were used. After the coming of the railroad, pieces of rails were used and still are used by many smiths. An anvil was fastened to the top of a large log cut to the right height for comfortable work.

Crucibles

The early crucibles for melting silver were made of clay and baked hard in a fire. They were about three or four inches in diameter and had an outward curved rim and one or more spouts. These were not very durable and were replaced by commercial crucibles when these became available. Some smiths have found that cup-shaped pieces of prehistoric pottery from a ruin, served the purpose and were more durable than any.

Molds

Some molds are made of ingots for casting a bar of silver to be worked into a bracelet or other ornament. Molds for making casts are incised in a soft stone, preferably pieces of volcanic tuff, a very light pumice-like stone which is found in several places on the reservation. All molds for casting are greased with mutton tallow. Molds for beads are cut into iron or hard wood, smooth surfaced, so that the silver coin or sheet can be pounded into the depression, making a spherical half of a bead. Later two of these are soldered together to make the round bead.

The incised pieces of tuff for casts are cut to approximately the right size and shape and the surface perfectly smoothed. A cover piece is then fitted to each mold,

making as tight a fit as possible. Grooves are cut at one end of the incised piece to permit the entry of the molten silver, while two or more grooves are cut for air passages.

Smelting Fuel

Charcoal has always been used for smelting fuel. It is prepared during the summer months by making a large fire of piñon or juniper branches. After the flames have died down and only glowing embers remain, the coals are smothered with earth and allowed to cool.

Blowpipe

Originally the blowpipe was hammered out of a piece of brass or copper wire, bent into a tube with a curved, tapering end. It was used in soldering with a lamp or wick of twisted cotton soaked in tallow. The modern blow torch is a highly prized tool used today by most smiths. Some ingenious individuals have fashioned torches from cans by fastening a spout on one side and an opening on the opposite side into which a rubber tube was fastened. Blowing through the tube produced enough pressure to blow the flame out of the spout.

Solder

Solder is used with borax as flux to make it flow more smoothly.

Materials

Some of the very early smiths worked in copper and brass, making rings and bracelets. The first silver to be used was American coin silver, melted and fashioned to the desire of the craftsman. When the United States Government put a stop to the use of coins for this purpose, some time

in the 1880s, the traders soon procured Mexican pesos in their place. The Navaho smiths preferred the peso silver, for it had less alloy and was somewhat softer. As the traders began to buy jewelry to sell, they provided silver in one-ounce slugs in quality of fineness approximately that of the coins.

Stones

Turquoise first was used in the 1880 period. The traders procured stones from the mines near Santa Fe, and later from mines in Colorado and in Utah. Sometimes there were stones already cut, sometimes in chunks that must be shaped and polished. Early stones were set in deep bezels, with the edges coming slightly over the top of the stones, holding them securely in place. As craftsmen acquired greater skills they were able to set stones in a lower setting. Other kinds of stones also were used, malachite, garnets, cannel coal.

Cleaning

The Navaho like their silver well polished. Cleaning used to be done with native alum, then polished with buckskin, but today it is cleaned by dipping in a diluted solution of nitric acid, then put in a bowl of water and brushed with a wire brush. It is buffed either by hand or with a buffing pad attached to a grindstone, with the pad well covered with jeweler's rouge.

The skill of the Navaho craftsman lies in his ability and judgement in all phases of his work. Sprinkling a little borax on the silver as it melts, reduces the melting point; it

never wastes anything; he always seems to find a way to put worn out scraps to use. And seldom does he ever make two pieces alike; there is always a difference, giving his work that unmistakable quality of hand work, and the uniqueness of Navaho design.

The Navaho learns the techniques and methods of his craft from watching another smith. This is usually a relative, and an apprentice pays for his instruction by helping his teacher as soon as he is able. In rare cases when a man is learning from a non-relative, he pays for his apprenticeship in sheep, or cash, or some other way. The Navaho, when he does not have the money to buy the tools he needs, shows great ingenuity and resourcefulness in his ability to fashion such tools from old or other material.

ARTICLES OF JEWELRY

Conchas

The round or oval disks made for ornamenting belts and bridles. Sometimes very simple, sometimes ornate with design or turquoise studding.

Buckles

Silver buckles for belts and bridles; metal buckles for girths.

Bridles

Headstalls mounted with silver bars with various degrees of ornamentation. Conchas are sometimes used at joints with larger bars, sometimes a pendant from the cross piece over the head of the horse.

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There are many other types of necklaces; strings of turquoise, of shell ground into very fine beads; strings of coral.

Rings

The earliest rings were plain silver bands; soon some had simple incised designs. The use of turquoise appeared in the early 1880s. Some cast rings are made. Most rings now have insets, usually turquoise, but also malachite and garnets, or cannel coal, occasionally polished petrified wood.

Pins

There are pins of many shapes and designs, both with and without turquoise.

Earrings

Several types of earrings are made. Round circular hoops with unfastened silver beads strung on the hoops which move. Flat slightly decorated rings; pendants, narrow cone-shaped with spreading flowerlike petals at the ends. The most widely used earrings for men are pieces of turquoise, drilled at one end for the insertion of string to be attached to the ear.

Buttons

The variety of buttons is great, both hammered silver as well as cast. There are many sizes and many shapes. Buttons with small turquoise insets; plain silver disks, some with incised designs. Coins are often used which have loops soldered on one side. Buttons are used as ornaments of collars, cuffs, blouses, leggings, moccasins; on pouches and narrow leather straps.

Unusual Pieces

The Mother-in-law bells are made from quarters hammered to thin bell shapes by pounding a round-headed bar into a corresponding receptacle of hard wood or iron. Small clappers are fastened to the inside. A bell is fastened to the end of a short string of beads. These are made for older women who wear them on their belts to notify their sons-in-law of their approach.

The Powder Horn was a gracefully designed receptacle to hold a charge of powder. It had a handle on one end, the whole object being shaped like an elongated letter "S". A small chain was fastened to the center for attachment to a belt. When bullets were available, powder horns were no longer made, and as many were probably melted down to make other articles, they soon became very rare.

Tobacco Canteens were beautiful small containers, seldom made any more, and there are only a few in existence, mostly in museums and private collections.

A variety of other pieces are being made today for sale to the American public, such as spoons, silver boxes, and a number of other articles.

When the Navaho Arts and Crafts Guild was founded in 1940, under the direction of René D'Harnoncourt of the National Indian Arts and Crafts Board, the first manager was John Adair, whose keen interest in and knowledge of the products of the Navaho weavers and silversmiths made him the ideal person to commence this activity. Ambrose Roanhorse, one of the most skilled Navaho

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Blood must never touch a ceremonial basket. Should this taboo be broken, harm will come not only to the maker, but also to the singer who used it. In silversmithing, the craftsman must not make certain pieces of jewelry while his wife is pregnant or some disaster will occur.

Other crafts pursued by the Navaho are many kinds of leather work, both decorated and plain, saddles, shoes and moccasins, pouches, straps and belts, hobbles, quirts and ropes. In early times the Navaho became good tanners, for they made shields and spears, quivers for their arrows, leather cap-like helmets. To whatever craft the Navaho turns talents, he will execute it with skill and dexterity.

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Here also he established a post, perhaps the first to deal directly with the Navaho, for here he traded horses for blankets, then greatly in demand by the Mormans of Utah.

The Trading Posts

When the Navaho returned from Fort Sumner to that portion of their old land allotted ~~to~~ them by the treaty of 1868, trading posts were soon to play a vital role in their lives. By the early 1870s Mormon traders were coming down from Utah establishing contacts for trade at the San Juan and Colorado Rivers. John D. Lee initiated in 1874 a ferry which crossed the Colorado not many miles above the Grand Canyon. Insert Long in use, Lee's Ferry was not abandoned until 1926 when the Navaho Bridge, built at this site, linked the Navaho Country with North Central Arizona and Southern Utah. Licensed by the Government Agent at Fort Defiance, traders began to appear as the Navaho produced wool and blankets. Few in number at the beginning, traders increased in proportion to the volume of Navaho production. Strict rules of trade were imposed by the Government when licenses were issued, and with but few exceptions, the trader never owned the land upon which his post was built.

The pioneer trader was a rugged individual, able to survive in remote areas under the most primitive conditions. He had to build what he needed, to be able to fix anything and everything, and through the years has taught many Navaho necessary construction and mechanical techniques. Built of stone, adobe bricks, occasionally of logs, the old trading posts consisted of one or more buildings with sheep and horse corrals nearby. In addition to the store, there was usually a barn, a storehouse, sometimes a visitors' hogan for the use of Indians who lived far away. Some of the old posts had only one large room with a dirt floor. Around three walls were shelves reaching to the ceiling, stocked with goods of all descriptions. In front of the shelves, and separated from them by a passageway, were high, wide counters, built so for protection as well as use. Beneath the counters were shelves for

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in early days

an assortment of articles, tools and a weapon or two in case of need. In the center of the room, or to one side, a large old fashioned iron stove gave warmth in winter, and along the remaining wall, were benches to accommodate the customers. Hanging from the ceiling were coils of rope, lanterns, buckets, bridles, harness, and other items of trade. For sixty years many trading posts were in isolated spots, far removed from worldly contact. There were few roads, usually bad ones, often impossible to travel at certain times of year. Horse or mule drawn wagons were the only means of carrying supplies or delivering goods for sale.

There are many legendary personalities among those early traders on the reservation: Keem, the Hubbells, the Wetherills, the Hyde brothers, (who were the first to send hides to the eastern market) C.N.Cotton, who saw a potential market for rugs in the east, Sam Day, McSparron, Staples, the Newcombs, Bruce Bernard and others whose names are synonymous with the posts they held. Off the reservation there were the Kirks, the Fred Harvey Co., and a few others.

The traders' abilities were legion. They had to speak a most difficult language, they had to be shrewd business men on order to exist, they were pioneers in every sense of the word. As the Navaho of these early times seldom had cash with which to make their purchases, a credit barter system was devised whereby a Navaho could place certain items of his possesion, chiefly his jewelry, in pawn until that time of year when wool or sheep were sold.

Each trading post was, and still is, a center, like the hub of a wheel, the outer circumference being perhaps twenty or more miles away. To these posts the Navaho have been coming to trade for nearly a hundred years, bringing their produce to exchange for goods they desire or need. They bring wool at shearing time, sheep and some cattle at fall roundup time, hides, piñon nuts, hand made jewelry, woven blankets and rugs.

trading post is where Government Officials come to set dates for spring branding and dipping of sheep, for farm demonstrations, to post notices, and it is the trader who interprets Government regulations and who makes contacts between the Government officials and individual Navaho of his region. And it has been the trader who established outside markets for rugs and jewelry. By and large, the trader has been the best friend the Navaho have had over a long period of time. It has been to the trader that the Navaho has gone for help in time of need, for many a trader has driven miles in good weather or bad, by day or night, to take sick Navaho People to the nearest hospital. There have been a few exceptions where exploitation or unfairness in trade have taken place, but such traders soon disappeared, for the shrewd Navaho quickly detect these practises and simply go elsewhere for their business.

During the past thirty years road improvement has progressed with increasing rapidity until today, new paved roads link the major sections of the reservation. Distances seem to have shrunk as trucks today travel one hundred miles in two hours, where not long ago, they took two days to make the same trip.

The trader's influence has been great, depending on the way he has conducted his business, his attitude to his customers, and his interest in them and their mode of life. In all activities both in the store and out, the trader's actions are observed and noted. He must be ever on the alert for values for the Navaho loves the game of trading and trying to get the best of any bargain. Spending time in a trading post, watching the comings and goings of the many people who appear daily, is a fascinating experience. Navaho People come in to the post, quietly greet those they know by a gentle touching of hands, then sit on the benches for a long time considering what to buy. One will finally go up to the counter, and pointing to an article, put

down the money for that one item, or if he is pawning jewelry, the trader lists each purchase. Following another long interlude of consideration, this will be repeated. Sometimes individuals will stay at the post all day before the final lot of merchandise has been acquired. Always there is purchase of tobaco, (in early times there was a box of loose tobaco on the counter for free samples), the purchase of candy for children, of pop, as the day proceeds. They observe everything, listen to all conversations, deliberate. When they go home they will remember everything that has transpired.

In every post there is a special place, sometimes a vault, often a small room, where pawned jewelry is kept. Items are ticketed with the owner's name, the date, and the amount owed. Most traders keep jewelry in pawn longer that the legal time of three years for the owner to redeem it. Then it may be placed in a case as "dead pawn" for sale to any who will buy. The traders are more than fair about this transaction. I recall an instance when I had been requested to buy some dead pawn for a shop. One piece was a particularly fine concho belt. In had been dead pawn for over ~~two~~ Three yearsrs. Six weeks after I had bought it, the original owner had ridden over fifty miles to redeem his belt. He was crestfallen to find it gone. The trader took the time and trouble to write asking if it had been sold and requesting its return. Fortunately it had not and the Navaho redeemed his prized possession.

Probably the most famous trading post is the Hubbell Post at Ganado, Arizona. This is one of the exceptions where the land was homesteaded by Don Lorenzo Hubbell, for at that time, 1876, this land was not a part of the reservation. Don Lorenzo, the son of a Connecticut Yankee and a Spanish mother, purchased a store built six years previously at this site, in all probability the oldest post

following the first at Fort Defiance. When Don Lorenzo bought this post, he also homesteaded a one hundred and sixty acre tract of land. He erected a number of fine substantial buildings during the course of his life. His post became a Mecca for anthropologists, archaeologists, writers, and a host of noted visitors, who were all received with the gracious hospitality of a Spanish Don. His family still maintains the post.

Here in Don Lorenzo's treasure room, is his son Roman Hubbell, discussing the merits of a rug just that brought in to be sold. On the walls are many relics of the past, Kit Carson's gun scabbard, a fine old gun collection, water containers of many different types, a superb collectiion of Indian baskets from many trives, archaeological specimens from nearby early Pueblo ruins. Piled high along another wall of the room are stacks of Navaho rugs all of top quality for which the Hubbell Post was famous. The Hubbells, Cozy McSparron, and later the Lippincots at Wide Ruins, did much to restore the use of natural dyes in rug making. This is one of many instances where the traders' influence has counted most, and today certain areas of the reservation are noted for rugs of widely different types.

Other traders whose interests lay beyond the trading counter, were John Wetherill at Kayenta, Sam Day, Staples at Coolidge, J.B.Moore at Crystal, and the Newcombs to name but a few. Goulding at Monument Valley has done much to promote the scenic beauty of his area. At Shiprock, Bruce Bernard has one of the finest pawn rooms with an excellent system for recording the pawn. His room is a spectale of turquoise, coral, and silver. The wives of these traders also played an important role in their respective areas, teaching many useful household arts, aiding families, learning much of Navaho ways. The hey day of these posts is gone now, and modernization is rapidly taking over, though there are still a few

smaller posts in remote areas retaining some of the flavor of the early years. It will not be long before these, too, are changed and with their passing will go one of the most colorful phases of western history, one so closely bound to the Navaho that it became a part of the Way of the People.

112 patio
113 patio
114 "
115 "
116 Lippincott
117 Paulsen
118 Hubbell
119 Bucciarelli
120 family on bench

Away from the well traveled highways, old methods of motivation still are used. A Navaho thinks nothing of walking many miles if he has no means of transportation. We have come upon this many times. Once, as we were traveling to Tuba City from the Hopi country, we came to a slight crest in the undulating desert; beyond we saw a family- a woman with a baby in a cradle board, and a small child riding a burro while two older boys were on foot. When we reached them we produced some candy for the children and tried to chat a little, though no one seemed to understand English. They were curious about us, surprised by our offer, and thoroughly friendly. They seemed miles from any habitation, yet in the gentle rise and fall of the desert, it is remarkable how a hogan can be hidden from view.

Another time as we drove along in the Red Rock region we came across a boy with a small flock of sheep. It was a wonderful day with great masses of clouds gathering for a possible storm. We pulled off the road to stop a while to enjoy the beauty of the scene. Soon the sheep came closer to us, the boy watching from a distance. We were so absorbed with this scene in one direction that we did not see a young man approaching on foot from another. Then up out of a wash appeared a lone horseman who stopped to talk with the young man on foot. After a while each went their separate ways as we watched them disappear into the landscape. The sheep moved slowly on, the little boy with them. We spoke to no one, they paid no attention to us whatsoever, yet I doubt not that later in the day they knew who we were and a surprising lot about us.

121. to pin poultry in drawn
122 } diff sp. bag or sheep
123 }
124 } Sheep diff sp.
125 }
Begin test under

(Captions for trading posts p. 112& 113)

The trading post at Shonto, ~~xxxxixxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx~~ is nestled in a small canyon of red sandstone. The post building, at the extreme left is nearly surrounded with fine trees. The large hogan shaped buildings at the right as the Shonto day school.

In those areas on the reservation where pinon trees abound, the Navaho gather the nuts to sell to the trader. Pinon nuts though small are very sweet and delicious and are a substantial side crop for the people.

The old trading post at Red Rock has undergone aeveral remodelings. Built of stone, its exterior walls have in recent years been plastered, and the interior modernized. The nice old barn was torn down several years ago.

(Captions for pages 114 & 115)

In 1932 the Red Rock trading post stillhad its oroginal dirt floor.

In the ware house at Red Rock, the trader stacks hides and wool. Here he is examining wool for its qaality and cleanliness.

(Captions for pages 116 & 117.)

In 1951, shortly before Mran& Mrs. Lippincot left Wide Ruins, stock of natural
~~xxxxxxxx~~ room was filled with exceptionally fine

over

Navaho fences have very ingenious construction. Utilizing the natural crotches in pinon or cedar, a fence will be built by entwining cross pieces in the crotches. Such a fence is built without a nail or any fastening whatever. It is sturdy and will last for years.

Ever since the Navaho obtained their first sheep and horses from the Spaniards sometime in the seventeenth century, sheep and wool became an ever increasing resource of the people. Between that time and the year 1846, when the United States took possession of the Southwest following the Mexican War, Navaho sheep had increased to half a million head. Later, when Kit Carson defeated the Navaho through his scorched earth policy, much of this livestock was captured or killed. Only some 5000 head were moved to Fort Sumner with the Navaho People; many of these died along the way for they had not sufficient time to graze, and more died later.

When at last the Navaho were freed to return to their old land in 1868, they had nothing but the hope of the promised new start that the Government would send them,- seed,tools, and three sheep per family. It was more than a year, a time of near starvation, before this promise was fulfilled. Before the exile there had been some small groups who, with their flocks, had hidden in the remote wild canyons of Northern Arizona, while Colonel Carson was rounding up the Tribe. There is a legend that one leader of hidden groups, urged the people to conserve their sheep so that they might help their fellow tribesmen when the day of liberation came. Doubtless some of the returning Navaho found their way to these remote regions joining their relatives or friends. The rest struggled through that first winter until the promised sheep and seed were finally delivered late in the fall of 1869.

By the year 1870 there could not have been many sheep on the reservation, yet between 1870 and 1894 sheep and other stock had increased to an estimated number of more than a million and a half. During these first years following the exile, Government Agents were sent to certain areas on the reservation to maintain contact with the Navaho People. The first agent to realize the necessity for stock reduction

was D.M.Riordan, agent at Fort Defiance, who sent in a report to Washington requesting that the stock on the reservation be reduced, and also urging the introduction of better stock to improve the breed. This was in 1883. Again in 1894, another agent, Edwin Plummer, who, realizing the great increase in stock, particularly of sheep, sent an urgent plea to Washington for more grazing land for the Navaho, but again this plea also was turned aside. The next important effort to intercede in behalf of the Navaho, was by Father Anselm Weber from Saint Michaels Mission. Father Anselm became aroused when a group of non-Indian stockmen, with eyes for certain grazing areas, tried to bring political pressure to bear on the Indian Service, to declare this large section of land then beyond the Western Boundry of the Reservation, as "surplus land", therefore part of the public domain and consequently subject to homesteads.

In 1914, Father Anselm attacked this measure, sending reports to Washington showing the need for increased areas for the Navaho. These three men were the first who realized how the fine pasturage was being destroyed by over grazing, and the danger of the destruction of the natural gramma grass so necessary for stock of all kinds. Father Anselm saw too, how certain areas of land were being eroded where the sheep, who crop so close and often pull up the grass by the roots, were actually destroying the range. He urged Congress not only to preserve the Navaho Range lands, but to increase range areas. Father Anselm was successful in his mission, and not areas of land were added to the western section of the reservation. However, nothing was done about the overstocked range.

Following World War I there was much discussion about the land and the sheep. but no one seemed to have any plan. Finally in 1930, an Indian Bureau forester, Wm H. Zeh, was appointed to make a general survey of range conditions on the whole reservation. Mr. Zeh's report

showed that due to shortage of stock water, the distribution of stock was very uneven. Consequently there were great inroads of soil erosion in some areas, and stock of all kinds, sheep, horses, cattle, mules, burros and goats were far in excess of the available range. He urged a stock reduction program. Once more there were delays and the detailed grazing surveys were not commenced until 1933- completed in 1935. It was then apparent that the reservation range could support only about half a million head, and that the range at that time was overstocked by more than 200%. There were the depression years and the price of wool and lambs was at a low point. The Navaho were just not selling their lambs thereby adding still more stock to the overgrazed land.

With the advent of the new administration in 1932, new agencies were created, the Soil Conservation Service, the Public Works Program, the Relief Administration, to name a few. These services to-gether with the reports from the Indian Service brought to focus the necessity for the Navaho stock reduction program of the 1932-1942 decade. This produced an economic and social revolution, for the Navaho at that time did not have the education nor the understanding to comprehend the necessity for this long range program. To a people who had been shepherds for more than two centuries, to be told that they must reduce their flocks, came as a shock.

Until this time the Navaho had no centralized government of their own. In the early days before the exile, they had been loosely governed by chiefs in various areas of Navaho Country. After the exile the Indian Service had divided the reservation into districts of administration. Now, in 1932, the tribal government was just being formulated, and did not represent the people from all the areas of the reservation. The first steps taken by the new Commissioner of Indian Affairs were in the field of land conservation, to be carried out by the Public Works

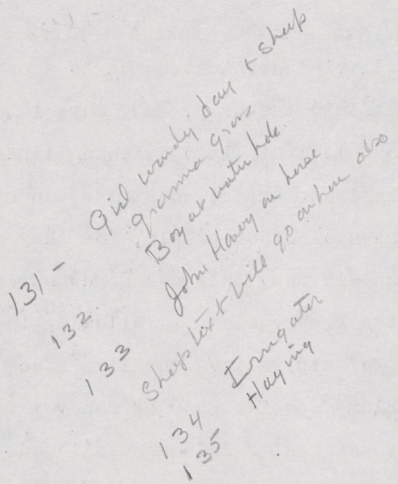
Program, giving work to many Navaho men. Steps also were taken to develop greater water supply by drilling new wells and building small drainage reservoirs.

Then came the time when the whole land and sheep program was clearly stated and explained to the Tribal Council, showing them how too many sheep were destroying the grass and causing great areas of extreme erosion. To compensate for the reduction in sheep, a new educational program whould be put into effect which included the building of some fifty new day schools. The construction of these buildings would be done by Navaho labor. The Council understood the program and approved it. Work was commenced. The Relief Administration was to purchase 100,000 head of sheep immediately in the fall of 1933, this number to be divided among the several jurisdictions of the reservation.

But many of the large sheep owners refused to comply. A compromise was finally reached on a percentage basis, but this worked hardships on the small flock owners. Suspicion and resentment reached a high pitch, for the Navaho think of wealth in terms of livestock- not in money- and they seemed unable to understand that money earned in wages would in any way compensate for loss of sheep. While the Council supported the program, enforcing it was something else, and the Council was placed in a difficult position with their fellow Navaho who disapproved the plan. There were several years of turmoil, climaxed when the Relief Administration purchased 150,000 head of goats, half of them females. At this point the Navaho women became very agitated and hostile to the entire program. These goats were to be delivered to small packing plants between September and December of 1934, with a purchase price of $1.00 per head. Unusual weather conditions and long distances for hauling, slowed the program and a suggestion was made that the Navaho slaughter all the goats they could use for food, even though they had already been sold to the Government. Frustrated in

getting some 3500 of these goats to the railroad from one far distant point, and because the cost of hauling far exceeded the value of the animals, someone ordered that these be shot and left to rot. This may have been a practical solution, but its effect on the Navaho was catastrophic and sent a shudder of apprehension throughout the tribe, for to the Navaho animals are killed only for food. This was a tragedy which has left scars of mistrust, and even though the program was continued and the stock reduced to a better level, it is still a matter of concern. In continuing the program, range management districts were established ~~and~~ while the BIA still issues the grazing permits the Tribal Council now is impowered to issue ~~their own grazing permits.~~ ~~But here again, to the Navaho who has always been so free, to be restricted by law, even by their own people, is still a matter of debate.~~ no BIA still issues permits no

The coming of World War II alleviated this tension to a considerable extent, for many Navaho men went into the army, many more into war work of various kinds. Some went to California into defense plants. They all did a superlative job. These war experiences also taught the Navaho a great deal about the ways of other people, for they are quick to learn through observation, and to many this was a new experience for they had never been away from the reservation. Following the war, many more things have happened to help relieve the live stock situation. The discovery of extensive uranium deposits brought money into the Tribal Fund as wellaas work for many young men. This was followed by the development of new oil fields. The Tribal Council is doing much to produce new water supplies, build new roads, and other projects, all of which are helping to solve their economic life. While there are still many sheep on the reservation, they are no longer the only means of livelyhood.


131 - Girl washing day + sheep
132 Gemma grass
133 Boy at bath tub
John Harry on horse
Sheep last + bill go on hers also
134 Irrigator
135 Haying

The Navaho have been farmers since the beginning of their known history. Evidence of their produce was found in archaeological excavations in old Navaholand where seeds of corn,(maize) squash and beans were found, seeds more than four hundred years old. As the Navaho moved westward down the San Juan Valley, they planted fields wherever they settled. These were subsistence farms of small acreage. During the past seventy five years, this picture has been changing, until today there are some Navaho who do practise commercial farming, and there are more who wish to do so.

As about sixty five percent of land under irrigation on the reservation at the moment is concentrated in the San Juan Valley, a farm training program was established in this area by the Government about ten or more years ago, to meet the need for new resources to take the place of raising sheep. As this has developed, the Navaho have found that small subsistence acreage would not meet their needs, and as this need has increased, a consolidation of small areas has been developed, making productive farming as a livelihood more possible.

The new irrigation project, planned long ago but not put into effect until 1962, will bring water from the San Juan River, stored in the new Navaho Reservoir, to irrigate 110,000 acres of land. This area, now nearly destitute of growth, will extend along the south side of the river from near Farmington south and west all the way to Newcomb. The first water will be turned into the new canals in a few years, creating about one thousnad new 120 acre farms for young Navaho People. This project is based on the premise that the land belongs to the Tribe and will be leased to individuals with a period of rent free occupancy in which to become established. Farming on a commercial basis is a comparatively new occupation for the Navaho, and benefits from the farm training program will be needed as this development gets underway.

Although the Indian of the Southwest has practised irrigation since the twelfth century or before, wherever it was possible, all the techniques of modern productive farming ~~is~~ are bringing about a cultural change in Navaho life. The change from subsistence to commercial productivity is great but here once more the unique adaptability of the Navaho will serve him in very good stead.

138 Irrigating (hea.)
139 Hauling beans
exhibit bl Fair
140 Mulberry (Jamaica)
141 Batatat(m
142 Hukuk
Begin 141 tent
143

Navaholand abounds in interest and scenic beauty. Adjacent to the reservation are three National Parks and seven National Monuments. The Grand Canyon, Petrified Forest, and Mesa Verde National Parks are all in close proximity as are the National Monuments of Walnut Canyon, Sunset Crater, and Wupatki to the west, El Morro (Inscription Rock) to the south, and Hovenweep and Aztec Ruins to the north. Within the reservation are four more, Rainbow Bridge, Canyon de Chelly, Chaco Canyon, and Navaho National Monument, with the recent addition of the Navaho Tribal Park at Monument Valley, developed and operated by the tribe with uniformed personel, graduates of the National Park Service Ranger Training School. Plans are under way for several more additions to the Tribal Park system.

Chaco Canyon and Navaho National Monuments contain great pre-historic ruins indicating the extensive population that existed here between the eleventh anf fourteenth centuries, and there are other sites ante-dating these. Chaco Canyon with its great Pueblo Bonito and Chetro Ketl ruins, the earliest of the terraced structures, are the finest examples of the work of these prehistoric builders. Navaho National Monument contains the Cliff Dwelling called Beta-ta-kin, perhaps the most beautifl in the Southwest, as well as other ruins. Canyon de Chelly and its adjoining Canyon del Muerto, is the most spectacular Monument for scenci beauty. Here also is an area of long continued occupation, seventeen centuries, from A.D.200 to the present. Not only do these canyons contain evidences of ancient habitation, but through all these venturies the canyon floors have been farmed by successive tribes of Indians.

First came the Basket Makers of A.D.200 to approximately 700, followed by the Pueblos who built the famous White House in Canyon de Chelly, and thecliff dwellings in Mummy and Massacre Caves and others in Canyon del Muerto. Then, according to some archaeologists, came some Hopi who left behind quantities of pottery in the thirteenth and fourteenth centuries

Lastly came the Navaho in the early part of the eighteenth century. This is still an inhabited region for some three hundred Navaho live and raise their crops within the Canyons, sheltered by their high protective walls. As visitors travel up the Canyons today, they are conscious of small farms of corn and alfalfa, but it is only form the air that the full extent may be seen.

Throughout the summer irrigating ditches bring water from higher regions as it flows down the Canyons following heavy thunderstorms. There are small peach orchards in Canyon del Muerto whose origins stem from trees brought to the Hopi Villages by seventeenth century Spanish Padres. In September, the Navaho dry quantities of peaches to be stored for winter use.

The Canyons can be treacherous as well as beautiful. Few visitors realize how water can accumulate following the great thunderstorms of this western region. Sometimes a storm will be miles away, not even visible from the lower part of the Canyons, yet with incredible speed the runoff accumulates, rushing down the Canyon floors sweeping everything in its path. There are areas of quicksand, too, where many an automobile has become bogged down and even submerged to the dismay of unsuspecting travelers. The Canyons twist and wind, creating one beautiful vista after another when the lowering light of afternoon mistifies and enhances, and giant shafts of rock, sunlit against a shadowed wall, are silhouetted in majestic beauty.