

PUEBLO ARTS AND INDUSTRIES.—II.
BY COSMOS MINDELEFF.

The western tribes of the Pueblos, and especially the Moki Indians of Arizona, have been but little affected by the march of time since the Spanish conquest three and a half centuries ago, and many of their arts and industries are almost exactly the same as they were when described by Castañeda. In the eastern Pueblos, along the Rio Grande, there have been many changes in the life of the people, who have been to a certain extent Mexicanized, and the arts found in an almost aboriginal state in the West, on the Rio Grande are all more or less modified by that influence. The more primitive western tribes have, therefore, received much more attention from scientific investigators, and are naturally of more interest in the present state of our knowledge. When the purely aboriginal features of Pueblo arts have been exploited, the study of modifications due to contact with a higher culture will have an even greater interest.

The illustration shows the native costume of the Moki women, as also the style of hair dressing peculiar to them and described in the last paper of this series (SCIENTIFIC AMERICAN, January 15, 1898). The essential part of the dress is a blanket woven in a fine lozenge pattern, of native black wool, bordered with a wide band of dark blue, separated usually from the body of the blanket by a raised cord of green. The two ends are brought together and sewed, except a space of a few inches to allow the passage of the arm, thus forming a baglike garment open at both ends. In use the blanket is draped over the person in the manner shown in the illustration, passing under the left arm and over the right shoulder, the right arm passing through the opening left near the top of the seam. When the wearer is not at work, the blanket is often drawn over the left shoulder, leaving only the right arm free, as shown in the uppermost of the three figures in the illustration.

Sometimes an additional blanket is thrown over the shoulders. Castañeda says: "The women wear blankets, which they tie or knot over the left shoulder, leaving the right arm out." That description, so far as it goes, applies as well to-day as it did in 1540. He adds that "They gather their hair over the two ears, making a frame which looks like an old fashioned headdress."

The blanket dress constitutes practically all of the native woman's costume. On occasions, and especially when she goes away from home, a woman may wear moccasins, made of deer skin with rawhide soles. A large part of the deer skin is left attached to the moccasin, and is wound round and round the lower leg, forming a bulky kind of legging, but this is more often seen among the Navahos, who travel much, than among the Pueblo women, who seldom leave home. It is a common sight, however, along the railway which passes near some of the eastern Pueblos, where the women congregate on the platform at train time, to peddle fruit and pieces of pottery to the passing traveler. There also the native blanket dress can be seen, usually worn over an underdress of calico print. This underdress is rare in the West.

There is a charming simplicity about some of the customs of the western Pueblos, which still retain their aboriginal form. When a young man has determined in his own mind that life without a certain young woman would be but a dreary waste, he speaks to his own parents about the matter and they prepare for him a little bundle of gifts, in which is usually included a blanket and a buckskin. This bundle he takes to the house of the young woman and leaves it there carefully and by stealth, so as not to be seen; but usually a pair of very interested eyes watch his movements from within. If the bundle is returned, he knows that he must seek elsewhere; if it is retained,

he thereupon becomes an accepted suitor, and thereafter the young couple can be seen on any bright day in some sheltered nook on the house top, the man knitting himself a pair of woolen leggings or footless stockings and the girl dressing his hair with a bunch of grass or straw, the ends of which serve as comb and brush; for these people are very proud of their long black hair, and devote much time to its care. When all the preliminaries are arranged, the man goes to the house of the woman's people and becomes an adopted member of her family. This custom has had a marked effect on the architecture of the villages, as will be pointed out in a later paper of this series. That the custom is an old one is evidenced by the remark of Castañeda: "When any man wishes to marry, it has to be arranged by those who govern. The man has to spin and weave a blanket and place it before the woman, who covers herself with it and becomes his wife."

Although the Navahos now make only the coarsest and cheapest blankets of native-grown wool, using fine Germantown yarn in their finest work, the Mokis still make their best blankets of yarn spun by themselves. Their best work is the woman's dress blanket,



HOPÍ MAIDENS, SHOWING PRIMITIVE PUEBLO HAIR DRESSING.

Perhaps the best known art of the Southwestern tribes, aside from pottery making, is blanket weaving. The blanket is an integral part of the Indian dress, and in the manufacture of the highest grade the Mokis have always been pre-eminent. Oddly enough, among these Indians weaving is the work of the men, whereas in other tribes, and especially among the Navahos, who roam over the surrounding country, the weaving is exclusively done by women. Much has been written about Navaho blankets, and within recent years enormous quantities have been shipped out of Arizona and New Mexico by the traders, but the much finer Moki blankets are but little known. Among the Navahos the art has already passed through that stage of degeneration which invariably attacks a native art for the products of which a large foreign demand arises, and it is difficult now to purchase a Navaho blanket more than a year or two old, while the types, both of design and weaving, prevalent five or six years ago are now practically unknown. Such conditions are now just beginning to affect the Moki manufactures, and it is interesting to note that the changes of a year or so past are greater than those of the previous three centuries.

and although not so elaborate in design or gaudy in color as the Navaho product, it is technically equal if not superior. There is a tradition that when sheep were first introduced by the Spaniards they were never shorn until death, so that the supply of wool was very limited; but, be that as it may, the Indians now shear their sheep regularly and dispose of most of the product to the traders, for their own needs are but slight.

The illustration shows the manner of spinning and weaving, both very primitive, but still effective. After the wool is washed it is carded on metal cards purchased from the traders and made into coarse yarn, with the aid of a spindle consisting of a light stick on which a disk of thin wood is mounted. The stick is rolled on the thigh, and no wheel or any other appliance than the simple spindle is used. Should any dye be used, it is applied always to the finished yarn, but black, white and brown wools are often used without dyeing.

The loom is extremely primitive, as the illustration shows. Among the Navahos it is set up in the open air wherever convenience dictates; among the Mokis it is usually inside the house, although examples are found now and then on the terraces. The finest blankets are woven on looms set up in the sacred underground chambers or kivas, which are not in ceremonial use during the summer months and are at that time used as a club and lounging place by the men of the tribe. Many of the kivas have appliances built into them at the time they were constructed, for the attachment of looms, and were apparently designed as much for use as blanket factories as for ceremonial purposes. The Moki blankets have long been an article of barter with other tribes.

The process of weaving is extremely tedious and slow, and often months elapse between the beginning and the completion of a blanket, but time is not an element considered by an Indian workman. If he can secure \$3 for an ordinary saddle blanket, he is content. A bed blanket brings from \$6 to \$10, while fancy blankets of American yarn have been sold for \$50 and \$60. The dress blanket of the Mokis can seldom be purchased for less than \$10, and they are difficult to procure at any price.

There is a considerable demand for Indian blankets on the part of travelers and men who live more or less in camp, but it is a singular fact that Indians themselves never use them as a body covering when they can procure others of American make. It is no uncommon sight in a trader's store to see an Indian trading three or four native blankets for one of American manufacture. The reason is simple. Owing to the coarseness of the yarn and the crude looms employed, the native blanket is heavy but is not warm. Cold winds penetrate it easily, although one of the types common a few years ago was woven of hard twisted yarn beaten down so firmly that the blanket would hold water for several hours. In a bed, where the blankets are covered by others and protected from direct contact with cold air, they serve fairly well, although heavy in proportion to their warmth. The Indians themselves seldom use beds of any kind, and have little use for warm body coverings, except when in the open air. When a man is at home, his costume consists usually of nothing but a breech cloth, and children of both sexes run naked until they are five or six years old. The body thus becomes inured to changes of temperature, and the ordinary costume of calico shirt and breeches is sufficient.

But the nights are always cool in the plateau country, owing to its great elevation above the sea, and some additional covering is then necessary. The blanket supplies the needs of the people exactly; but the American blanket is so much softer and more flexible, so much lighter in weight, and, withal, so much warmer, that it has practically supplanted the native product for Indian use.



SPINNING AND WEAVING.