because of its construction, length, and painted lower ends; this is a guess, of course. Yet to imagine the textile-conscious Peruvians in bare rooms would be an even stranger fancy. The general lack of capacious baskets or wooden chests implies that bulky goods such as extra clothing and ornaments were wrapped in cloths for home storage.

It is as clothing and its accessories that Peruvian textiles are best known. Here at least is abundant evidence that the potentialities of weaving were fully realized in the many-faceted role which dress plays in an advanced society. The basic garments were few: breechcloth, kilt, shirt, and mantle for men, and a one-piece dress and mantle for women. Additions of scarfs for the head, hair ties, and belts were usual. Cloth pouches were a general accessory for men, possibly for women too, as in Inca times. Specialties occurred which were characteristic of particular periods or places, such as the Paracas shoulder yoke, the Tiahuanacan four-pointed cap, or the Inca feathered poncho, but these were extrinsic to the standard forms which persisted through the centuries. Within the standardized forms a tremendous stylistic range was made possible by the variables of the textile content. The stylistic components of Peruvian garments were dimensions, fibers, colors, weaves, designs, and superstructural embellishments such as embroidery, passanterie, reserve dyeing, and painting. Each component had many variables which by permutation permitted diversified

styles to emerge in spite of the continuous adherence to basically simple garment forms. The styles which characterized areal and temporal planes in Peruvian history represented selections or constellations of preferences from innumerable possibilities for variation.

In the following discussion place and time labels have been kept to the minimum and esoteric textile nomenclature avoided whenever possible. The overall time span is roughly 2,000 years: from 500 B.C., by which time weaving was well developed, to 1532 A.D., date of the Spanish conquest. For temporal locations the terms early, middle, and late have been used loosely to cover approximately 500 B.C. to 700 A.D., 700 A.D. to 1200 A.D., and 1200 A.D. to 1532 A.D. They are time segments which encompass but do not delineate certain of the major cultures referred to by name. Thus Mochica, Paracas, and Nazca are within the early span, Tiahuanaco-Huari in the middle span, and Chimu and Inca of late times. (The newest archaeological timetable for prehistoric Peru is in the 1960 edition of Bennett and Bird, Andean Culture History, p. 112).

Production

Of occupations at large, whether domestic or institutionalized, undoubtedly food production, ceramic manufacture, and textile fabrication were the three which consumed most of the time and energy of the Andean people as constant concerns. With cloth, production consists of many successive stages, each requiring particular knowledge and skills contributing toward a successful culmination as united in the end product. In the sophisticated civilization of Peru hundreds of persons were primarily engaged in various phases of cloth production. While many coastal families grew their own cotton, acquired a little wool (perhaps already spun and dyed), and wove sufficient cloth for their humble needs, the quantities of high-standard fabrics from Peru imply a marked degree of specialization--and not of weavers alone.

The prime desideratum was production of raw materials in sufficient quantity for the textile needs of a fairly dense population. A notion of quantity needs may be understood by imagining a simple example, a very coarse cotton cloth which might have been used by a laboring family. It is one yard square, woven in tabby or "plain weave square count" with 10 warps and 10 wefts per square inch. This means that within its dimensions there are 360 yards of warp crossed by 360 yards of weft, total yarn content 720 yards. For various purposes such a family might have five similar utility cloths in use, representing 3,600 yards of yarn. A hamlet of twenty hearths, as a reasonably small, humble community, then would have 72,000 yards or roughly 41 miles of the crudest sort of yarn employed in its low grade utility cloths alone. One could multiply this community many times over in coast and highland at any moment from the time of Christ onward. And, of course, in addition, the fiber requirements for medium and fine quality domestic cloths, garments, accessories, and grave offerings of all classes of persons must be conjured up as the normal, maximal requirement of fiber-in-use all at the same time.

Agricultural and pastoral pursuits produced the cotton and alpaca fibers which constituted the bulk of Peruvian textiles; llama as the coarsest wool and

vicuña as the finest represented lesser quantities at each end of the quality scale. Indigenous to coast and highland, respectively, cotton and wool have been one of the major evidences for an early established trade system between these regions. Cotton was the fiber with which weaving began on the coast in preceramic times, yet the advent of wool and its incorporation in textiles in increasing amounts from pre-Christian times onward indicate that this fiber already had been used in weaving in the highland area to which wool was indigenous. Unless wool had its own history of usefulness in textile production it would not have come down to the coast as a commodity. All alpaca wool in coastal textiles was imported from the highlands; under primitive and prehistoric conditions acclimatization of these high altitude animals to a lowland habitat was unlikely.

Planting, tending, and harvesting of cotton was an occupation in itself, as was the breeding, herding, and fleecing of alpacas to supply the demands of consumption. The rounding-up and capture of vicuñas, never domesticated even in Inca times, probably called for a special class of hunters skilled in the pursuit of this shyest of all the wool-bearing cameloids. All the raw materials of textiles need preliminary processing. Both cotton bolls and fleeces must be cleared of refuse before deseeding or wool-washing can be done. Twigs, leaf bits, burrs, sand, and mud balls infest one or both fibers at the source. Color sorting, especially of wools from piebald pelts, might be done at this time rather than after marketing. Whether baling and marketing was done by the growers or by special middlemen vendors, distribution to spinners and weavers had to take place. In coastal valleys or highland districts, the native cottons and wools would move in small circuits; between highland and coast the humble llama, whose wool was disdained for good quality cloth, was the burden-bearer in caravans which continuously traveled the routes of communication exchanging commodities between the grossly different environments.

The spinner's role was a vital one in cloth production, requiring patient engagement in tasks onerous and monotonous. Even though the fibers were received in a partially cleaned state, their final preparation was necessary before spinning could begin. Remaining seeds and minute detritus must be pulled from cotton lints, and dirt and excessive grease washed from the wools. Standard Peruvian yarns show that paralleling of fibers was usually done; this to make a smooth, even yarn. Cotton fibers can be straightened by pulling small flocks apart over and over again. Laid together until a large pad of the prepared lints was formed, the pad became the stock from which the spinner drew forth fibers while spinning. A similar method may have been used with wool since wool cards were unknown and the combs found in ancient workbaskets are too delicate save for a final combing after preliminary finger straightening of wool fibers. (The combs are supposedly battens for pressing down tapestry wefts; they could have served both purposes.)

Even allowing for the fact that drop-spindle spinning can be carried on while walking about--as to fields, market, or a neighbor's house--the amount of time devoted to yarn-making must have been very great. Medium to fine quality yarns required the supported-spindle method whereby the operator sat on the ground with the spindle tip resting in a bowl or gourd to obviate strain on the forming strand. This was not a side occupation, especially when hundreds of yards of fine thread were to be produced. Rates of hand-spindle spinning differ

so much by fiber and quality that it is fruitless to estimate even roughly what the production rate might have been. But the quantities of good-grade cloths, not to mention those of luxury quality, indicate that Peruvian spinners probably formed a group distinct from both the suppliers of raw materials and the weavers.

Spinning is a skill which even in its highest proficiency can scarcely be called an art, yet that skill is an essential contribution to any textile which has artistic status. Notable Peruvian tapestries with 250 wefts or more per inch are popularly credited to the weaver's art, while the spinner whose deft fingers produced yarn $1/250$ of an inch in diameter goes unrecognized. Length of yarn is impressive when the hundreds of yards necessary for even one crude cloth are realized. But consistency of diameter with a uniform degree of twist--whether loose, moderate, or tight--is the criterion of perfection. Delicate cotton threads are the most difficult to make uniform while retaining sufficient tensile strength to withstand the strain of weaving. Yet such threads are far from rare in Peruvian fabrics. Wools, with their longer staple often up to several inches, have the advantage of greater overlap in spinning. On the other hand, alpaca and vicuña filaments are somewhat slippery and less prone to stabilize by intertwisting on themselves than are cotton lints.

Beside the initial spinning of single strands, doubling or respinning singles into two-ply thread was common practice, this task being a further time-consumer for the Peruvian spinner. Yarns of multiple ply, such as those for loom strings, sewing, tassels, and other special purposes, may well have been made by the weaver as they were needed for work in hand. However, compared to single- and two-ply yarns for cloth construction, the amounts of these special yarns were negligible. It was the gross yarn needs for cloth in use and under construction, as well as the standards of excellence, which suggest that spinners formed a separate occupational class in the old Andean culture.

Color is an outstanding characteristic of Peruvian textiles. Dyes were applied to cleaned fiber stock before spinning, to hanks of spun yarn, and to cloths taken from the loom (piece-dyeing). The last method apparently was the least used for quality fabrics except when resist treatments were first applied to reserve areas of the cloth from the dye bath in order to create designs. The enormous range of tints and shades, estimated by analysts as more than 150, was an early achievement in Peruvian textile history and one requiring expert knowledge. Cottons are not amenable to the full absorption of dyes, although wools are. With either fiber and with dye sources which varied chemically, the successful production of uniform colors for large quantities of yarn and which did not fade or bleed depended upon consistent dye decoctions and mordants that set the dye in the fibers.

Long periods of experimentation with many materials must have preceded the stage of security demonstrated by polychrome textiles made some three hundred years before the time of Christ and continuously produced throughout the pre-conquest centuries. Of specific dye sources little is known as yet since the necessary laboratory analyses can be done only by a few experts. Of dyes so proven the roster is surprisingly small: indigo, reibunium, cochineal and shell-fish, with alum and iron mordants. The varying hues of the natural

fibers, both cotton and wool, account for much of the color range possible in combination with a few dyes. It seems probable that more dye sources will eventually be revealed. Whatever the circumstances, the procuring of raw materials, the extraction, preparation, and composition of dye solutions, together with their effective mordants, was an exacting task not haphazardly performed by amateurs. That the base fiber colors were different in subtle degrees made a further variable which the dyer had to take into account to achieve the desired tone. Wherever dyeing was done in quantity and with competence in ancient Peru a skilled artisan class can be postulated from the evidence of the textiles which their art enhanced.

Catering to spinners' and weavers' needs may have been special occupations too. Their equipment included an assortment of spindles with decorated whorls, hardwood battens, bone awls and picks, combs, and workbaskets. These objects are profuse not only in the general archaeological remains but sometimes in single graves as well. A burial yielding over 250 stone, pottery, and horn whorls certainly suggests that the individual had been a maker or vendor of these small, essential accessories.

Thus, before the weavers began their own distinctive tasks, there were numerous other persons involved in the preweaving stages. People on coastal farms and in mountain pastures, in spinning centers and dye establishments, on the paths to distribution--all were engaged in the production of textile materials which the weavers could coordinate and transform into cloth. In modern terms this is "the textile industry." In terms of a prehistoric culture it was a coordinated activity representing a large segment of the population's economic resources and productive enterprise.

The weaver's part in textile production is the one most familiar to us today, yet it is often taken for granted without any real understanding of the obstacles overcome in the actual construction of a cloth--more particularly when the weaver worked with few manual aids and a loom lacking treadle attachments. The Peruvian home-weaver as well as the professional was faced with certain common problems when making cloths for specific uses. By and large, most of their fabrics consisted of two identical webs seamed together to make up the desired width. Warp length could extend to several yards, if so wanted, but weft width on the backstrap loom in general use throughout the Andean world was limited to the weaver's reach. The loom required the insertion of the battening sword, a heavy wooden slat always at least two handbreadths wider than the warp plane. About 27 inches was the practical limit for width, and most woven webs were narrower than that. Consequently, even the crude cloth one yard square used above as an example of yarn needs, would have been woven in two strips 18 inches wide and 36 inches long, then sewn together. For the weaver this means that planning for finished dimensions must be calculated for two warpings and two weftings, and that patterned fabrics must be woven so that their parts will match when seamed together.

Since all clothing was made to size the length and number of warps had to be estimated for all webs composing a garment, e.g., for a shirt, two webs for the body, two others if it were to have sleeves, and three more if there were to be decorative bands on the sleeves and around the bottom of the body. Warping, the winding of the warp yarns before shifting them to the loom beams, is

one of the most tedious parts of cloth-making. Length could be gauged when the warping posts were set up, but each turn of the yarn around them must be neither slack nor taut but of exactly uniform tension. Further, the heddle leases had to be lashed precisely to every other warp; a lease loop too long or too short would create trouble for the weaver when opening a shed and passing through the bobbin and battening sword. A covert virtue of Peruvian fabrics is the perfection of the original warping before weaving was begun, a seldom recognized skill of the weaver.

The weaving techniques at a competent weaver's command were several, and a choice of the one or more to be employed would have been made when assembling the yarns needed and setting up the warp. A cloth with a smooth surface, in which the warps predominated, required that the warps be set close together, or, for an opposite effect, as in tapestry weave, they would be spaced slightly apart. Complex weaves such as gauze, doubleface, doublecloth, or interlocking warp demanded excessive care in particular warping methods. These more difficult weaves were not uncommon and two or three techniques were often combined in one fabric.

Obviously, the qualities of yarns as fine or coarse, colored or natural, make differences in the physical nature and visual effects of a fabric. Another potent visual factor is the construction used--the ways in which the wefts interlace with the warps in the weave. This determines the texture of the surface, the visual emphasis of warps or wefts, the intensity of colors, and the adaptations of motifs. The weave or construction thus is not merely a necessary mechanical procedure in order to build a cloth of warps and wefts but engrosses factors of function and of aesthetics. This potency of structure, sufficient to enhance or mar the qualities of yarns, colors, and designs, was a major motivation for developing the different methods of interlacing warps and wefts which distinguish one weaving technique from another. In their severalties or in combination they augmented the satisfactions the Peruvians derived from their textiles. The weavers independently developed and perfected a roster of techniques which matched that of the Old World, adding a unique one of their own, the interlocking-warp technique. Plain weaves, tapestry, brocade, gauze, and doublecloth were already in use before the Christian era (in the Paracas Cavernas period), indicating a prior experimental period in which cloth structure had been explored in conjunction with the potentials of fibers, spins, and colors to result in a fabric production with controlled, professional competence.

That the home-weaving of cloths and garments ranging in quality from shoddy to excellent was a normal household activity in ancient Peru may be taken for granted. Nevertheless, the abundant remains of distinguished workmanship, often to the degree of virtuosity, indicate the existence of a class of specialists. The group of expert weavers, screened for their proficiency, who served the Inca rulers probably represent but one known instance of professionalism which had been long established in Peru. Quality and quantity as known from Paracas times onward make it inconceivable that such textiles were the products of part-time home-weavers whose thoughts and energies were claimed by multiple household duties. Whether these professional weavers worked commercially, were subsidized, or enforced to labor as for the Inca, there is no telling. The famous Mochica vase showing women at looms, a male supervisor, and a higher ranking man seated on a dais is usually interpreted as a "factory" scene. It

could as well be a training establishment or the working quarters in a great household like those of Egypt and Medieval Europe. In any case, weavers are depicted there as a discrete group, implicitly separated from housewifely routine of the ordinary sort.

Even further specialization within the professional class is implied by the perfection of the complicated designs executed in the more difficult techniques. A weaver might master a technique and produce several exquisite fabrics of that structure within a lustrum or decade but would hardly produce masterpieces in all construction methods within the same period. Either as a life work or by periodic changes the finest weavers must have concentrated on not more than one or two techniques to produce, from planning to execution, textiles of supreme quality. Collaboration of specialists may explain the finest composite specimens, such as a magnificent shirt from Supe containing twelve separate webs employing beside plain weave, tapestry, open-work tapestry, and interlocked warp and weft techniques.

While the most splendid textiles and other objects were the possessions of an elite class or of the upper degrees of a graduated society as evidenced by their grave furnishings, it is clear that textile production was the concern of large numbers of Andean people: growers, processors, distributors, spinners, dyers, weavers, and finally the owners and wearers who clung to their fabrics even in death. In short, cloth manufacture formed a significant economic and occupational integral of ancient Peruvian culture.

Function

Every material is idiosyncratic in its services to man. Clay, wood, stone, metal, ivory, bone, fur, feathers and fibers--each has advantages and disadvantages for specific purposes and visual pleasures. The sub-species, so to say, of each medium are proliferated variations of the virtues and vices of the parent class. When incentive exploits the potentialities of many sorts of fibers the resulting mats, baskets, ropes, nets, threads, and cloths perform a multiplicity of services. The Peruvians early recognized these potentialities and exploited them with increasing perspicacity from preceramic times onward. Their talent for textile development is evident from the oldest findings; these predate successful utilization in an equal degree of any other material then available in coastal Peru.

The presence of a native cotton plant made this possible, but a recognition of the possibilities--if no more than by trial and error--was fundamental to the initial progression from the use of thigh-spun bast fibers to thigh-spun cotton. That is, from a stronger, harsher, more refractory material to a weaker, smoother, more amenable fiber for new purposes. The familiar basketry and matting technique, twining, was continued with cotton yarns, resulting in a flexible fabric pleasant to the touch. The pliant yarns permitted easy manipulations for designs and this virtue was early realized in the twined cotton cloths made at such preceramic coastal sites as Huaca Prieta and Asia before 1000 B.C. The numerous fragments recovered by excavation offer little indication of their specific uses, yet they do show a recognition of and an esteem for the function of cloth in the large sense: that it is a plane of soft, agreeably tactile

material which can be a vehicle for decorative motifs. The eventual abandonment of twined cloth construction for the more versatile techniques of true weaving multiplied the advantages to be derived from cloth, advantages extending beyond the utilitarian into the less palpable realms of social and aesthetic values. The advent of wharved spindles, the heddled loom, wool fibers, and superior dyes hastened the development of textile functions into full status in coast cultures by at least 500 B.C.

The practical utility of cloths as containers, dress, bedding, or hangings needs no elucidation. That aesthetic pleasures come from color and design is clear too. Other functions are less obvious--those of social significance, especially as embodied in dress. Like costume of the Old World, that of the higher civilizations of Middle and South America communicated several sorts of cultural meanings. An aggregate of basically conforming costumes, varying only in minor details, marks the nucleus of areal and temporal unity, i.e., a community, district, or region through a period of time (in historic costume terms "national" or "period" dress). Through form, fabric, color, and design content several sorts of social conditions may be manifest: economic (by quality and amount), political (by prescribed or proscribed materials, colors, or motifs), religious (by materials, colors, and symbolic motifs), and military (by practical adaptations and symbolic motifs). Degrees of social rank, classes of occupation or of servitude can be distinguished by the textile components. Distinctions of sex, age level, and marital condition are often shown by major or minor differences in dimensions, materials, colors, or motifs. Whether or not these diversities are governed by regulations or merely by custom, the apparel as a totality of the tangible ingredients is also an expression of intangible aspects of the society in which it is worn.

By no means all of these intangible components of costume are discernible in the remains of Peruvian dress even though textiles were the prime conveyors of social implications; a large share is known through information of different sorts. Inca dress and social regulations were pictured and described by Guamán Poma de Ayala and the Spanish chroniclers. North coast culture left a pictorial ethnography in its modeled and painted pottery from Mochica through Chimu times. And much can be safely inferred from the circumstances of burial, grave associations, and the textiles themselves from exhumations on the central and south coast dating through the major chronological periods. Gross areal and temporal differences in ancient Peruvian apparel have long been known, as well as indications of economic, official, priestly, and military diversities. Social categories as expressed in costume can be augmented and better defined as systematic study is applied to the accumulating archaeological evidence. Alas, the separation of artifacts and cadavers from sites and graves for specialized research has left, so far, a wide gap in our knowledge about dichotomy of the sexes, especially as it might be seen in dress. If the more subtle badges of age level, marital status, or other personal conditions existed in Peru, they probably never can be clearly recognized from the archaeological materials: too much and too detailed bearing evidence would be needed.

The totality of men's dress as we know it from all Peru followed particular styles which characterized major sub-areas and time periods. Differential features include relative dimensions and proportions of length to breadth, presence or absence of sleeves, location of design areas, and nature of decorative

motifs. Readily recognized examples are the sleeved shirts of the north coast, the shirts with heavy fringing at armholes and bottom edges from the south coast (both of early period), the tapestry woven large shirts with vertical panels of Tiahuanacan motifs (middle period), and the Incan tunics with triangular yokes and checkerboard patterns woven in tapestry (late period). Systematic study of clothing undoubtedly would show more nuclear styles for places and times, as well as determine degrees of variation in those already known.

The burial of miniature or token garments with the dead which correspond in style with their normal-sized counterparts ramifies the importance of identification through dress, or at least the adherence to a contemporary style, which held through most of Andean history. For instance, examples from Paracas, Vista Alegre, and Moche represent three coastal locales in early, middle, and late times.

Regional differences like those mentioned above are significant not only politically, as when Inca law forbade changes in community styles, but psychologically as well: visual identification with family and fellow citizens of a community or area. Clothing that is practically uniform is still worn by village women of Guatemala, each village being distinguished by elements of proportion, weave, color and design in the home-woven blouses. These discrete styles persist in spite of long social and trade intercourse between the towns. No such close differentiation between sites is ever likely to emerge from any archaeological materials, even those of Peru, but it is not unreasonable to assume that a sense of community attachment was an adjunct of local regional styles, as known in Incan times.

Persons of high rank, priestly or official (possibly both-in-one) have been identified by their rich accouterments in the graves of the Paracas Necropolis. The custom of executing deity figures in cloth was already established in an earlier Chavinoid phase of south coast culture. The florescence of this art in the Necropolis phase is expressed in the costume--mantles, yokes, shirts, kilts, turbans--bearing extravagantly fantastic renderings of composite anthropomorphic felines, birds, and serpents. Quality is manifest in the laborious polychrome embroidery of fine-spun wool, while quantity in excess of any normal need is apparent in the huge mantles and the kilts which wrapped in several layers around the hips. Status was communicated through costume, a status that might have been based in religious concepts, in a governmental structure, or in domination by wealth. Whatever the basis of superiority, luxury fabrics made it known to fellow citizens. Other media, however beautifully executed, were but minor in the sepulchral bundles, subordinate to the textile furnishings of the deceased. Rarity of metals, especially gold, on the south coast in pre-Christian times might explain one discrepancy of materials, but not the lesser quantities of ceramics as possible status symbols of equal importance.

Relatively greater abundance of other possessions, especially of gold ornaments and utensils, by Inca times did not weaken the role of textiles as status symbols. On the contrary, some of the best evidence of the function of cloth qualities as prestige indicators, as a material art valued for social meaning and for personal elegance comes from this period. Preserved clothing and documentary information show the concern felt by the aristocratic class for

impressive costume for themselves and adequate dress for the populace, when cloth production, as all else, became a state monopoly. As in previous periods it was the shirt, now of tunic proportions, which embodied not only elements of a distinctive period style but those of rank as well. Gone were the decorative designs depicting or referring to mythological deities and natural animal and vegetal forms. The clothing of noble persons depended, rather, upon refinement of quality, the over-all organization of design areas, these areas incorporating a roster of small motifs executed in tapestry weave to communicate the wearer's status. Organized in a checkerboard patterning, the series of small, glyph-like devices covered part or all of Inca noblemen's tunics.

An analysis of these devices and their association with qualities of wool, colors, and workmanship might reveal an hierarchical symbolism within the elite class. That is, whether all, some, or few of the motifs appear in particular types of tunics, suggesting the wearer's right to use certain of the devices. Other interpretations are possible, of course: that, merely, the finest tunics have the most complicated patterns and this proliferation of devices was meaningful only in terms of the weaver's artfulness. But this is a side problem.

The textile medium as used in clothing also distinguished particular social groups; two may be mentioned, first military units, second liveried servants. Mochica warriors wore clothing differentiated from that of every day life: short shirts without sleeves, very short kilts, protective padded panels for the body and thick cloth-covered helmets. Bold geometric motifs on the shirt, panel armor, and helmet were matched. The outfit was an ensemble implying through its textile decoration a totemic, heraldic, or political allegiance. The north coast custom of stripping weapons and all clothing from prisoners of war indicates the value of clothing both as loot and as personal symbols of dignity and rank. (Mayan prisoners, as seen in the Bonampak murals, were permitted to retain at least their breechcloths.)

Livery--matched clothing for groups of servants--is familiar in Old World civilizations, but not necessarily a concept to be taken for granted. Inca litter-bearers, as shown in Guaman Poma's drawings, were dressed identically, even to the position of their tied mantles. The use of livery may have been a late practice, yet the Inca were not wholly innovators, and elite households of prior date well may have had domestic servants in particular styles of dress.

Knowledge of women's apparel in ancient Peru is so deficient at present that it cannot merit discussion nor support inferences. In brief, from early periods (Paracas, Nazca, Mochica) and the late period (Chimu, Inca) there is visual or actual evidence that the basic dress was a wrapped rectangle of cloth pinned or sewn on one or both shoulders--like the dress of Pueblo women or the chitons of classical Greece. Decoration was similar to that of the contemporary masculine clothing but much reduced in amount. Short mantles and veil-like headcloths completed the costume in the Paracas and Inca cultures. That quality and quantity of their garments distinguished women of superior class or nobility can be safely assumed, but nothing more. It is conceivable that women wore shirts or tunics in some places or times of the old Andean civilization, as is the habit now with the women of some tribes in eastern Peru. Until the sex of cadavers and their clothing from many grave lots are made known the ancient dress of Andean women remains largely enigmatic.

Distinctions of age levels by dress are known for boys and youths in Incan times. Occasional child-size garments appear in collections, but without accompanying physical remains, no fixed practices about age-grading by costume can be postulated for earlier periods. Again, excavational data are needed and are quite unlikely to emerge in sufficient quantities for accurate information.

Textiles played their final role at death when the deceased, together with garments, pouches and cloths filled with food and coca leaves, was wrapped in several layers of fabrics and baled for burial. Ranging from ostentatious to modest, the grave accompaniments indicate the importance ascribed to textile possessions in the future life. Nor were all grave cloths practical: a neat bundle from a central coast burial revealed, when opened, many cloth scraps of good quality in decorated styles. Were these little rags "token" fabrics (like miniature garments) or pattern samples a deceased weaver was taking along for future reference? We shall never know. A currently popular assumption that sepulchral clothing was superior to or different from that actually used is difficult to prove. Certainly, elegant garments may have been made solely for interment and never donned--by those who could afford the luxury. Nevertheless, the Peruvian conception of a splendid afterworld surely was but a reflection of the values in their culture as known and experienced. Ostentatious furnishings, if somewhat "larger than life," were still expressing the basic realities of a former existence as well as beliefs concerning the future.

The function of textiles in the ancient Andean world were many. They served several practical purposes as containers, furnishings, and dress, and signalized by their quality and embellishment the social status of their possessors. Other uses as yet unknown may be recognized eventually. That cloth or garments were made for tribute before Inca times seems highly probable. Enormous fabrics emanating from the south coast are still cryptic; one of these is 12 by 87 feet, another about 23 by 162 feet, both have Paracas period associations. Except as tent-like ramada coverings or other temporary shelters their practical utility is doubtful. Huge dimensions to express wealth or prestige occurred in ancient Mexican paper and in Polynesian tapa cloth; for the same reasons the monstrous Peruvian fabrics might have had display value in processions, as offerings at temples, and found final service as mummy bundle shrouds. In spite of such mysteries--and there are many others with respect to cloth--present evidence is quite sufficient to indicate that the Peruvians fully exploited the textile medium to perform a myriad of services which aided and enriched their daily lives.

Aesthetics

The separation of aesthetic aspects of textiles from their substantive and functional characteristics seems artificial. Peruvian fabrics clearly demonstrate that one of their major functions was to give visual pleasure. While medium, function, and aesthetics all interplay as inherent ingredients of a textile object, the artistry merits separate consideration like that given to materials and functions.

A visual art is basically material. Whatever its purpose and however informed with a grandiose concept, its execution is through a physical medium

having qualities which are at once its advantages and its fetters. The artist's talent enhances the virtues and coerces the recalcitrancies of the material, exploiting them both to satisfy predetermined aims. The creative act of weaving is like that of other arts in that materials are transformed into a new entity, an object that did not exist before. Like a painter, with fixed dimensions of canvas or wall, the Peruvian weaver began with an established plane of warps limited in length and breadth. But unlike the painter, who can tentatively set the total composition by sketched lines and work progressively in any part of the field, the weaver builds the cloth by incremental weft additions. Initial errors in judging the space to be occupied by design units will dislocate the patterning throughout. Either what has been woven must be unravelled or the remaining design units be modified in some unobtrusive way. So too with any other misapprehensions, as of yarn quality, color combinations, or the construction technique; they become apparent and are fixed in the fabric as it grows. Errors cannot be painted over, chipped away, hammered out, or covered with a glaze. The manifest expertise of a high percentage of Peruvian fabrics indicates their weavers' absolute control of all the materials, manipulations, color and space relationships by preconception--the assurance that knows what should happen will happen in the process of fabric-making.

The physical qualities of the generally superior fabrics will be discussed before proceeding to a consideration of their designs in relation to the cultural context.

Yarns, whether of cotton or wool, were spun to an extraordinary degree of perfection. The aesthetic aim seems to have been just that: uniform diameter, tension, and color perfection in all grades including those of exquisite fineness. Such yarns are found in all types of textiles but are most apparent in the gauze weaves, the lace-like veils of spider web delicacy. Compact tapestry weaves indicate by their smooth surface that the wool wefts are hard and fine though individually barely visible, and their color interest serves as a barrier to immediate perception of them as yarn. When heavier grades of yarn were desirable, uniformity of diameter and color were still maintained. In fact, this rigidity of standards evidently prevented the exploration of other attractive possibilities in yarn construction. These are, for example, the combination of differently colored strands in one yarn, nodular color flecks, and intentional irregularity of diameter. Such yarns can add interest to plain weave fabrics and are the backbone of modern weaving to achieve subtle color and tactile effects. Only in the Paracas embroideries were two-toned yarns employed with any frequency and, even there, less for merits of their own than for expansion of the color range of the embroidery threads. Apparently, irregularly colored and spun yarns were associated in general with the poorest quality cloths (e.g., infants' "diapers," breechcloths, and crude work cloths) for which randomly mixed white and brown cotton fibers were given hasty, slipshod spinning.

Nature provided cotton and wool fibers in tones from white to brown, augmented to deep brown and black in the wools. In addition, Peruvian experimentation developed dyes to create numerous tints and shades of every hue. An addiction to strong color began early, as seen in Paracas fabrics, and continued unabated through the centuries. Regardless of how many hues were used in one fabric, they were never incoherent nor incongruent, owing to the weaver-artists' resourcefulness in making adroit juxtapositions and balanced color values in

their textile compositions. The problem was to devise new combinations of interest to eyes surfeited with chromatic ingenuities. One solution, conveniently termed "color juggling," was to suddenly vary the color order which had been soberly followed through several repeats of a design unit. Rhythmically, this is syncopation--seemingly whimsical, yet intentionally and instantly obviating the danger of monotony. Although best exemplified in Paracas embroideries, the device recurs in later periods, notably in Tiahuanacan and Incan tapestries.

Relief from blatant hues came in the late Tiahuanacan-Huari tapestries, when color schemes were reduced to a series of muted colors centering around red, yellow, black, and white. Reds ranged from garnet to rose pink, the yellows from clear light to tawny browns, often infused with green, resulting in mossy tones. Sparked by black and white with an occasional touch of blue, this color scheme is one of the most restrained and sophisticated in Andean textile history. That it was employed with idiomatic abstract motifs makes it especially appealing to our contemporary taste.

Paralleling the brilliantly colored textiles and often in use at the same time were others dependent upon two markedly contrasting tones, usually brown and white. They emphasized bold geometric or interlocking patterns which covered the cloths. Such fabrics were a counterpoise to the richly colored creations. At the opposite extreme were the gauze-woven fabrics which were seldom colored or, if at all, as a monotone. Recognizing that the primary aesthetic interest lay in the lace-like structure, warps and wefts of mixed colors were eschewed. When colors were added to gauze fabrics, they usually were supplementary, that is, in alternate bands of another weave or as separately woven borders sewn around the edges, where they could not conflict with the gauze patterns.

So remarkable and varied was the color factor in Andean textiles that only these major characteristics can be mentioned here. A negative aspect serves to emphasize the color quality. Namely, that in no period of Andean history was a delicate or pastel color scheme in vogue, one of that sensitive or effete sort which marks the eighteenth century in Europe. However miniscule, precise, clever, or fantastic Peruvian color-entries might be, they always had strength: they were brilliant and complex, or dark-light and bold, or nothing--meaning natural fiber color.

This commitment to forceful color schemes does not altogether explain another rarity in Peruvian weaving: the use of warps of one color and wefts of another in tabby woven cloth. This device is frequently employed by modern Guatemalan weavers and is a forte of the handweavers of India. Warp-weft crossings of two colors produce either a muted overall tone or the opposite, a more intense effect. Occasionally Peruvian cloths of middle or late periods exhibit this feature, such as a deep green crossing violet (muting both), or a cerise crossing henna (intensifying the redness), or black crossing white (appearing as speckly gray). But such specimens are notable for their rarity and, apparently, were not greatly favored by Peruvian consumers.

Like color, the complex subject of design can be only briefly characterized. The roster of designs through the centuries divide into two major classes, representational and geometric. The former range from mythical creatures of

elaborate fantasy to naturalistic humans, animals, birds, serpents, marine life, and food plants. Renderings of these supernatural and natural forms were realistically curvilinear in embroidery and tapestry weave, but were reduced to abbreviated angular lines in the more rigid weaving techniques. Geometric forms are the expectable blocks, triangles, diamonds, and zigzags, with heavy emphasis on stepped triangles and frets. Interlocking or reciprocal motifs, made by combining opposed stepped triangles, frets, and stylized bird and fish heads were stand-by solutions for borders or over-all patterns throughout most of Andean history.

Organization of design, like the distribution of color, was symmetrical. Or, when rarely deviating to the asymmetrical, was always in perfect balance. For example, large color areas were sometimes opposed diagonally in late period shirts, in a manner reminiscent of Medieval parti-coloring. Spot motifs were usually evenly spaced in vertical, horizontal, or diagonal rows. A variation of late times, especially Incan, filled the field with contiguous, rectangular compartments in which motifs changed form and color in a diagonal direction.

Floral motifs were almost entirely ignored except in Paracas and Nazca fabrics; even there, food plants and their products were the vegetal themes of interest. The Nazca flower-and-bird embroideries were the chief exception in centuries of fabric designing which never utilized the full graces of plant forms. The design potentials of flowers, leaves, stems, and tendrils, such as undulate in trellis patterns over Old World textiles, were left unexplored. Generally absent too were medallions, confronting animals, and interlaced bands which were the standard devices of Persian, Byzantine, and later textile designers of Europe. While Peruvian weavers independently developed structural techniques (tapestry, brocade, doublecloth, gauze) identical to those contemporaneously in use in the other world, their motivations for design were grounded in different aesthetic ideals. The historic bases of design concepts differed in the two hemispheres and ensuing developments continued to exhibit their disparate ancestry.

In combination, then, perfect yarns, energetic color schemes, and a roster of supernaturals, humans, felines, birds, fish, stepped triangles and frets, reciprocal motifs, and symmetrical organization were recurrent features of Peruvian textile art. On the whole, the styles which distinguished the fabrics of periods or areas from one another were never entirely novel. They were readaptations of old themes, stressing some components of style and repressing others, rearranging or recombining elements of design, narrowing or expanding color schemes, and favoring particular weaves to the partial neglect of others. This continuum through some fifteen to twenty centuries is remarkably stable. No want of imagination or assiduous application to textile design was the cause. On the contrary, the tremendous variety of design within this framework resulted from continuous ingenuity in devising permutations of traditional ingredients. The persistent core of aesthetic ideals seems to have been a form of Classicism wherein canons of quality, design, and color usage were early established and never wholly abandoned in spite of periodic mutations.

The weavers' pursuit of superlative qualities in their products was probably engendered, at least in part, by the elite class for whom they wove. A class composed of connoisseurs who, without being practising artists themselves,

were yet aware of the means employed to achieve special effects and who were quite capable of making critical judgments on the style embodied in a fabric. The nature of Andean life was such that even the noble, rich, or official personages did not live in isolated unawareness of their artisans' methods--particularly not those of weavers and potters. There was not the abyss of ignorance which separates consumer from producer in a modern industrial society. Hence, one suspects, that the search for the peerless was stimulated by a clientele cognizant of the general methods of production and appreciative of the niceties in superior fabrics. The degree of excellence reached very early in Peruvian textile history, a few centuries before the time of Christ, intimates that even then weavers and embroiderers were being pushed to new levels of proficiency. Regardless of the conditions of demand--forced labor or benign patronage--the response is palpable in the artistry of the fabrics from early to late times. Interactions between weavers and patrons could have been of many sorts, and were sufficiently close and vital to make the textile arts a constantly dynamic factor in their culture.

Clothing and other textile appurtenances of public and private life were important visible evidences of authority. The expediency of "keeping up appearances" would consciously or unconsciously motivate the acquisition of impressive fabrics by those who could command them. Other potent reasons may well have been mere habituation to luxury and a true aesthetic enjoyment of the beauty of such possessions. Standards of the ruling class are usually emulated to whatever degree is possible by those of lesser ranks. Thus directly or indirectly the general excellence of average quality Peruvian fabrics is probably attributable to the extremely high standards, the absolute virtuosity, of the best. Sumptuary laws controlling certain usages in dress and possessions, as in Incan times, are in themselves evidence of ascending standards. Sumptuary laws are invoked to protect upper classes from imitation by the lower orders; that in general they have been ineffectual and new devices of prestige must be sought was probably as true in the New World as in the Old.

From the earliest known soft fiber textiles, those of twined cotton, it is evident that the medium was recognized as having potentials for aesthetic pleasures and communications of ideas. The designs done in twining techniques were the forerunners of an art which, with ceramics, bore the burden of conceptual meanings in Peruvian civilization. Because textiles could serve many purposes, were sizable, flexible, colorful, and transportable, their capacities as symbol-bearers and eye-pleasers were more versatile than those of ceramics or any other medium in the restricted technological stage in which the Andean area remained up to the Spanish conquest. The head start, so to say, which textiles had over ceramic, metal, and mural decoration may have established a lasting priority for the textile art as the primary means of visual communication.

Interplay between textile design and religious concepts is evident in Andean fabrics. The art style of Chavin, appearing early in ceramics, goldwork, and architectural decoration on the north coast, and in diminution in ceramics and gourds of the south coast, is represented on the central and south coast by a few surviving textile examples. The dominant figure of this style was a creature with feline characteristics. From roughly 500 B.C. to 1200 A.D. this protean figure recurrently appears in new guises as a textile motif. Other associated motifs came and went in varied forms. How often these were significant

as religious or cult symbols and how often dissociated as purely profane decorative elements cannot now be known. But in their most fully developed forms as supernatural or "deity figures" in Chavin, Paracas, Nazca, and Tiahuanaco-Huari art it seems safe to assume that they carried meanings as visible manifestations of mythological concepts.

This periodic recurrence of highly elaborated supernatural creatures implies contact between textile designers and erudite persons such as priests or sages: the former illustrating by their art the principal legendary characters in the dogma of the latter. The weaver or embroiderer precipitated palpable forms out of the vaporous oral traditions. Whether such visualizations served cult propaganda, were purely devotional or liturgical in purpose, or merely expressed a fashion for mythological themes cannot be conjectured. The important inference is this: that once the practice of illustrating myth is established the inter-action between "verbalizers" and "visualizers" may be reciprocal. The artist may omit details because of technical problems, or may add others out of creative exuberance. In the absence of written records, the pictorial form can serve as the control or authority from which the priestly-narrators (and especially less learned viewers) draw inspiration. Eventually the verbal formulation may be augmented or modified "to fit the picture." For example, the feline-bird-serpent combination as a deity seems indubitably derived from religious lore, whereas the mass of subsidiary elements composing these figures in embroideries and tapestries are unlikely to have been fantasied item by infinitesimal item in verbal form. But the details added in the cloth could then be interpolated in the verbal rendition. At the same time that art--textile or other--was stabilizing and publishing myth it may have been unintentionally and gradually influencing the body of knowledge from whence it derived. Such interplay is not exclusively that of textile art; wherever myth is made manifest by god impersonation, ritual drama, and graphic media, inter-stimulus is expectable. While a reciprocal influence cannot be proven in a prehistoric, preliterate culture, it leaves open the probability that Peruvian textile art was not merely a passive recorder of ideas from the realm of cosmical knowledge.

Textile decoration of the Tiahuanaco-Huari style shows a change from pictorial representation of deity figures in full form to an abstract style composed of shattered elements of the supernatural, mainly eyes, nose, and teeth arranged in rectangular compartments. This disintegration of an entire, coherent design into a mosaic of remnant elements is one of the most fascinating transpositions in Andean art; although most apparent in tapestries of the period it is paralleled by designs of contemporary ceramics. The implications are as mysterious as they are manifold, suggesting rebellion against an imposed style, or the opposite, continuation in covert form of prohibited motifs, or again, just gradual deterioration of a style on the wane. Whatever the motivation, the conversion resulted in a new sub-style, one of the handsomest in Peruvian textile history.

This discussion is not meant to imply that meaningful designs in textiles always preceded their appearance in other media. Initial use of particular motifs may have been in one medium or another in different times and places. Borrowing of motifs between crafts requires adaptation to the technical limitations of the new material. Certain florid motifs of Late Nazca ceramics have been adapted by weavers to tapestry and interlocked warp weaves with a resultant

reduction and angularization of the original curves. In the case of certain geometric patterns on ceramics these are, perhaps, too often attributed to textile sources of inspiration without sufficient proof. Mutual stimulation between craftsmen was probably as active as that between the craftsmen and the aristocratic consumers for whom they produced their best work. Common themes reflect the tastes and interests prevailing at the time.

As we see Andean textiles today, the individual specimens draw admiration for their beauty and skilfull execution. How much more impressive must such fabrics have been in the aggregate, as worn by rulers, priests, their retinues of retainers, acolytes, and musicians at public ceremonies. Spectators of lesser ranks were aware of the refinements and values of the costumes so exhibited. The mass effect would be one of grandeur for a people who were seeing the ultimate in perfection of an art which was but a household skill as practised in their own homes. As spectacular apparel, only one material could rival cloth on such occasions--the ponchos veneered with a mosaic of feathers imported from the eastern Andes. The sheen and color of the plumage gave these garments a luxurious glow analogous to that of the silk and goldthread vestments amongst the dull wools and linens of Medieval European dress. Yet the feather-surfaced ponchos were few and ritual in purpose, and alone could not outbalance the amplitude of fine cloth in costumes and accouterments of the elite class on festival occasions. At public ceremonies or on pilgrimages the commonality too presumably wore their best, good quality even though not magnificent. One sees a mass of well-dressed people to whom cloth was not merely a necessity but a pride, a pleasure, and an inspiration.

From grower to spinner, from weaver to wearer, in poverty and in wealth, in the home and in the tomb, textile materials were intermeshed with the individual lives and the daily habits of every Peruvian. The production of cottons, wools, dyes, spinning and weaving equipment, and cloth itself were part of the basic economy. Improvements in weaving techniques fusing with social developments raised artisans to specialists of professional status. As symbols of prestige fine fabrics were as much a necessity to the aristocracy as were merely serviceable garments to the poorest laborers. When informed with theosophic meanings textiles were the transmitters of religious concepts. This intensive integration with many aspects of Andean culture made textiles one of the primary stabilizing factors in a civilization notable for its progressive conservatism through the centuries.

Bibliographic Note

A summary article does not permit itemization of all the publications which have contributed to its contents; grateful acknowledgment is made to their many authors. Pertinent works of A. L. Kroeber and Lila M. O'Neale are to be found in the excellent bibliographies of Peruvian sources appended to:

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