

INDIAN BLANKETRY

By GEORGE WHARTON JAMES

WHAT a marvelous art is that of weaving, and how much the human race of to-day owes to the patient endeavors of the "little brown woman" of the past for the perfection to which she brought this—one of the most primitive of the arts. We have already seen how basketry had its origin, and what an important place it held in aboriginal life. Blanketry was a necessary outcome of basketry. The use of flexible twigs for baskets readily suggested the use of pliable fibres for textiles, and there is little question that almost simultaneously with the first rude baskets the first textile fabrics made their appearance.

It is strange, too, what a close relation the textile art bears to pottery as well as to basketry. It is to the art of working in clay that we owe much of our knowledge of primitive weaving, as Professor Holmes has well shown in his *Prehistoric Textile Fabrics Derived from Impressions on Pottery*. From impressions found on fragments of pottery he reconstructed the original fabrics, and the methods followed in weaving them in prehistoric times.

Whence the art had its origin, we do not know. But it is matter of record that, in this country, three hundred and fifty years ago, when the Spanish first came into what is now United States territory, they found the art of weaving in a well advanced stage among the domestic and sedentary Pueblo Indians, and the wild and nomad Navahoes. The cotton of these blankets was grown by these Arizona Indians from time immemorial, and they also used the tough fibres of the yucca, and agave leaves and the hairs of various wild animals, either separately or with the cotton. Their processes of weaving were exactly the same then as they are to-day, there being but slight differences between the methods followed before the advent of the whites and after. Hence, in a study of Indian blanketry, as it is made even to-day, we are approximating nearly to the pure aboriginal methods of pre-Columbian times.

Archæologists and ethnologists generally presume that the art of weaving on the loom was learned by the Navahoes

from their Pueblo neighbors. All the facts in the case seem to bear out this supposition. Yet, as is well known, the Navahoes are a part of the great Athabascan family, which has scattered, by separate migrations, from Alaska into California, Arizona and New Mexico. Many of the Alaskans are good weavers, and according to Navaho traditions their ancestors, when they came into the country, wore blankets that were made of cedar bark and of yucca fibre. Even in the Alaska (Thlinket) blankets, made to-day of the wool of the white mountain-goat, cedar bark is twisted in with the wool of the warp. Why, then, should not the Navaho woman have brought the art of weaving, possibly in a very primitive condition, from her original Alaskan home? That her art, however, has been improved by contact with the Pueblo, Hopi, and other Indians, there can be no question, and, if she had a crude loom, it was speedily replaced by the one so long used by the Pueblo. Where the Pueblo weaver gained her loom we do not know, whether from the tribes of the South, or by her own invention. But in all practical ways the primitive loom was as complete and perfect at the Spanish conquest as it is to-day.

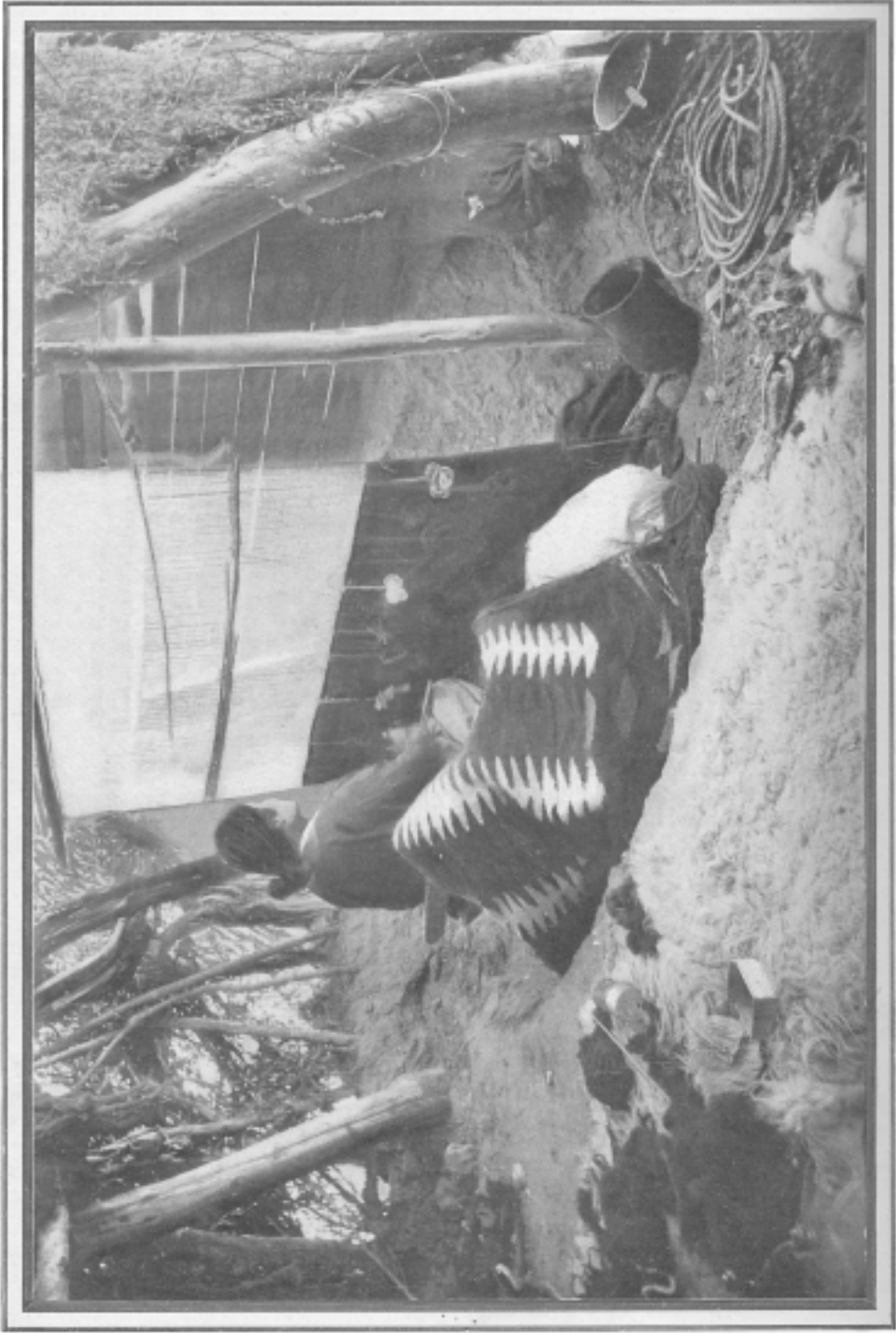
Any loom, to be complete, must possess certain qualifications. As Dr. Mason has well said: "In any style of mechanical weaving, however simple or complex, even in darning, the following operations are performed: First, raising and lowering alternately different sets of warp filaments to form the 'sheds'; second, throwing the shuttle, or performing some operation that amounts to the same thing; third, after inserting the weft thread, driving it home, and adjusting it by means of the batten, be it the needle, the finger, the shuttle, or a separate device."

The frame is made of four cotton-wood or cedar poles cut from the trees that line the nearest stream or grow in the mountain forests. Two of these are forked for uprights, and the cross beams are lashed to them above and below. Sometimes the lower beam is dispensed with, and wooden pegs driven into the

earth are used instead. The frame ready, the warp is arranged on beams which are lashed to the top and bottom of the frame, by means of a rawhide or horse-hair riata (our western word lariat is merely a corruption of *lariata*). Thus the warp is made tight and is ready for the nimble fingers of the weaver. Her shuttles are pieces of smooth, round stick upon the ends of which she has wound her yarn, or even the small balls of yarn are made to serve this purpose. By her side is a rude wooden comb with which she strikes a few stitches into place, but when she wishes to wedge the yarn of a complete row—from side to side—of weaving, she uses for the purpose a flat, broad stick, one edge of which is sharpened almost to knife-like keenness. This is the "batten." With the design in her brain her busy and skilful fingers produce the pattern as she desires it, there being no sketch from which she may copy. In weaving a blanket of intricate pattern and many colors the weaver finds it easier to open the few warp threads needed with her fingers and then thrust between them the small balls of yarn, rather than bother with a shuttle, no matter how simple.

But before blankets can be made the wool must be cut from the backs of the sheep, cleaned, carded, spun and dyed. It is one of the interesting sights of the Southwest region to see a flock of sheep and goats running together, watched over, perhaps, by a lad of ten or a dozen years, or by a woman who is ultimately to weave the fleeces they carry into substantial blankets. After the fleece has been removed from the sheep the Navaho woman proceeds to wash it. Then it is combed with hand cards—small flat implements in which wire teeth are placed—purchased from the traders. (These and the shears are the only modern implements used.) The dyeing is sometimes done before spinning, generally, however, after. The spindle used is of the simplest character—merely a slender stick thrust through a circular disk of wood. In spite of the fact that the Navahoes have seen the spinning wheels in use by the Mexicans and the Mormons, who, at Tuba City, live practically as their neighbors, they have never cared either to make or steal them. Their conservatism preserves the ancient, slow and laborious method. Holding the spindle

in the right hand, the point of the short end below the balancing disk resting on the ground, and the long end on her knee, the spinner attaches the end of her staple close to the disk, and then gives the spindle a rapid twirl. As it revolves she holds the yarn out so that it twists. As it tightens sufficiently she allows it to wrap on to the spindle, and repeats the operation until the spindle is full. The spinning is done loosely or tightly according to the fineness of weave required in the blanket. There are practically four grades of blankets made from native wool, and it must be prepared suitably for each grade. The coarsest is, of course, the easiest spun. This is to make the common blankets. These seldom have any other color than the native grey, white, brown and black, though, occasionally, streaks of red or some other color will be introduced. The yarn for these is coarse and fuzzy, and nearly a quarter of an inch in diameter. The next grade is the extra common. The yarn for this must be a little finer, say 25 per cent. finer, and is generally in a variety of colors. The third grade is the half fancy, and this is closer woven yarn and the colors are a prominent feature of the completed blankets. These half fancy blankets are those generally offered for sale as the "genuine" Navaho material, etc., and, were the dyes used of native origin, this designation would be correct. Unfortunately, in by far the greater number of them aniline dyes are used, and this, by the wise purchaser, is regarded as a misfortune. The next grade is the native wool fancy. These are comparatively rare blankets, as the yarn must be woven very tightly, and the weaving also done with great care. The highest grade that one will ordinarily come in contact with is the Germantown. This style of blanket is made entirely of purchased Germantown yarn, which has almost superseded the native wool fancy, as, to the ordinary purchaser, a Germantown yarn blanket looks so much better than one made from its Navaho counterpart. The yarn is of brighter colors—necessarily so, owing to the wonderful chromatic garnish offered by the aniline dyes; it is spun more evenly (not necessarily more strongly, and, indeed, as a matter of fact, is far less strong), and (to the Indian) is much less trouble to procure. Then, too,



The Navaho Weaver at Her Loom.

Photo. copyright, George Harton Jones.

when woven, owing to its good looks, it sells for more than the native wool fancy, upon which so much more work has had to be put. Hence Madame Navaho, being no fool, prefers to make what the people ask for, and "Germantowns" are turned out *ad lib.*

But, to the knowing, there is still a higher grade of blanket. This is not, as one expert (*sic*) would have it, an attempted copying of ancient blankets, but a continuation of an art which he declares to be lost. There are several old weavers who preserve in themselves all the old and good of the best days of blanket weaving. They use native dyes, native wool—with bayeta when they can get it—and they spin their wool to a tension that makes it as durable as fine steel. They weave with care, and after the old fashions, following the ancient shapes and designs, and produce blankets that are as good as any that were ever made in the palmiest days of the art. Such blankets take long in weaving, and are both rare and expensive.

The common blankets and the extra common are sold by the pound, the price, of course, varying, and of late years steadily increasing. Half fancy blankets are generally sold by the piece, and vary in price according to the harmony of the colors, fineness of the weave, and striking characteristics of the design. This is also true of native wool fancy, the price being determined by the Indian according to her notions of the length of the purchaser's purse. On the other hand, Germantown yarn having a fixed purchasable price, the blankets made from it are to be bought by the pound.

These remarks, necessarily, refer to the original purchases from the Indian. There are no general rules of purchase price followed by traders, dealers, or retail salesmen.

In the original colors, as I have already shown, there are white, brown, gray and black, the last rather a grayish-black, or, better still, as Matthews describes it, rusty. He also says: "They still employ to a great extent their native dyes" of yellow, reddish, and black. There is good evidence that they formerly had a blue dye; but indigo, originally introduced, I think, by the Mexicans, has superseded this. If they, in former days, had a native blue and a native yellow, they must also, of course,

have had a green, and they now make green of their native yellow and indigo, the latter being the only imported dye-stuff I have ever seen in use among them. . . . The brilliant red figures in their finer blankets were, a few years ago, made entirely of bayeta, and this material is still (1881) largely used. Bayeta is a bright scarlet cloth with a long nap, much finer in appearance than the scarlet strouding which forms such an important article in the Indian trade of the North."

This bayeta or baize was unraveled, and the Indian often retwisted the warp to make it firmer than originally, and then reweave it into his incomparable blankets. From information mainly gained by Mr. G. H. Pepper, of the American Museum of Natural History, during his three years' sojourn with the Navahoes as the head of the Hyde expedition, I present the following accounts of their native dyes. From the earliest days the Navahoes have been expert dyers, their colors being black, brick-red, russet, blue, yellow, and a greenish-yellow akin to the shade known as old gold.

To make the black dye three ingredients are used, viz.: yellow ochre, pinion gum, and the leaves and twigs of the aromatic sumac (*Rhus aromatica*). The ochre is pulverized and roasted until it becomes a light brown, when it is removed from the fire and mixed with an equal amount of pinion gum. This mixture is then placed on the fire and as the roasting continues it first becomes mushy, then drier and darker, until nothing but a fine black powder is left. This powder is called *keyh-batoh*. In the meantime the sumac leaves and twigs are being boiled, five or six hours being required to fully extract the juices. When both are somewhat cooled they are mixed, and almost immediately a rich bluish-black fluid, called *ele-gee-batoh*, is formed.

For yellow dye the tops of a flowering weed (*Bigelovia graveoleus*) are boiled for several hours until the liquid assumes a deep yellow color. As soon as the dyer deems the extraction of the color juices nearly complete, she takes some native alum (*almogen*) and heats it over the fire, and, when it becomes pasty, gradually adds it to the boiling decoction, which slowly becomes of the required yellow color (*kayel-soly-batoh*).



Bayeta Blanket in Collection of Mr. A. C. Vroman, Pasadena, California.

The brick-red dye (*says-tozzie-batoh*) is extracted from the bark and roots of the sumac, and ground black alder bark, with the ashes of the juniper as a mordant. She now immerses the wool and allows it to remain in the dye from half an hour to an hour. Whence come the designs incorporated by these simple weavers into their blankets, sashes, and dresses? In this, as in basketry and pottery, the answer is found in nature. Indeed, many of their textile designs suggest a derivation from basketry ornamentation (which originally came from nature), "as the angular, curveless figures of interlaying plaits predominate, and the principal subjects are the same—conventional devices representing clouds, stars, lightning, the rainbow, and emblems of the deities. But these simple forms are produced in endless combination and often in brilliant, kaleidoscopic grouping, presenting broad effects of scarlet and black, of green, yellow, and blue upon scarlet, and wide ranges of color skilfully blended upon a ground of white. The centre of the fabric is frequently occupied with tessellated or lozenge patterns of multi-colored sides, or divided into panels of contrasting colors in which different designs appear; some display symmetric zig-zags, converging

and spreading throughout their length; in others, bands of high color are defined by zones of neutral tints, or parted by thin, bright lines into a checkered mosaic, and in many only the most subdued shades appear. Fine effects are obtained by using a soft, gray wool, in its natural state, to form the body of the fabric in solid color, upon which figures in orange and scarlet are introduced; also in those woven in narrow stripes of black and deep blue, having the borders relieved in bright tinted meanders along the sides and ends, or with a central colored figure in the dark body, with the design repeated in a diagonal panel at each corner.

"The greatest charm, however, of these primitive fabrics, is the unrestrained freedom shown by the weaver in her treatment of primitive conventions. To the checkered emblem of the rainbow she adds sweeping rays of color, typifying sunbeams; below the many angled cloud group, she inserts random pencil lines of rain; or she softens the rigid meander, signifying lightning, with graceful interlacing, and shaded tints. Not confining herself alone to these traditional devices, she invents her own methods to introduce curious, realistic figures of common objects—her grass brush, wooden weaving

fork, a stalk of corn, a bow, an arrow, or a plume of feathers from a dancer's mash. Thus, although the same characteristic styles of weaving and decoration are general, yet none of the larger designs is ever reproduced with mechanic exactness; each fabric carries some distinct variation, some suggestion of the occasion of its making, woven into form as the fancy arose."

I have thus quoted from an unpublished MS. of one of the greatest Navaho authorities of the United States—Mr. A. M. Stephen—in order to confirm my own oft-repeated and sometimes challenged statements that the Navaho weaver finds in nature her designs, and that in most of her better blankets there is woven "some suggestion of the occasion of its making."

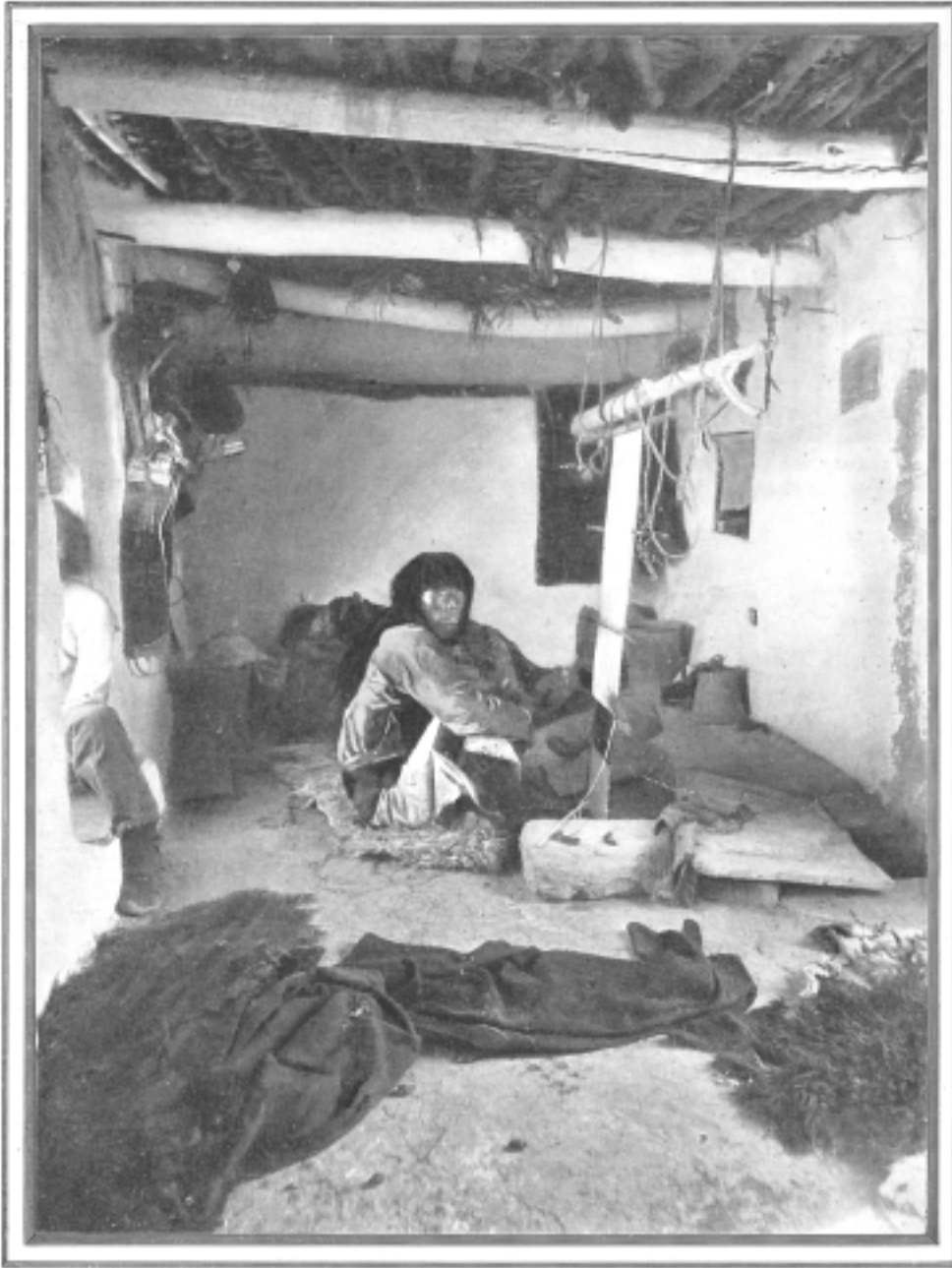
This imitative faculty is, *par excellence*, the controlling force in aboriginal decoration as far as I know the Amerind of the Southwest.

With many of the younger women, submission to the imitative faculty in weaving is becoming an injury instead of a blessing. Instead of looking to nature for their models, or finding pleasure in the religious symbolism of the older weavers, they have sunk into a lazy, apathetic disregard, and they slavishly and carelessly imitate the work of their elders. This is growingly true, I am sorry to say, with both basket makers and blanket weavers. On my recent trips I have come in contact with many fair specimens, both in basketry and blanketry, and when I have asked for an explanation of the design the reply has been: "Me no sabe! I make 'em all same old basket, or all same old Navaho blanket." Here is perversion of the true imitative faculty which sought its pure and original inspiration from nature. It will not be out of place here to correct a few general misapprehensions in regard to the older and more valuable Navaho blankets. These erroneous ideas are partly the result of the misstatements of an individual who sought thereby to enhance the value of his own collection.

It is true that good bayeta blankets are comparatively rare, but they are far more common than he would have his readers believe. The word bayeta is nothing but the simple Spanish for the English baize, and is spelled bayeta, and not "balleta" or "vayeta." It is a bright red baize with

a long nap, made especially in England for Spanish trade (not Turkish, as our "expert" claims), and by the Spanish and Mexicans sold to the Indians. Up to as late as 1893 bayeta blankets were being made plentifully. Since then comparatively few have been made. The bayeta was a regular article of commerce, and could be purchased at any good wholesale house in New York. It was generally sold by the rod, and not by the pound. The duty now is so high that its importation is practically prohibited, the duty, I believe, being 60 per cent. And yet I venture the assertion that I can find several weavers who will imitate perfectly, in bayeta, any blanket ever woven, and that the native dyes for other colors will be used. We are told that an Indian woman will not take the time to weave blankets such as were made in the olden time. I have several that took nine, twelve and thirteen months to make, and if the pay is good enough any weaver will work on a blanket a year, or even two years, if necessary. The length of time makes no difference, as several traders whom I personally know can vouch. Indeed, it would be quite possible to obtain the perfect reproduction of any blanket in existence, which would be satisfactory to any board of genuine experts, the only differences between the new and the ancient blankets being those inseparable from newness and age.

While bayeta blankets are not common by any means they aggregate many score in the mass, and are to be found in many collections, both East and West. It is a difficult matter to even suggest in a photograph or an engraving any idea of the beauty and charm of one of these old Navaho blankets. The bayeta blanket here presented is now in the private collection of Mr. A. C. Vroman, of Pasadena, Cal. It is 30x49 inches in size. The background is white with narrow stripes of bayeta (red) and green. The ends are black, as are also the diamonds near each end. The crosses of the middle pattern of diamonds are in white. This is a fine blanket and in an excellent state of preservation. Mr. Vroman has several other fine old style bayeta Navaho blankets in his collection, and I know of many others as well as those in my own modest assortment, and yet the collector before referred to has presumed to say, speaking of one of his own, "Not



Zuni Squaw Weaving Ceremonial Kilt of Cotton and Wool.

a dozen (similar ones) could be bought at any price!"

It will be observed that I have written as if the major portion of the weaving of Navaho blankets was done by the women. Dr. Matthews, however, writing in or be-

fore 1881, says that "there are . . . a few men who practice the textile art, and among them are to be found the best artisans in the tribe." Of these men but one or two are now alive, if any, and I have seen one only who still did the weaving.

On the other hand, among the Pueblo Indians it is mainly the men who perform this work. At all the Hopi villages, at Zuñi, at Acoma, Laguna, and several other pueblos I have photographed the men at work. The loom products, however, are readily distinguishable from those of the Navahoes, the latter having far out-distanced them in the excellency of their work. Only among the Hopi are blankets made that in any way resemble the work of the Navahoes, and these are of the style that would be classed as half fancy or extra common. They are generally, however, woven broad instead of long.

The Hopis to this day preserve the custom of wearing a bridal costume completely woven out of cotton. After the wedding breakfast, the groom's father "takes some native cotton and, running through the village, distributes it among the relations and friends of the family, who pick the seeds from the cotton and then return it. . . . A few days later a crier announces from the roof of a house that on a certain day the cotton for the bridal costume will be spun in the kivas." Here the friends assemble and "the rasping of the carding combs and the buzzing of the primitive spindles" are heard accompanied by singing, joking and laughing of the crowd. This cotton is then woven by either the bridegroom, his father or other male relations, into two square blankets, one measuring about 60 by 72 inches, the other about 50 by 60 inches, and a sash with long knotted fringes at each end. When woven they are given a coating of wet kaolin, which adds to their whiteness.

This preparation of the garments often takes several weeks, during which time the young married couple have resided at the home of the groom's parents. Now the bride, with considerable simple ceremony, walks with one of the robes on, and the other in a reed wrapper, to her mother's home, where, unless her husband has prepared a separate home for them, they continue to reside. The Rev. H. R. Voth fully describes this interesting ceremony in the *American Anthropologist*. I have two of these cotton gowns in my collection, and they are strong and well-woven. In the Field Columbian Museum, Chicago, is a fine model showing the young bride wearing her new garment going to her mother's home.

In their ceremonial dances the Hopi women wear these cotton blankets, highly embroidered at the sides and edges with red, green, and black wool. Similar in style to these, though long and narrow in shape, are the ceremonial kilts or sashes of the men. In pictures showing the march of the Antelope Priests during the Hopi Snake Dance these beautiful sashes are well shown. In late years a few Navaho weavers have invented a method of weaving a blanket both sides of which are different. The Salish stock of Indians make baskets the designs of which on the inside are different from those on the outside, but this is done by a simple process of imbrication, easy to understand, which affords no key to a solution of the double-faced Navaho blanket. I have purchased two or three such blankets, but as yet have not found a weaver who would show me the process of weaving. Dr. Matthews thinks this new invention cannot date farther back than 1893, as prior to that time Mr. Thomas V. Keam, the oldest trader with the Navahoes, had never seen one. Yet one collector declares he had one as far back as fifteen years ago.

In addition to the products of the vertical loom the Navaho and also the Pueblo women weave a variety of smaller articles of wear, all of which are remarkable for their strength and durability as well as for their striking designs.

In weaving these sashes, belts, hair bands, garters, etc., the weaver uses a "heddle frame" almost exactly similar to those found in Europe and also used in New England. None of these has been found, according to Dr. Mason, in places that assure us of their use before the Spanish occupancy, so the inference is natural that they were introduced by the Conquistadores or the early colonists, 350 years ago.

One of these heddles brought from Zuñi by Major J. W. Powell is here shown. Its crossbars are of wood, 28 inches long. "There are 94 healds of small reeds, 5 $\frac{3}{4}$ inches long, and these are attached to the cross bars by lashings of rawhide thong, supplemented by wrappings of yellow yarn. The excursion of the loose warp filaments is 4 $\frac{1}{2}$ inches up and down. The holes or stirrups through the healds have been bored with hot wire." Other heddles have but sixteen healds, so that but 31

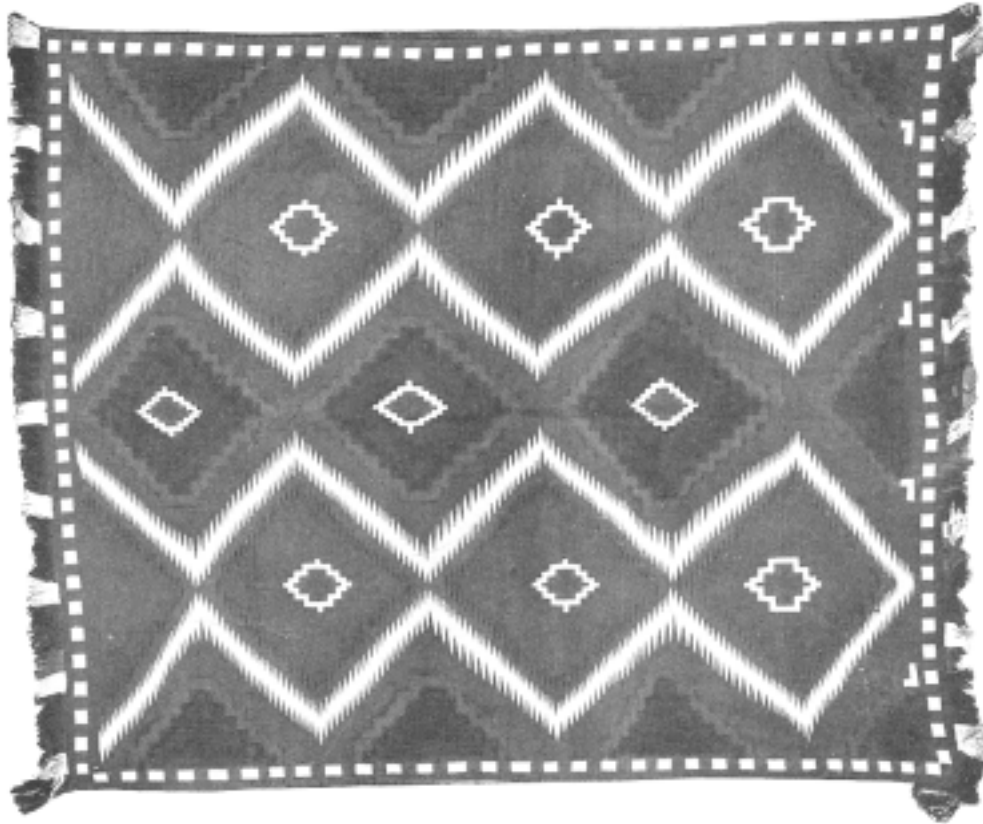


Hopi Woman in Native Woven Dress and Sash.

warp strands could be used. In my own collection I have several from various pueblos, and they vary in the healds from a small (20) to a large (75) number. These are so rudely made and clumsy in appearance, it seems impossible that any weaver could do good work on them. And yet they make most beautiful sashes and belts, work, indeed, that, of its kind, I have never seen equalled, much less surpassed.

The illustration shows a Zuñi woman at work weaving a sash on one of these heddles. One end of her warp cords wrapped around a cylindrical stick is fastened to some fixed object, in or out-of-doors, as she prefers, the other to a similar roller which is affixed to a strap or belt

passed around her waist. Thus she herself is the "tightening machine"—the most flexible and sensitive that could be designed—and she sits or squats as best suits her in the progress of her work. Mason aptly terms this "the most pliant, delicate and responsive of tension devices." He thus describes the processes of weaving: "When the woman and her loom apparatus were set up for work, she raised or lowered the heddle with one hand. The warp filaments which passed through the stirrups in the healds being fixed in their places, were by this movement raised or lowered with the frame, but the alternate threads which passed between the healds remained steadfast and straight. Whether



Navaho Blanket of Unusually Good Design Made of "Germantown" Yarn, in Collection of Mr. Caspar Whitney.

the frame was raised or lowered, a "shed" was formed in the warp; the weaver then passed through this shed a simple bobbin or shuttle, often a rod with the weft woven on it, after the manner of a kite string, containing the weft or wool filaments, usually of white thread and quite fine. When the weft had been passed through this shed between the heddle frame and the body of the weaver it was beaten home by means of the shuttle, or with a separate tool. This completed one weft. The alternate warp series were then brought to the top or depressed, and a second shed formed. The shuttle was passed back through this shed and the weft again beaten home. If a pattern was to be wrought, the shuttle was not passed through the shed as described, but worked, as in darning, through a certain number of the upper warp threads each time before a new shed was made."

The Mexicans have always been expert weavers, but their work, though fine, can not be compared for durability and

strength, nor, indeed, in artistic design, with the work of the Navaho. Some of their zarapes and ponchos, however, are very beautiful and are highly prized by their possessors, but, unfortunately, like much Navaho work, aniline dyes have driven out the purer and more interesting native colors.

The Thlinkets of Alaska, also, are good blanket weavers, and in the United States National Museum, and also in the Museum of Princeton University, fine collections of their work are to be seen. They generally consist of cape and body blanket. They are made of the wool of the white mountain-goat. The colors are white, black, blue and yellow. The black is a rich sepia, gained from the devil fish; the blue and yellow from two barks indigenous to the Alexandrian archipelago. The white is the native color, and the fringe of both cape and blanket are undyed. To strengthen, or, rather, to give solidity to the garment, the fibrous bark of the yellow cedar root is twisted into the warp.