DEVELOPMENT AND USE OF NATIVE DYES IN NAVAJO RUG CRAFT

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By

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Navajo Shepherd

CHAPTER I

HISTORY OF THE NAVAJO RUG

Navajo rug weaving has always been, in part, an alien craft. Indeed its most important stimuli have come from sources without the Navajo tribe: Pueblo loom, Spanish sheep, English baize, Germantown yarn, American dyes.[1] This art is, in fact, one of the most outstanding of that interesting group which combine the White man's materials with the Indian's execution and prove the possibilities which have appeared, and may again appear, when influences from the two cultures work together.

One may conjecture that the Navajo came to the Southwest sometime before 1500 A. D., and came, as it were, almost empty handed. They were skin clad hunters, living by the chase and by raiding, for the last of which they had excellent opportunity. Scattered over the Southwest were the peaceful Pueblo Indians, with their store houses full of corn and wearing on their backs, not skin and bark but cotton mantles woven on their native looms. Many of the villages were already under the guidance of missionary priests who had given them Spanish seeds, Spanish horses, and Spanish sheep.[2]

The Navajo took heavy toll of corn, cattle and women, and about 1680 they had special opportunities for this raiding. In that year, the desperate Pueblo people rose and drove out the Spaniards. Then they so feared the vengeance which they knew would come, that they fled from their villages, leaving their flocks, often, to run wild. That was when the Navajo Indians made their start in sheep raising, for they gathered up the abandoned flocks and added to them as time went on.[3]

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1 A. A. Amsden, Navajo Weaving, p. 192.

2 L. B. Bloom, Early Weaving in New Mexico. II, p. 288

3 Amsden, Op. cit., 139.

There is no proof that the Navajo knew anything about weaving prior to 1680. The rare simple weaving done in the northern land from which they came had no similarity to the loom weaving of the Southwest. But the Pueblo people had all been weaving since, at least, 1200 A. D., using an upright loom such as the Navajo now use and weaving cotton grown in the fields of some of the villages. In the western towns, like Hopi, men did the weaving, but in some of those further east, like Acoma and Jemez, women also were weavers. It was near Jemez that the Navajos first settled, and it seems very likely that their women learned the art of weaving from the captured women of that and other pueblos. There was, from the beginning, one great difference between Pueblo and Navajo weaving. The Pueblo people wove in cotton, but the Navajos wove in wool.[4]

One has no idea when Navajo weaving began, although there are reports of it earlier and earlier in the 1700's. By 1799, at least, it was well started, for the Spanish reports speak of the Navajo Indians bartering their blankets.[5] To do this they must have been making a fair number. The Navajo blanket of this period was actually a blanket, made to wear or to sleep under; not to lay on the floor as a rug. In style, it was like the famous old cotton blanket of the Pueblos, patterned in horizontal stripes of black or blue and white. The Navajos long continued to make such blankets for the Pueblo trade, for they soon began supplying their teachers.

About 1800 the likeness between Navajo and Pueblo blankets came to an end. There began to arrive a new White man's material, seized upon eagerly by the Navajo, but ignored by the Pueblo who already had many textiles of his own. This material was bayeta. Bayeta or balleta is the Spanish word for baize, a heavy kind of flannel which was manufactured in England; but shipped to Spain,

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4 Amsden, Op. cit., 198.

5 Loc. cit.

and from there, to the Spanish Southwest, for trade with the Indians. The favorite color was red, a brilliant vermilion, such as no Indian vegetable dye would produce. The Navajo traded for bayeta and, the accounts say, unravelled it to get the yarn.[6] It provided a smooth, tight, twisted yarn, much better than any they had yet spun from their native wool and with undreamed of color possibilities.

The introduction of bayeta resulted in a great blossoming of Navajo weaving. Women loved the fine bayeta yarn and tried to spin their own wool fine enough to match it. When they had done so, they naturally wove more closely, and no modern blanket can match the number of yarns to the inch found in the blankets of the great bayeta period. Sometimes, failing to obtain a fine enough yarn of native material to match the bayeta, Navajo women solved the problem by spinning two or more bayeta strands together to equal their own yarn. To match the color, they experimented with vegetable dyes and produced lovely combinations of reds and browns and oranges. The new possibilities seem also to have stimulated the women to make more elaborate patterns, for they turned the simple horizontal stripes into zigzag lines and terraces. Thus did the importtation of a White man's material, in a new color, produce a new and splendid period in an Indian art.

The bayeta period, with variations, lasted until 1863, when the Navajos were conquered and taken to Fort Sumner. There followed four years of complete standstill, both in agriculture and the arts. When the Navajos returned to their homeland, they were wearing White man's cotton clothing and commercial blankets. They had practically ceased to make blankets for their own wear. They had been given sheep and goats to help them make a new start. The Navajos were poor, and they started making blankets for sale. Here the White trader,

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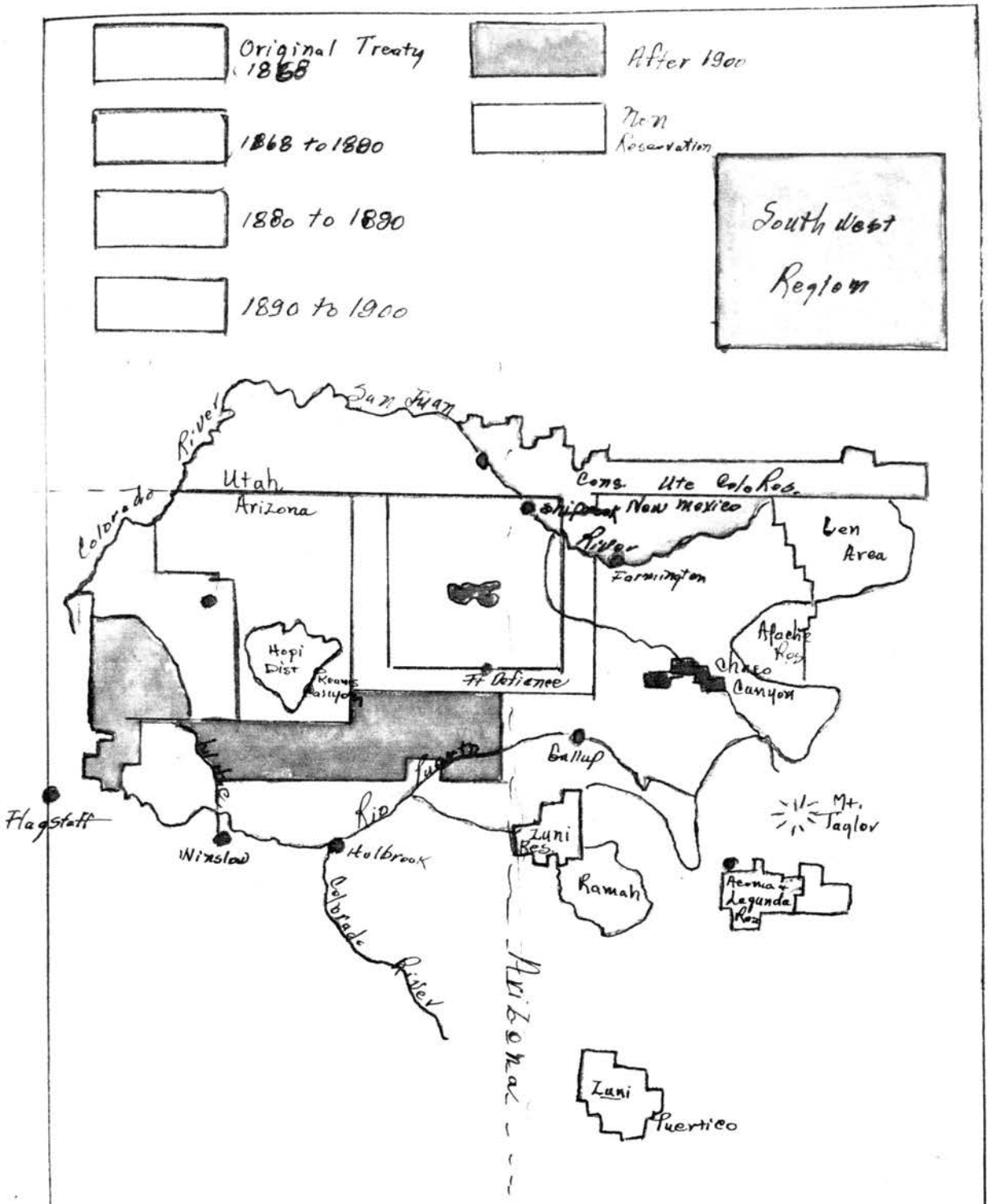
6 Amsden, Op. cit., 136.

Map of the Navajo Reservation



Navaho Country

A Map Showing Growth of Reservation

stepped into the story. There were many people interested in the Navajo, for reasons both selfish and unselfish, and some of the commercially minded now suggested that the Navajos weave the heavy floor rug for sale in the East. As aids in quick production, the traders brought in colored yarns, made in Germantown, Pennsylvania, and cotton warp. The Navajo women, anxious to make a living, started on an orgy in use of wild colors and large, barbaric patterns. This was probably the lowest point in Navajo weaving, centering in the first ten years after the return from Fort Sumner. Up to 1900 there continued a welter of hectic color and every kind of design. Toward the end of the deterioration period, Navajo women were coloring their own wool with aniline dyes and trying every combination of the unfamiliar colors. A rug made about 1890 can now be recognized by the coarse work, glaring colors, and bold patterns, usually surrounded by a border which attempts, unsuccessfully, to give them unity.[7] It, like the great bayeta period, is directly traceable to White influence.

It was the Whites themselves who tried to bring some better standards into the craft, beginning about 1900. Fred Harvey, one of the largest merchants of Indian goods, had long been fighting the use of cotton warp and paying higher prices for all-wool blankets colored with vegetable dyes. Moore, of Two Hills, had sent wool east for scouring and carding and then had it dyed and woven under his supervision. Under the direction of these and other intelligent traders the wild, unrelated patterns began to be toned down and there appeared, within the rug border, small geometrical figures.[8] These were often reminiscent of European and Oriental patterns, such as the Greek key and the swastika. As time has gone on there has been a determined drive, both from traders and philanthropists, to urge the Navajo to go back to the old, soft native dyes, and

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7 Amsden, Op. cit., 189.

8 Ibid., P. 191.

Navajo Spinners


Toppah - 48

Desert Colors


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simple patterns, and to do away with commercial yarn, aniline dye and cotton warp. Vegetable dyes require the long, straight wool, with a minimum of grease, possessed by the old Navajo sheep because it does not felt easily and takes the dye evenly.[9] The Extension Division of the Indian Service in cooperation with the Department of Agriculture experimented at the Sheep Laboratory at Wingate, New Mexico to develop such a breed, which also produces first rate mutton.[10]

This sketch of the art of rug making indicates how the Navajo weaving has been influenced, even controlled by the Whites, at each stage of its development. The loom came from the Pueblo and the vegetable dyes, probably, from both the Pueblo and the Navajo. But all the materials came from the Whites: sheep wool, bayeta, the Saxony yarn which followed it for a short time, then Germantown yarn, aniline dye, and cotton warp. As the Whites introduced the Indian craftsman to new materials, new dyes, new patterns, yarn, warp, and new methods from time to time the finest craft has developed as the Indian was left alone to assimilate the White man's cultural elements. The Navajo has surpassed his teachers in weaving, sheep raising, dyeing, and the creation of simple designs in his craft of rug making. He has made the artistic contribution to his craft even though he has used a White man's materials many times, and even a White man's design. It is only as the Indian's imagination has worked with these media, that a craft, such as the White man would never have dreamed of, has developed. Navajo rug making is really an Indian craft, for although it has been shown that the Navajo deserves little credit for the development of his loom, it has been pointed out that certain weaves practiced upon it are his own achievement.

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9 Amsden, Op. cit., 200.

10. J. C. Grandstaff, "Evaluating Fleece Characteristics of Navajo Sheep from a Breeding Standpoint." Rayon Textile Monthly, XXII (October and November, 1941), 22:559-601, 664-666.

CHAPTER II

NATIVE DYE DEVELOPMENT

Since love of color is an inborn characteristic of the human race, it is not surprising to find that the Navajo Indians have always responded to the magnificent colors of the Southwestern desert. Beautiful colors abound in this kingdom of sandy space and limitless sky. The Indian had only to step outside his door to see around and above him the most wonderful hues of nature. He began early to relate these colors to certain phases of his life. Out of these associations grew a kind of symbolism, in which color played a prominent part; representing both ideas and objects, real and mythical alike.[1] Colors were related to the six directions: north, south, east, west, zenith and the nadir, and each had a significant meaning. Colors were applied directly to the body as decorations before they were applied to articles of clothing; and they played an important part in all ceremonials.

Range of Colors.

The Navajo Indian has always been limited in his use of color to those which were available and the manner in which they could be used. Materials were colored by three methods: staining, painting, and dyeing. It is with the last of these methods of applying color that this study is chiefly concerned. Of the process of dyeing, McGregor says:

> Dyes or pigments used in coloring yarns may be divided into two general classes: organic and inorganic. In prehistoric fabrics the inorganic dyes are by far the most common and consist chiefly of three colors: red, produced from hematite or some other iron oxide; yellow, from a yellow ochre; and blue or green, produced from copper sulphate. Organic dyes seem to consist largely of only black, dark brown, and blue. These dyes are relatively permanent and cannot be washed out.[2]

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1 Roland B. Dixon, "Color Symbolism of the Cardinal Points," Journal of American Folklore, VII (1899)

2 J. C. McGregor, Prehistoric Cotton Fabrics of Arizona, Museum Notes IV.

To what extent the Navajo pioneered in the development of colors which he used in his blankets is not easily determined. Neither is it possible to ascertain exactly how he acquired the art of native dyeing. Most authorities agree that the Navajo was the pioneer in the use of wool, and that the Pueblo was, without a question, the pioneer in the use of cotton. Specimens of native dyed cotton are rarely found among the Navajos and the colors are always drab and faded, while the colors of the old woolen blankets and rugs are exquisitely clear and beautiful. Regardless of how the Navajo acquired the art of dyeing, it is evident that he became more accomplished in the use of the dyestuffs which surround him than any other craftsman of any period of history.[3]

> From their aboriginal state to modern times, the Navajo has experimented with native dyes. No part of his craft is so purely Indian as that of dyeing his native wool with decoctions prepared from plants and minerals native to his region.[4]

> The technic of dyeing with natural substances that is so well examplified in the Navajo blanket, represents an achievement which would have been a notable contribution to the progress of civilization had it come in the proper time and place.[5]

It is possible that the Navajos were introduced to wool dyeing by the Spanish from whom they first acquired sheep. With the introduction of wool, new colors came into being, for the Indian soon learned that wool fibers take dye more readily than cotton, and he began producing blankets and rugs of rare and beautiful hues.

The recent desire to recapture the beauty and charm of the early Navajo blankets has resulted in a revival of the study of early dyes. Most writers of Navajo life include chapters concerning these dyes; but most of the existing information has been so closely related to the casual life of the Navajo that

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3 George Wharton James, Indian Blankets and their Makers. p. 69.

4 Amsden, Op. cit., 78.

5 James, Op. cit., 67.

most typical Navajo foundation recipes never refer to the exact amounts of items used. Most authors refer to measurements as, "a little," "about," or a "hand full," and never is anything measured exactly. Neither are precise formulas included.

In this study an attempt has been made to locate exact formulas and procedures that might be used successfully to dye wool by native processes.

The writer learned from Don Shillingberg, trader at Lukachukai, Arizona, who sponsors native-dyed rugs of old designs that the best weavers, who use native dyes, follow exact recipes.[6]

Nancy Woodman, Navajo woman in her early sixties, and a weaver at Lukachukai, Arizona, related the exact recipes for making yellow dye with chamizo or sagebrush. She also contributed an exact recipe for dyeing yarn orange with Navajo tea.[7]

Mrs. Sam Joe, who weaves rugs which are among the largest Navajo rugs known, related exact recipes for making brown dye from the alder tree or the black walnut, and tan, from oak galls.[8]

The principal informant on exact recipes for making rose, green, black, light orange and red browns was Miss Nonabah Teetsie of Gallup, New Mexico. Miss Teetsie, a Navajo woman of about sixty years of age, educated in government schools, is an artist at Navajo weaving. She uses only native dyed yarn in her craft and much of her effort during recent years has been spent in perfecting the native dyes used. She has used only the materials which are procurable from the Reservation.* Her foundation formulas for making black,

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6 Don Shillingberg, Lukachukai, Arizona: Letter, February, 1948.

7 Nancy Woodman, Lukachukai, Arizona: Letter, April, 1948.

8 Mrs. Sam Joe, Ganado, Arizona: Letter, February, 1948.

* See Map, Plate No. 2, showing extent of the Navajo Reservation in 1946.

brown and yellow are largely those of her ancestors. James, Amsden, and other authorities are in agreement as to the plants and minerals used in Miss Teetsie's basic recipes being of old Navajo origin.[9]

The old Navajo recipes include one for making a permanent bluish black dye by mixing the mineral yellow color with pitch from the pinon (pinus edulis) and dyewater from the three leaved sumac (rhus tri-lobata). Yellow and browns were obtained by boiling rabbit brush (chrysothamus latisquamous), mountain mahogany (corcocarpus montamus), and raw alum or juniper ashes (juniperus monosperma),[10] The dyeing of rose yarn by fermenting prickly pear cactus fruit (opunita polycantha), and the making of green by first dyeing the yarn yellow with sagebrush (artemesia tridentata), or orange with Navajo tea (thelesperma gracile), and later putting it into a black afterbath dyewater are discoveries made by Miss Teetsie herself in 1930.[11]

The yellows are the easiest of all colors to obtain and range through the green yellows to mustard.[12] The browns may be light or dark and often have considerable red, rose or purple in them. Tans, grays, pinks, orange, and rose appear frequently in native dyed rugs. "A good green, the rarest of old colors, was never obtained from strictly reservation materials, in ancient times."[13] Yarn was first dyed yellow and then boiled in Indigo blue to create the desired shade or tint of green. Some very yellow greens have been made from plants grown on the Navajo Reservation. An Indian leaflet of the Denver Art Museum states that the bark and berries of the one seeded juniper (juniper monosperma)

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9 Amsden, Op. cit., 148.

10 Nonabah Teetsie, Gallup, New Mexico: Letters, July-November, 1947, p. 24

11 Loc. cit.

12 Bureau of Ethnology, 13th Report, 1891-1892.

13 Loc. cit.

are used in dyeing wool green.[14]

The Navajo had a kind of blue clay which was pulverized and boiled with sumac leaves to obtain blue. No one seems to know exactly how the old blue was made, but nearly all authorities agree that most blue came from commercial Indigo obtained from the Spanish.[15] "This blue was prepared with great care, the time required to produce the proper tint being over a month. Indigo was the basic principle and urine was used as a mordant."[16]

"The Navajo language is the sole authority for deep red."[17] The Ethnologic Dictionary does not mention it. "A dull reddish dye was obtained from juniper ashes, black alder, and mountain mahogany."[18] Deep aniline red is common in modern blankets. "One finds little red but bayeta (machine made) red in pre-aniline blankets."[19] Most authorities are agreed that bayeta red was cochineal. The cochineal is a small insect which feeds on cacti. When the bodies of the female insects are dried, the extract produces a beautiful scarlet dye. Cochineals are scarce on the Navajo Reservation.

The writer was able to locate a rug that contained a beautiful, fast, deep vermilion of native dye. This rug was made in 1933, and was purchased by Miss Florence McClure, head Navajo teacher at Chilocco Indian School, Chilocco, Oklahoma. This red was made by Mrs. Agnes Hicks at Kayenta, Arizona.[20]

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14 Denver Art Museum, Indian Art Leaflet, Series No. 79.

15 James, Op. cit., 68.

16 Clyde Kluckhohn and D. C. Leighton, The Navajo. p. 197.

17 Amsden, Op. cit., 83.

18 James, Op. cit., 67.

19 Loc. cit.

20 Florence E. McClure, Chilocco, Oklahoma: Personal Interview, October 26, 1947-May 2, 1948.

Mrs. Hicks is a weaver who uses native dyes. This rug was purchased for sixteen dollars through the Chilchinbito Trading Post at Kayenta, Arizona. The price of rugs containing this red tripled within a month after the original ones were sold. The Hicks family carefully guards the formula for this red dye. They do reveal that the mordant used is fermented children's urine. The Navajos believe that the use of urine from persons who are no longer virgins results in an uneven color. Mr. William Lippincott of the Wide Ruins Trading Post, Chambers, Arizona and Miss McClure are of the belief that the red dye is made from red, ripe cactus fruit, blue spruce bark, and urine.[21] A salmon red is obtained from boiling, for four hours, one-half pound of yarn in four gallons of very thick, brick-colored rain water from the red mesas of New Mexico and Arizona. Mrs. Mary Ann Bia of Gallup, New Mexico was the contributor of the above recipe.[22]

In addition to the yellows of the owl's claw, atcina, rabbit brush, bee plant, wild celery, Oregon grape, and bitter ball; there are Canyaigre orange, browns of chockesberry bark, red-browns of juniper and yucca barks, mauves of alder and plum, purple of coyote berries and the yellow greens of tumble weeds and even alfalfa.

Dye Plants.

Native dye plants of the Southwest are abundant. Some of the most common ones used in this problem: alder; cactus, prickley pear, chamizo; larkspur; lichen, ground; mountain mahogany; oak, scrub; sagebrush, basin; sumac, three leaved; pinon; tea, Navajo; and walnut, black, are briefly described herein.

The alder (Alnus Tenuifolia) tree grows abundantly along streams and in the

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21 William Lippincott, Chambers, Arizona: Letter, May, 1948.

22 Mary Ann Bia, Ft. Wingate Indian School, Gallup, New Mexico: Letter, April, 1948.

mountains of New Mexico and Arizona. The tree reaches a height of twelve feet. The bark of the male tree is the part of the plant used to produce a soft brown dye. The bark is peeled from the limbs while it is fresh and then dried, unless it is to be used immediately. It gives the strongest color if it is taken in the fall. A good brown color was obtained from bark gathered the last of October.*

The prickly pear (opuntia polucantha) is a low growing cactus, widly distributed on the mesas of New Mexico and Arizona. It has a yellow blossom and a red fruit which ripens the latter part of September. After picking, the fruit is rubbed in the sand with the foot to remove the spines. It is then used either fresh or sun-dried; but it requires a little more of the dried fruit than of the fresh to give the same color dye. Prickly pear, fermented, produces rose dye.

Chamizo (Atriplex Canescens) is a shrub that is always green, and its leaves and twigs may be gathered any time for dye. The blossoms may also be used. Twigs, leaves, and blossoms were used to produce a bright yellow dye. Chamizo grows about three feet high and is common on the mesas throughout New Mexico and Arizona. There are male and female plants and either one of this species is suitable for dye.

Larkspur, wild purple (Delphinium scaposum), is a dainty plant with a purple flower, and it grows on the desert where there is a little moisture. Larkspur is a sacred flower to the Navajo, and its petals are used in some of the tribe's ceremonials. For this reason many of the Navajos will not use larkspur for dye. The experiments of the writer with larkspur have failed to give a color even approaching purple, either by fermenting the plant or by boiling

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* Specimens of dyed yarn show the colors produced by the dyes described in this section.

it. The purple petals or the entire plant may be used. Purple petals produced a good greenish gray.

Lichens (Parmella Molluscula) are tiny plants that cling to the ground under sagebrush and trees on certain mesas of the Southwest. The entire plant is boiled for dye. Plants may be used fresh or dried. Dried lichens produced a good light orange dye.

Mahogany, Mountain (Cercocarpus Montanus) is a tree which grows four to eight feet in height and it is found commonly in the mountains and on the foothills at an elevation of 8,000 to 10,000 feet. The fresh or dried root bark may be used for dye. Dried mountain mahogany bark produced reddish brown dye.

Oak, scrub (Quercus pungens) is a tree found in the low mountains. The oak gall is the part of the plant used for dye. Either green or brown oak galls may be used. Pulverized brown oak galls produced beautiful light gold dye.

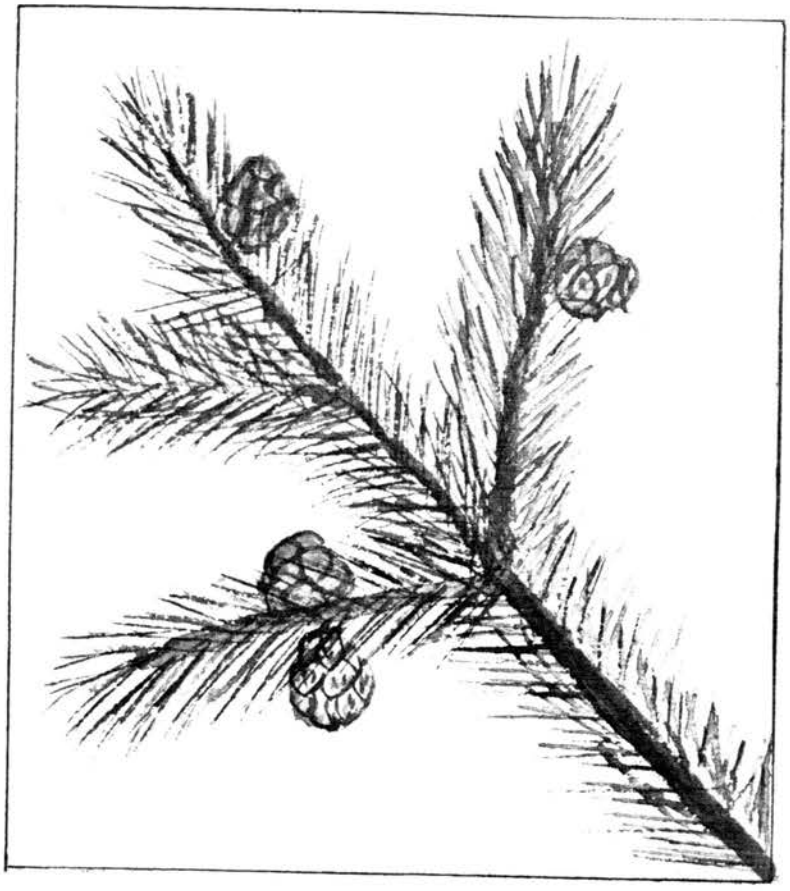
Sagebrush, basin (Artemisa Tridentata) grows three and four feet high. It is one of the most characteristic plants at between 4,500 and 8,000 feet altitude in northern and northwestern New Mexico. The Navajos consider it a very valuable plant for medicine and forage as well as for dye. It is always green, and its leaves and twigs may be used the year around. Sagebrush gathered the last of November yielded a good bright yellow dye.

Sumac, three leaved (Rhus Trilobota) is also called squaw bush and grows three to six feet high, depending upon the amount of moisture. It is found along arroyas and streams. The withes and leaves are used in making black dye and may be either fresh or dried. Before drying the twigs the Navajos twist them into rolls that weigh about one-fourth of one pound each. Dried sumac gathered about the middle of November, pitch of the pinon (Pinus Edulis) and yellow ochre were used in making black dye.

The pinon (Pinus Edulis) is found on the foothills of New Mexico and Arizona at an elevation of 4,000 to 8,000 feet. It is an evergreen tree that

Sumac, Three-Leaved
(Rhus Trilbota)

Pinon
(Pinus Edulis)

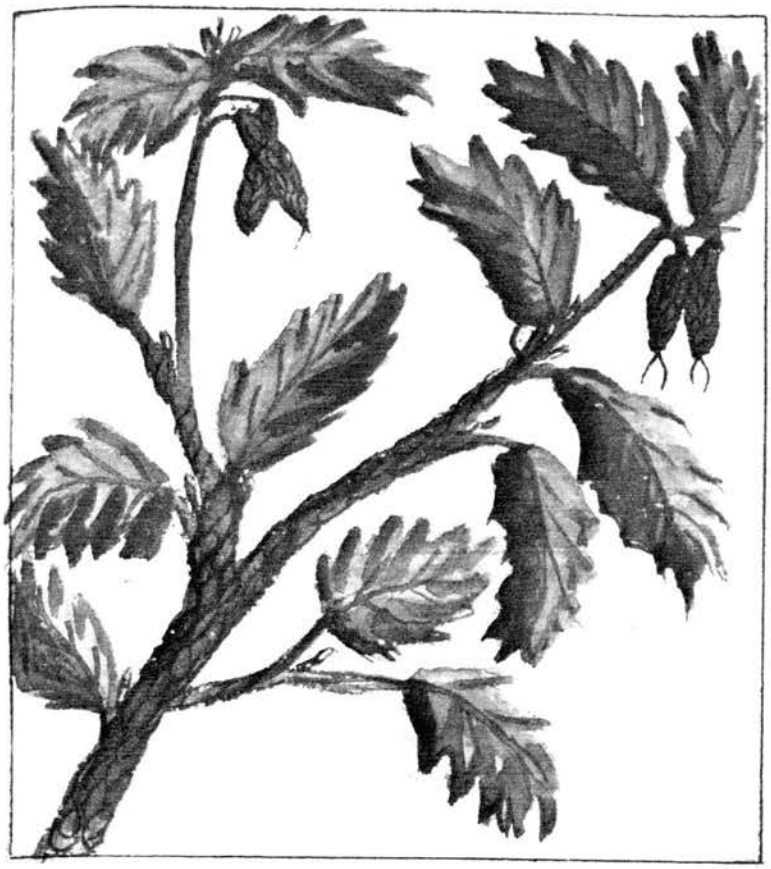


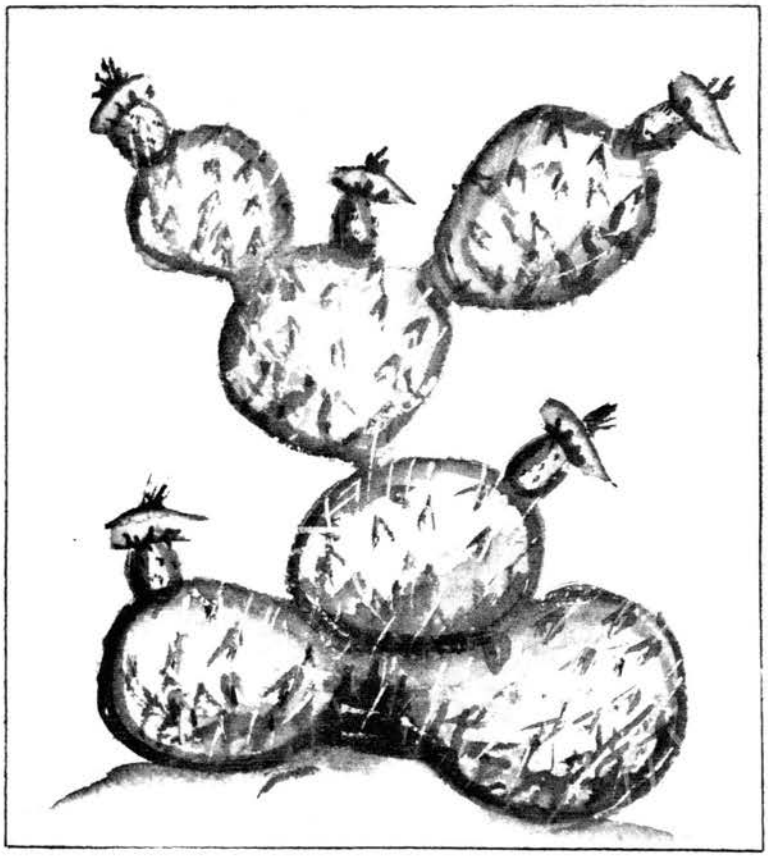
Alder

(Alnus Tenuifolia)

Prickly Pear

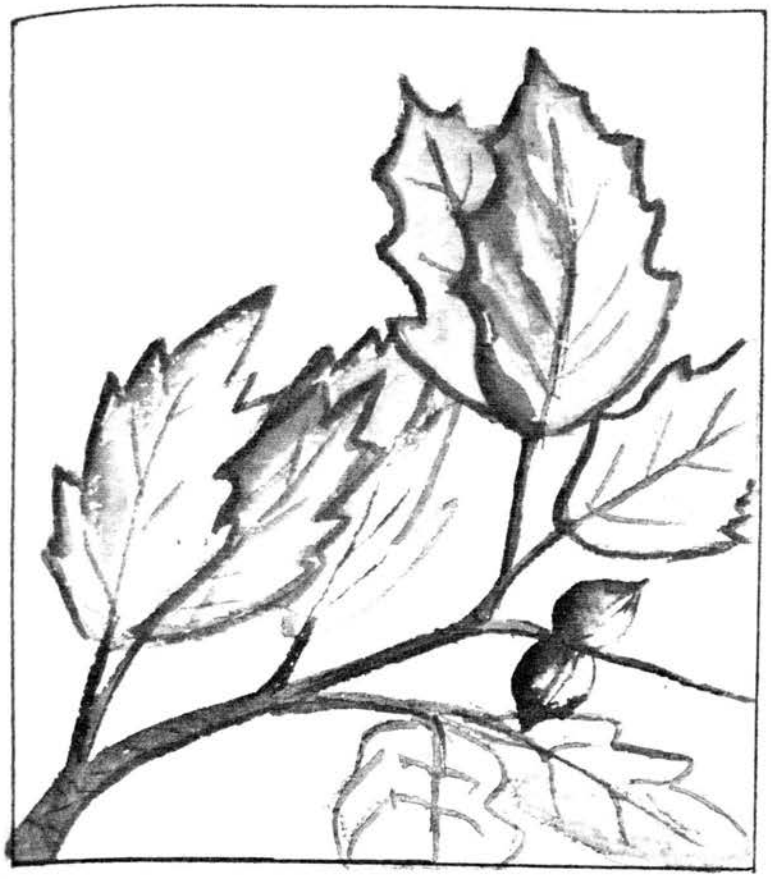
(Optunia Polycantha)





Black Walnut
(Juglans Major)

Larkspur
(Delphinium Scaposum)



Chamizo

(Atriplex Canescens)

Juniper, One Seeded

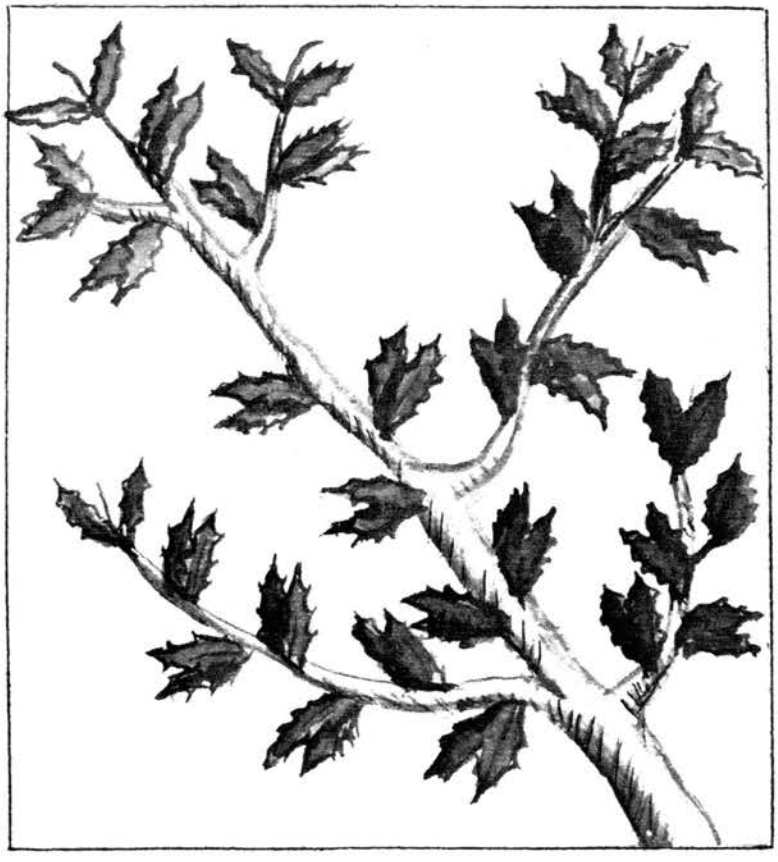
(Juniperus Monosperma)

Lichens, Ground

(Parmelia Molluscula)

Mahogany, Mountain

(Cerocarpus Montanus)

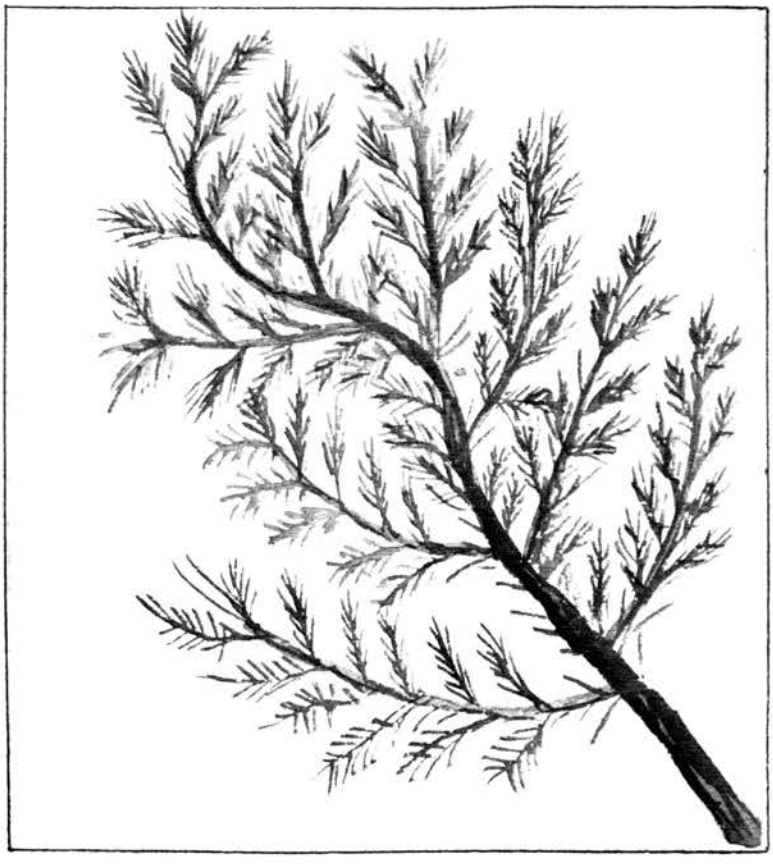


Navajo Tea

(Thelesperma Gracile)

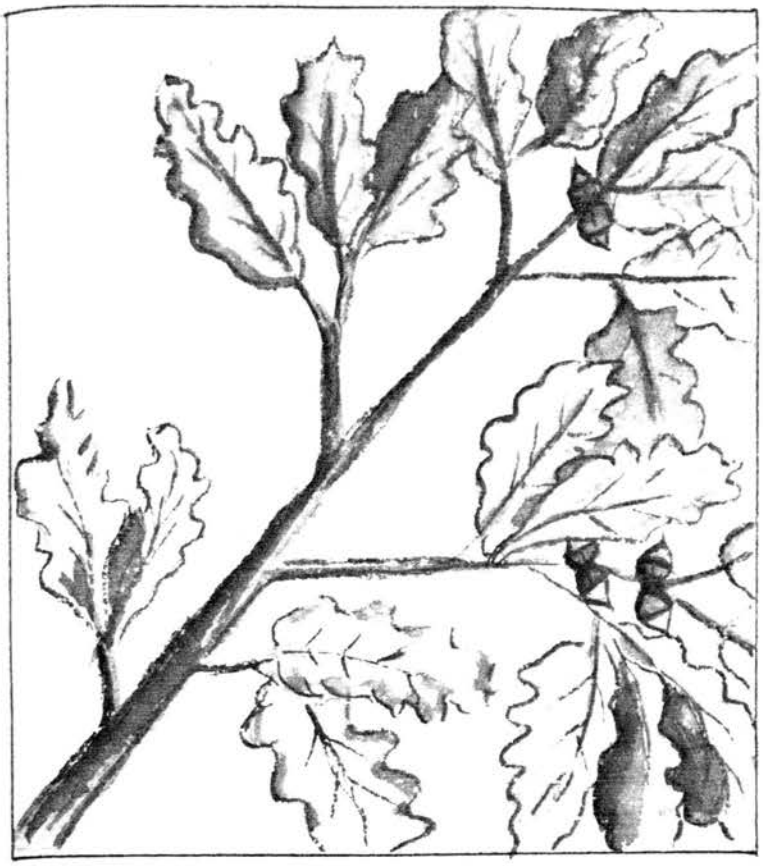
Sagebrush

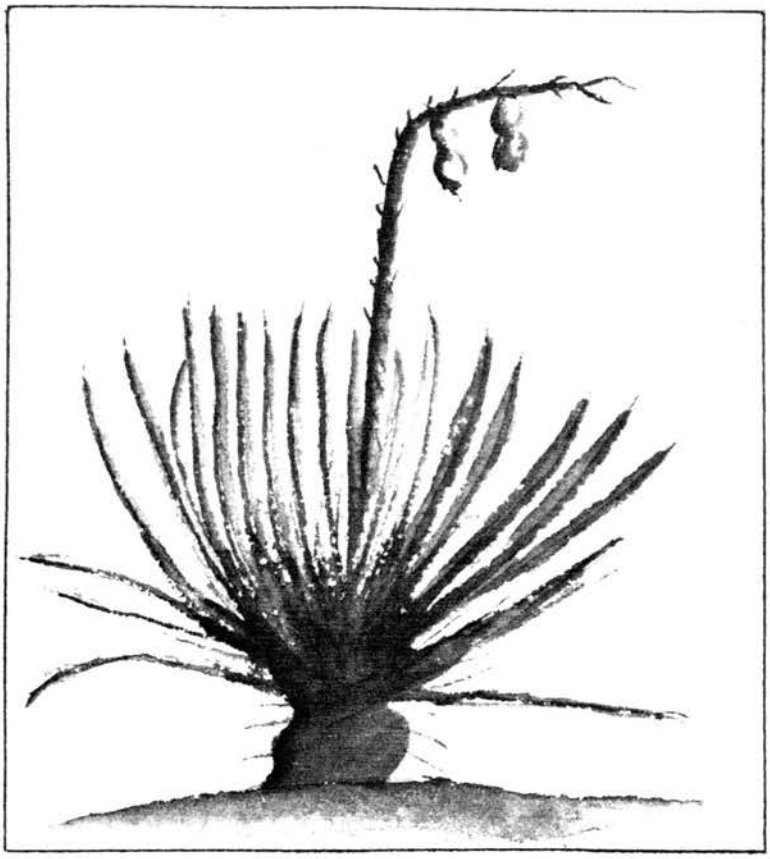
(Artemisa Tridentata)



Oak, Scrub
(Quercus Pungens)

Spanish Amole
(Yucca Glauca)





grows ten feet and higher depending upon the amount of moisture. The pitch which oozes out of the tree and collects on the bark is used as the mucilagineous agent in making black dye.[23]

Tea, Navajo (Thelesperma Gracile) is common in the timber regions, on the mountains and around the edges of cultivated land at high elevations if the moisture is sufficient. It grows from one to two feet tall and its orange blossoms appear in July. The leaves, stems, and flowers are used for dye purposes, and may be either fresh or dried. The Navajos twist the stems into small uniform rolls before drying. Dried Navajo tea that had been gathered the last of July produced orange dye.

Black Walnut (Juglans Major) is found growing in canyons in New Mexico and Arizona. It grows to a height of five and six feet or higher. The leaves, hulls and the whole nut are used for dye purposes and may be either fresh or dried. Rich brown dye was obtained from dried hulls that were gathered early in November. The dyebath was used a second time to produce a gray tan.

Fiber.

The fiber used in this study was four ounces of wool from the "Navajo Sheep" purchased from the Ft. Wingate Experiment Station, Ft. Wingate, New Mexico. By "Navajo Sheep" is meant a peculiar breed, the origin of which is mixed; but which is a favorite with the Navajo, especially the weaver. The staple is a long, wavy fiber free from grease. For marketing purposes crimpiness of the Merino or Rambouillet is a desirable quality which permits a heavier fleece than straight or merely wavy hair. However, for hand-carding and spinning, extreme crimpiness may be a severe handicap, for the craftsman must achieve with primitive implements and hand power that which wool manufacturers

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23 Gladys A. Reichard, Navajo Shepherd and Weaver. p. 29.

Dye Specimens

Ground Lichens

Undyed Yarn

Sagebrush, Raw Alum

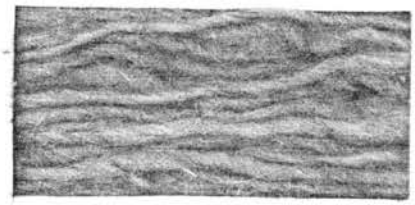
Chamizo, Raw Alum

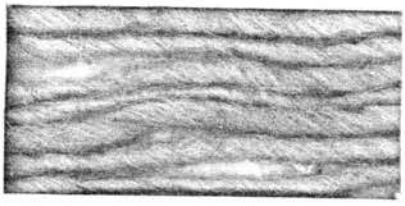
Oak Galls,
Raw Alum

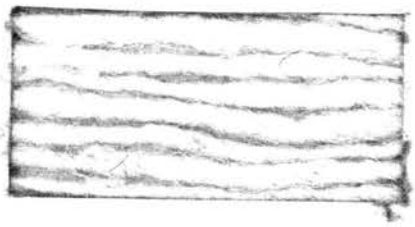
Juniper Leaves, Twigs
and Alum

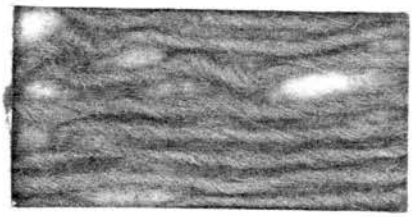
Black Walnut
After Dye Bath

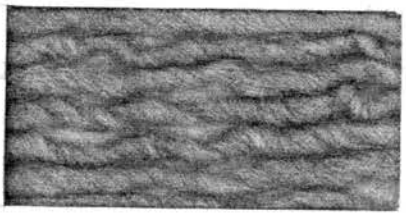
Cactus Fruit
Fermented

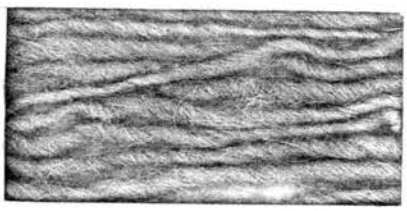












attain by means of complicated machinery and electric power.

Reichard, who has learned many weaves of the white civilization and has experimented with wool, says of Navajo wool, "The Navajo wool I have with all its sand and burrs is freer from oil before it is carded than the English wool that had been washed five times."[24]

Mordants.

Many native dyes require a mordant, often some acid substance, to fix the color fast. Mordants not only help set the color, but make possible a range of hues from the same dye concoction. The mordants used in this study are, native alum (aluminum sulphate), ashes from the green needles of the juniper, yellow ochre and pinon pitch. All of these mordants are obtainable on the Navajo Reservation.

Method of Procedure.

Extraction of Dyestuffs: Dye extract may be obtained from several parts of a plant or tree. The bark, flower, stem, leaf, fruit and sometimes the whole plant may be used for dye. The portion of the plant used for the dye extraction determines the procedure used.

To make dye from bark, one pound of bark was broken into small pieces and placed in an enamel ware kettle. The dried, broken bark was covered with three gallons of distilled water and allowed to set for twelve hours. The mixture was then heated to a boil and kept at a slow boil for from one to two hours. The dye solution was strained. The amount of dye solution remaining was about two gallons, and it was used while it was fresh.

Enamel or earthenware was used for all formulas except when gold or mustard colors were desired. Dye that yields yellow, yielded gold when an aluminum kettle was used. Dye that yields yellow green, produced a satisfactory

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24 Reichard, Op. cit., 28.

mustard color when an aluminum vessel was used.

When whole plants were used for dyes, one pound of the flowers, fruits, roots and stems were cut into small pieces and placed in an enamel ware kettle and covered with three gallons of water. The dye mixture was simmered for two hours. The dye extract was strained.*

The following dyes were obtained by fermentation: rose, from cactus fruit; burnt orange, from sumac berries; dull olive green, from Russian thistles; greenish gray, from larkspur; and any of the rose shades obtained from using prickly pear cactus fruit, combined with either mountain mahogany root or Navajo tea.

One pound of fruit was chopped, covered with two gallons of water and allowed to set for twelve hours before the dye was squeezed from the fruit. The solution was not heated because heating causes loss of color. This is the procedure that was used for preparing all dyestuffs that must be fermented.

Method of Mordanting: In this study, raw alum was the mordant used with Navajo tea, chamizo, juniper twigs and leaves, sagebrush, oak galls, and ground lichens. One-fourth cup of alum was added to the strained dyestuff, and the dyebath was boiled for ten minutes before adding four ounces of clean, wet yarn.

Black walnut hulls, mountain mahogany and black alder were dye plants used for dyeing without mordants. These dyebaths were used a second time to produce a lighter color.

Juniper ash water was prepared by adding two cups of boiling water to one cup of the ashes obtained from burning green juniper needles. This mordant was stirred, strained, and one cup of it was added to the dye extract made from mountain mahogany root bark. The dyebath was boiled fifteen minutes before adding the wet, clean yarn.

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* See charts on page 19 for dyes using whole plants.

Black dye made from sumac leaves and withes required yellow ochre and pinon itch. The procedure for the preparation of these mordants follows: One cup f yellow ochre was toasted to a cocoa brown color in a frying pan. Two and ne-half cups of pinon pitch were stirred slowly into the toasted ochre. The chre and pitch were stirred until they quit smoking and became shiny and of bluish gunmetal color. This mordant was added to the strained sumac dye olution and boiled two to three hours. The yarn was left in the dyebath for welve hours. A permanent black was obtained.

The afterdye water from black dye was used in making green dye. The yarn as first dyed yellow with sagebrush and then it was simmered for eight min-tes in the black dye afterbath.

Preparation of wool for Dyeing: The size of each sample dyed in this tudy was four ounces of wool yarn. Cleaning the yarn before dyeing is a ecessary procedure. The only soap the ancient Navajo knew came from the wo soap plant species, narrow leafed Spanish amole (yucca glauca) or wide eafed soap plant, Spanish latil (yucca baccata).[25] These plants are still sed extensively. Amole root is dug at any time when there is not too much rost on the ground and crushed before storing. Latil is dug, heated well ver a hot stove before it is dried and crushed. Heating produces a better ather. Latil may be used fresh.[26] The writer used a neutral soap and dis-illed water for cleaning the yarn used in this problem.

Navajos dry clean wool by using a native white clay (calcium carbonate) r gypsum of the selenite variety. The fleece is spread in the sun, shorn ide up. It is sprinkled with white clay or toasted pulverized gypsum. After

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25 E. C. Jerrell, Plants of the Southwest. pp. 20-48.

26 Loc cit.

thorough sunning the fleece is shaken until the dirt falls out.

Cream colored yarn is whitened by rinsing it in water to which has been ded white clay (calcium carbonate) or toasted gypsum. When used in this way, acts as a filler, and is not permanent to washing. Gypsum and carbonate e mineral products of the Navajo Reservation.[27]

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27 Teetsie, Personal letters, November, 1947.

A CHART SHOWING EXACT MEASUREMENTS, SPECIAL PROCEDURES, DYE PLANTS, MORDANTS USED AND COLORS PRODUCED.

Color	Dye Plant	Mordant *	Special Procedures
Yellow	1 lb. Chamizo leaves, twigs & blossoms. 3 gal. water.	¼ c raw alum	Boil 2 hrs. Leave in dyebath 24 hrs. Rinse.
Yellow	1 lb. sagebrush, leaves and twigs. 1 gal. water.	¼ c raw alum	Boil 2 hrs. Leave in dyebath 12 hrs. Rinse well. Nancy Woodman.
Light Gold	1 lb. Oak galls. 3 gal. water.	¼ c raw alum	Boil 2 hrs. Leave in dyebath 12 hrs. Rinse. Mrs. Sam Joe.
Light Orange	1 lb. Ground Lichens. 2 gal. water.	¼ c raw alum	Boil 30 min. Rinse.
Yellow Tan	1 lb. Juniper basts and twigs.	¼ c raw alum, 1 c Juniper ash water.	Boil 1 to 2 hrs. Rinse.
Orange	1 lb. Navajo Tea. 2 gal. water	¼ c raw alum	Boil 2 hrs. Rinse. Woodman.
Soft Brown	1 lb. Alder bark, (male tree) 4 gal. water.	None.	Boil 2 hrs. Leave in dyebath 24 hrs. Rinse.
Red Brown	1 lb. Mt. Mahogany, root and bark. 4 gal. water.	None.	Boil 2 hrs. Leave in dyebath 24 hrs. Rinse.
Rich Brown	1 lb. Walnut hulls. 3 gal. water. Let stand 12 hrs. Boil 1 hr. Strain.	¼ c raw alum	Boil 2 hrs. Leave in dyebath 24 hrs. Rinse.
Gray Tan	Second Dyebath from Walnut hulls.	¼ c raw alum	Boil 2 hrs. Leave in dyebath 12 hrs. Rinse.
Green Gray	1 lb. Larkspur petals 3 gal. water.	None	Do not heat, but place in warm room to ferment. Rub dye into yarn occasionally. Rinse. Miss Nonabah Teetsie.

*Mordants are added to strained dye solution and simmered 10 to 15 min. before adding 4 oz. of wet, clean yarn.

A CHART SHOWING EXACT MEASUREMENTS, SPECIAL PROCEDURES, DYE PLANTS, MORDANTS USED AND COLORS PRODUCED. (Continued)-

Color	Dye Plants	Mordant	Special Procedure
Green	Use Yarn, dyed yellow with sage-brush.	None	Dip in boiling black afterdye bath. Rinse.[1]
Rose	1 lb. Prickly Pear Cactus Fruit. 2 gal. water.	None	Ferment 1 wk. Rub dye into yarn often. Rinse.
Black	1 lb. Sumac, leaves and withes. 2 gal. water.	1 c Yellow Ochre, (toasted)[2] $2\frac{1}{2}$ c pinon pitch	Boil 2 to 3 hrs. Leave in dyebath 12 hrs. Rinse.

1 Most of the yarn was rinsed three times, or until the water was clear.

2 See Mordants, p. 17, for exact directions.

Findings and Conclusions Regarding Native Dyes

Dyeing with native dyes is slow and arduous. Many laws of chemistry are involved in the process and the Navajo learned these facts through trial and error. In addition to certain conclusions drawn from dyeing with the fourteen plants used in this study, the following general conclusions on dyeing with plant dyes are included:

1. The same species of plant grown in different sections of the country may give different shades of color. The shade of color may also vary from year to year from a plant grown in the same locality, and with the maturity of the plant. Matching of colors is difficult, and so the amount of yarn desired for a project should be dyed in the same dye concoction.

2. All dye plants may be used for dyeing with or without a mordant. The use of a different mordant, or varying the quantity of mordant used, produces a difference in the color given by the same plant.

3. Longer boiling of the dye with the yarn usually produces a deeper color. Occasionally the color is entirely changed. It is desirable that water be added to the dyebath to replace liquid lost during long simmering. Adding water to the dyebath prevents over concentration of dye and more even coloring results. Rapid boiling should be avoided in preparing dyestuff as it results in decomposition of plants and bark and cloudy dye extract results.

4. Allowing the yarn to remain in the dyebath twenty-four hours deepens and brightens the color. It is also believed that it produces a faster color.

5. It is necessary that most of the dyes be boiled with the yarn to produce the color. There are exceptions to this, however. Cactus fruit, some berries, and flowers lose their color when boiled. For this reason the dye is allowed to ferment into the yarn as explained in the recipes.

6. The afterbath yarn, or the second yarn dyed in the same dyewater is a softer, lighter tint of the same color.

7. Most of the plants may be used either fresh or dried. Since fresh
ts usually yield stronger color than when dried, less of the plant is re-
ed to produce the same color. Canyaigre root, however, is stronger when
d.

8. Dried barks, plants, and fruits should be soaked twelve to sixteen
s before using.

9. Yarns must be rinsed several times after dyeing to remove the unab-
ed dye. The temperature of the water should be lukewarm.

10. Some dyestuffs come into the dye concoction more readily if allowed
ferment before straining.

11. Yarn may be dyed more successfully than wool fabrics when the formulas
ire long simmering, because wool material may become quite felted.

12. It is desirable that distilled water or soft water be used in prepar-
dyestuffs. Hard water may cause loss or change of color.

CHAPTER III

THE DETERIORATION OF THE ART OF NAVAJO RUG MAKING AND ECONOMIC STATUS OF THE NAVAJO

The transition period in the history of Navajo rug making witnessed the radual transformation of the blanket, which had been an article of clothing for he Indian, into a rug, an article of home furnishing for the American. This eriod lasted about twenty years, from 1870 to 1890.[1] The reservation was then bout the size it is today.[2] White man believed that valuable minerals existed n the Navajo land so it was thought for a time that areas of the reservation ight be thrown open to White settlement.[3] But minerals were not found, and the avajo Reservation has grown steadily in area to keep pace with a constant trib- l increase in numbers and wealth.[4]

Besides the economic status of the Navajo in 1870, four things were respons- ble for the decline and change of the Navajo weaver's work. These were: 1. The ntroduction of Germantown yarns, 2. The commercialization of rug making, 3. he introduction of aniline dyes, 4. The introduction of cotton warp.[5]

The Introduction of Germantown Yarns.

At first, when Germantown yarn was introduced to the Navajo, the weaver took it upon herself to retwist the yarn and make it firmer and tighter. The

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1 Amsden, Op. cit., 170.

2 Kluckhohn and Leighton, Op. cit., 18.

3 Amsden, Op. cit., 185.

4 Commissioners of Indian Affairs, Navajos in 1869-1946. Washington, D. C.: Reports, 1869-1946. (Report lists 8181 Navajos in 1896, with a wealth of 30,000 sheep; 35,000 Navajos in 1946, with a wealth of 1, 370,000 sheep.) The first government issue of seeds and clothing was made in 1869 at Ft. Wingate.

5 Amsden, Op. cit., 175.

result was that the earlier woven Germantowns are almost as good as the yarns made from Bayeta or native-dyed wool. The earlier Germantown yarns were dyed, as were the English Bayetas, from old vegetable and other dyes of tested quality and the mordants were as carefully chosen as the dyes.[6]

A detremental influence was introduced when the weaver could purchase yarn ready-made instead of being compelled to make it herself. When the Germantown yarns began to be dyed with aniline dyes they lost their old-time charms. They gave to the civilized world more gorgeous, brilliant hues that dazzled their eyes as well as those of the Navaje weavers.

While the general effect of the introduction of Germantown yarns was to produce deterioration in the art of rug making, some of the weavers profited financially. The marvelous increase in variety of colors, and the ease with which the weavers procured the yarn ready for weaving seemed to stimulate quantity rather than quality. Some exquisite specimens of Germantown blankets come to us from this period of deterioration.[7] However, the market became so great that the Indian sacrificed the beauty and quality of his old art craft for profit.

The Commercialization of the Art.

Commercialization of rug making was the determining factor in the art's downfall. The first injury, although not intentional, came from traders who desired to increase the Indian's productiveness. In the year 1884, C. N. Cotton joined in partnership with J. L. Hubbell, an Indian trader, who was established at Ganado, Arizona.[8] The following year these men purchased approximately 400 pounds of rugs. These were the common, straight pattern type

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6 Amsden, Op. cit., 178.

7 Ibid., p. 179.

8 Loc. cit.

and were purchased or traded for at about two dollars each.[9]

During the year, 1886, Messrs. Hubbell and Cotton began to see possibilities in the rug business. While the finer quality of native wool, native-dyed blankets, and also those of Germantown yarn were being made, practically none were being offered for sale or barter to the traders. Mr. Cotton began to urge the weavers to bring in more blankets of the better qualities, and also to make more of the common grades. These traders built up a good business. The Navajos were glad of the increase in their income, and the fact that Hubbell and Cotton purchased all the blankets the weavers brought in was soon known over the reservation. Two new and disturbing elements were at hand. These were the introduction of aniline dyes and cotton warps.[10]

The Introduction of Aniline Dyes.

In 1885, Mr. B. F. Hyatt, who was the post trader at Fort Defiance, Arizona, introduced aniline dyes and taught the Navajo women with whom he traded how to use them. Mr. Cotton wished to do the same at Ganado. The Navajos already had commercial indigo and most of the old blankets in which blue is the predominating color date from the early eighties. The indigo was purchased from the Mexicans or from the traders.[11]

In the winter of 1886-1887, Mr. Cotton succeeded in having a manufacturer put up, ready for use, a quantity of aniline dyes. He instructed the weavers how to prepare the dyes and then encouraged them in the making of various and individualistic designs. He and Mr. Hubbell took particular pains with those weavers who showed artistic and inventive skill; and instead of buying the product of their looms by the pound, they were purchased by the piece. The

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9 Amsden, Op. cit., 178.

10 Ibid., p. 179.

11 Ibid.,p. 185.

price was proportioned to the tightness and fineness of the yarn, the cleanliness of the wool, the color scheme, the individuality of the design and the closeness of the weave.[12]

Thus was begun the trade in modern rugs. The demand for Navajo rugs increased rapidly. The traders could not obtain enough to supply their customers.

The Introduction of Cotton Warp.

To hasten the manufacture of more rugs, the traders themselves introduced a cotton warp which they sold to the Indian at a low price. Thus relieved of the trouble and labor of making wool warps, rugs were made more easily, and more cheaply than before. Soon a great demand for the cheap rugs was created. Urged to greater productiveness, the Indians failed to clean the wool. They had neither the time to scour and wash it, remove the burrs, nor to extract the dirt, dust and grease. Such wool as this never takes the dye properly. Rushed to complete her task, the weaver spun her dirty, greasy, poorly carded, imperfectly-dyed wool into the loosest, thickest, and coarsest kind of yarn, and then wove it hastily and indifferently into the cheap and flimsy cotton warp in poor designs. She was eager to get it into the trader's hands and to receive her pay.[13]

Even in the case of the Germantown yarns, cotton warps were used; and although the designs were better than in ordinary rugs, the work was hastily done, not thoroughly battened down, and consequently the flimsy warp would not stand the wear and tear of daily use.[14]

About 1900, the Hyde Exploring Expedition was organized to explore the Navajo Reservation by Mr. B. T. Babbitt-Hyde and his brother. They became so

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12 Amsden, Op. cit., 186.

13 James, Op. cit., 48-49.

14 Ibid., p. 49.

much interested in the Navajos and their art that they were determined to help enlarge their output of rugs by opening up large depots in American cities to dispose of all the rugs the Navajos would weave. Unfortunately, all of their traders were not imbued with their high purpose, and before they could prevent it, the heavy demand for rugs was bringing in a flood of inferior work.[15]

The public refused to buy this inferior work. As an art, Navajo weaving was doomed unless something was done. The conscientious traders purchased few or none of the poorly made products. The flood of inferior rugs enabled the Hyde Expedition to offer for sale through their various stores, not only the very highest specimens of the Navajo weaver's art, but also the very lowest.[16]

The magnitude of the Hyde Exploring Expedition, with the accompanying publicity, aroused public interest in the Navajo Indian and his rug making, and resulted in a greater market for the product of his looms. Since the expedition was unable to cope with this increased market and inferior rugs, it sold out to Mr. J. W. Benham and his associates in 1903.

Mr. Benham speedily established a new rug business upon a sound footing. The public was now well informed regarding the Navajo rug art, and demanded good rugs or none, and in that insistent demand the art found its chief and surest safeguard.[17]

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15 James, Op. cit., 49.

16 Ibid., pp. 49-50.

17 Loc. cit.

CHAPTER IV.

INFLUENCE OF TRADERS AND INTERESTED WHITES IN REVIVAL STYLE OF NAVAJO RUG MAKING

Each period of Navajo rug making has rested upon an economic basis, and each has been molded to the needs of the time. This craft is an industry, and like all such, its existance depends upon a human want.[1]

The first cycle was the native period in which the product of the loom was clothing for the tribe. The Navajo rug came into being because the American demanded a textile meeting his needs and satisfying his graphic concepts. About 1920 the American public was coming to a better understanding of the Indian's racial heritage and began urging a revival of the once-despised native styles in rug making.[2]

Miss May Wheelwright, then secretary to the Boston Branch of the Association of Indian Affairs and owner of an Indian Arts Shop, started the movement of revival.[3] Miss Wheelwright made a trip to the Navajo Reservation in 1920. In the account of her trip to the Commissioners of Indian Affairs, she writes:

> Blankets are ugly, have lost their Indian quality in design. The colors are gone almost entirely. The public prefers undyed wools to commercial dyes. The best weaving is in brown, gray, black and white. The designs are elaborate, suggested by rugs and linoleum seen in stores.[4]

As a result of this report Miss Wheelwright worked with Mr. L. H. McSpadden at Chin Lee, Arizona to revive some native dyes and some of the old designs. She borrowed old blankets and rugs, printed out the designs and roughly sketched in the colors. The first colors Mr. McSpadden revived were greenish yellow from rabbit brush, a good black, a good brown, and red brown from

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1 Amsden, Op. cit., 160.

2 Ibid., p. 162.

3 James, Op. cit., 45.

4 Commissioners of Indian Affairs, Annual Report. 1920, p. 87.

cedar bark. Miss Wheelwright sold these native-dyed rugs as soon as they could be produced. Prices were higher because native dyeing required more time.[5]

In 1922, The National Association of Indian Affairs was instrumental in sending a U. S. Public Health Officer to the Gallup, New Mexico Indian Reservation to fight trachoma. In that year an Arts and Crafts section was incorporated in the Indian Bureau. An official, whose duties were to stimulate all native crafts and develop a market for them, was appointed.[6]

Margaret McKitterick Burge, Field Investigator for the National Association of Indian Affairs, started the movement to educate the Navajo Indian as to the colors and designs of the old style rug. Sketches and photographs of specimens of blankets were taken from the best collections all over the country. These sketches and photographs were enlarged and distributed to good weavers throughout the reservation.[7]

As soon as the designs were distributed it was found that it was impossible to approach the colors indicated in the photographs. The matter of dyeing was taken up with Miss Lucy S. Cabot of Boston. Miss Cabot had studied dyeing for years. She collected some old blankets to give ideas of colors. She consulted Mr. Walter Heintz of the Dupont Company, who recommended a series of dyes using 28% acetic acid as a mordant. The colors were beautiful, easy to mix and inexpensive. The process of dyeing was a simple one.[8]

In 1932 Miss Cabot made a complete tour of the Navajo Reservation from the Santa Fe Indian School to Shonto, Arizona. One old weaver remarked that

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5 Commissioners of Indian Affairs, Annual Report. 1932, p. 7.

6 Ibid., p. 10.

7 Loc. cit.

8 Commissioners of Indian Affairs, Annual Report. 1930, p. 12.

the old time vegetable dyes were mixed just like the new ones, by adding a little dye at a time until the desired shade was obtained.[9]

Miss Cabot reported of her trip, "I am convinced that just as beautiful rugs can be woven today as were in the past. It is entirely a matter of education and appreciation."[10]

Experiments were made with both native and commercial colorants. Buyers and traders liked the finished products of both the native and the Dupont dyes. Both kinds of dyeing were rather long processes. The Navajo understood the use of native dyes. Life in a Navajo camp did not warrant the fine chemical adjustments that were required in using the Dupont dyes. These dyes required the use of 28% acetic acid, a harmful product, as a mordant. Anyone familiar with the interior of a Navajo hogan knows well that there is no corner or crevice safe from the prying eyes and hands of the children. This was one overwhelming reason against the enthusiastic adoption of commercial dyes. As stated earlier in this chapter, the Dupont dyes were inexpensive, and if viewed from a white man's income and nearness to market, this is true. However, it must be remembered that the Navajo lives many miles from commercial trading centers and his yearly cash income is from one-fourth to one-fifth that of his white brother.[11] The final reason against the use of Dupont dyes had to do with the manufacturers themselves who were restricted by patent rights.

The period of the early thirties was a thriving one for all handicrafts. Many had no employment and very little money. The work with native dyes progressed. Traders backed the movement, fairs were held, prizes were offered

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9 Commissioners of Indian Affairs, Annual Report. 1930, p. 12.

10 Ibid., pp. 14-15.

11 Kluckhohn and Leighton, Op. cit., 25. (The Navajo Indian's income per capita in 1940 was $82 against $473 per capita for the State of Arizona, and $579 for the Nation as a whole.)

for the best blanket, vegetable dyed, and of native pattern, displayed at the International Indian Ceremonials at Gallup, New Mexico. This movement was begun in 1930, and the 1932 prize winning rug was bought straight from the judges' hands by the Denver Art Museum.[12]

Under the double stimuli of private encouragement and commercial demand, much of the old-time technique of native dyeing has been called to life. Mr. McSpadden, the pioneer, has reported that more than sixty per cent of all blankets purchased by him were of this type.[13] Not only has native dye been revived, but experimentation has more than doubled the variety of materials used and the colors produced.[14] The weavers learned that almost any color in plants can be transferred to wool with very little loss in value, if the proper method is used.

It is a well known fact that native plants seldom yield violent shades. Their hues are usually delicate pastels which fit readily into any color scheme. There has been close supervision on the part of the large buyers of Navajo rugs over all experimentation. The Navajo women producing the colors or dyes are experienced and intelligent beyond the average. They respect the old traditions in Navajo weaving. They know that the modern trend was fostered in reverence for the sound craftsmanship and artistry of former days, and they will not debauch it unless the trader insists.[15]

Traders, such as Fred Harvey, whose principal rug exhibit is at Albuquerque in the picturesque Santa Fe depot have done much to improve the rug art. Mr. Harvey has collected every old blanket and rug of superior

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12 Amsden, Op. cit., 230.

13 Ibid., p. 231.

14 Commissioners of Indian Affairs, Annual Reports. 1930, p. 22.

15 Ibid., p. 23.

worth that could be found. Money has been no object, and his collection is notable. He, with Mr. Cotton of Gallup, New Mexico; Mr. Hubbell of Ganado, Arizona; Mr. Manning of Ft. Defiance, Arizona; and Mr. McSpadden of Chin Lee, Arizona have done much to educate the Navajo back to good art in rug making. These dealers demand good rugs, but they pay fairly for them.[16]

In 1932, the Arts and Crafts Board was organized under the supervision of the Educational division of the Indian Service. The purpose of the Board was to foster native crafts among all Indians and to promote the idea that Indians should be paid fairly for a good piece of work. The Arts and Crafts Board labeled products as Indian made, of authentic design, and as to the materials used. Perhaps the greatest achievement of the Board was the establishment of a definite course of instruction in native crafts in all government supported schools where Indians are taught.[17]

In the past, Indian children enrolled in government schools were discouraged from speaking the language of their tribes or from participating in native ceremonial dances and customs. These practices are now encouraged in order that Whites and Indians of other tribes working with the young Indians might better understand the Indian's cultural background. The Indian Service did not stop at educating the young people in crafts and Indian culture; adult Indians were given encouragement, instruction, and even financial assistance when it was evident that such assistance would further a worthy Indian craft.[18]

No tribe has benefitted so greatly from the work of the Arts and Crafts Board as has the Navajos, because their rugs have always been one of their chief sources of income. They had a craft that had been known to the public

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16 Commissioners of Indian Affairs, Annual Reports. 1930, p. 24.

17 Ibid., p. 26.

18 Loc. cit.

or decades. The Board aided the Navajo to realize expression in his native raft such as he had never achieved with factory dyes and catalog patterns. ature created the colors of the Navajo country, and it is the use of these olors that reflects the beauty of the Southwestern desert and produces rugs hat are sought by the most discriminating buyers.[19] Instead of a threat to avajo art, most thoughtful observers see in the revival style of soft colors nd simple designs, a great promise for the future of the craft. This new tyle textile is winning a host of friends because it has a score of uses. The revival style" rug is colorful enough for the summer cottage and the den, sub- lued enough for the boudoir, striking enough for the modernistic interior.* nd simple enough for the old-fashioned period setting. It is a rug, or a anging, as one may prefer; for like the old-time blanket, the new type rug as sufficient weight for service on the floor, yet it is not too stiff and eavy for more flexible uses. The above are practical considerations, but uch art that has survived from generation to generation has possessed a de- gree of the practical as well as the aesthetic. Backers of the 'revival move- ment' worked diligently through the thirties. They knew that art in the mass must pay its way. Through writing, lectures, and education they were able to aid this thoroughly industrialized craft of Navajo rug making in throwing off its shackles and emerging as a joyous art and sound industry.

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19 Amsden, Op. cit., 179.

* Morris Burge of Marshall Field and Company, Chicago saw great possibilities in the "revival style" rug for use in modernistic interiors.

Navajo Weaving

(Double Faced Blanket)


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CHAPTER V

THE FUTURE OF NAVAJO RUG MAKING CULTURAL AND ECONOMIC

Any study of an aboriginal craft which became a modern industry cannot be closed without a glance into the future; for studies of the past have little value unless they serve to illuminate the road ahead in some measure. Some authorities see the future of Navajo rug making as a race between two forces. One of these is the Americanization of the Navajo; the other is the education of the American in the Indian's cultural patterns.[1] These two forces are mutually antagonistic; the first working against the craft, the second for it. It is well to examine both forces as they appear today.

The Navajo rug industry of today is one the economist would call "marginal." It requires favorable circumstances to produce profitable activity. The circumstances are spare time and cheap wool. Traders noticed long ago that most of the weaving is done during the long, idle days of winter. Traders also learned that cheap wool and 'hard-times' stimulate rug making because wool in rug-form brings more money than wool in raw-form.[2]

Amsden says, "The Navajo woman weaves when she has nothing better to do."[3] Other writers say that Navajo women wove as they tended the sheep, or for pastime, as American women knit or crochet. It could scarcely be expected that a purely pleasureable avocation would ever yield a million dollars' worth of rugs annually. Whatever is the underlying reason for weaving, the price of the rugs is the weaver's reward for her work. The reader must keep in mind that while some Navajos make rugs for a pastime, there are others who weave for

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1 U. S. Indian Service, Indians at Work, XV (1940) 10.

2 Kluckhohn and Leighton, Op. cit., 28.

3 Amsden, Op. cit., 236.

a livlihood. The reward of this vocation is low indeed. Two instances make this point clear. After the First World War wool in raw form brought a higher price per pound than rugs of average quality commanded during the thirties.[4] Second, in 1932, the Shiprock Trading Company made an experiment in the economics of weaving. They hired one of their experienced weavers to come to the store and weave by the hour. The project rug was 2½ by 5 feet in size and of simple pattern. Appraised at a fair value, the rug was worth about twelve dollars. The weaver's wages at twenty cents an hour had cost them forty dollars and eighty cents in addition to the cost of the wool. The weaver really had been weaving rugs at five cents an hour.[5]

There is another point where the two forces clash. Navajos today attend school, work for Americans for good wages, drive automobiles, and enjoy many of the conveniences and even the luxuries of modern life. How long will the Navajo woman consent to toil for a wage of five or ten cents an hour? How far has the American's appreciation of the Indian's art craft progressed? Is it far enough to keep the woman at her loom by paying her a fair wage for her work?

Some authorities are of two minds about the matter. The "revival style" has raised the general standard of workmanship and increased the weaver's reward. The Arts and Crafts Board has proved that a quality market exists, but there must be a steady flow of quality production to satisfy a quality market. There are powerful factors on the other side of the contest.[6] The Navajo is participating in oil royalties, and if affluence comes, the old ways will

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4 W. W. Beatty, Education for Action, pp. 38-45.

5 Amsden, Op. cit., 236.

6 Beatty, Indian Education, p. 26.

vanish. The Osages of Oklahoma demonstrated this years ago when they first received oil royalties.[7]

In government schools, the Indian missions, and elsewhere, an alluring picture is spread before the Navajo urging him to be like a White man. Even in the growing sympathy for the Indian's Rug Art, there is a danger of its disappearance. America has always assimilated the native cultures of those alien groups to whom the heartiest welcome was extended. Surely the end of Navajo rug making is in view. The question remaining is, when will it come?

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7 Commissioners of Indian Affairs, Annual Report, pp. 7-87, 1930

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