

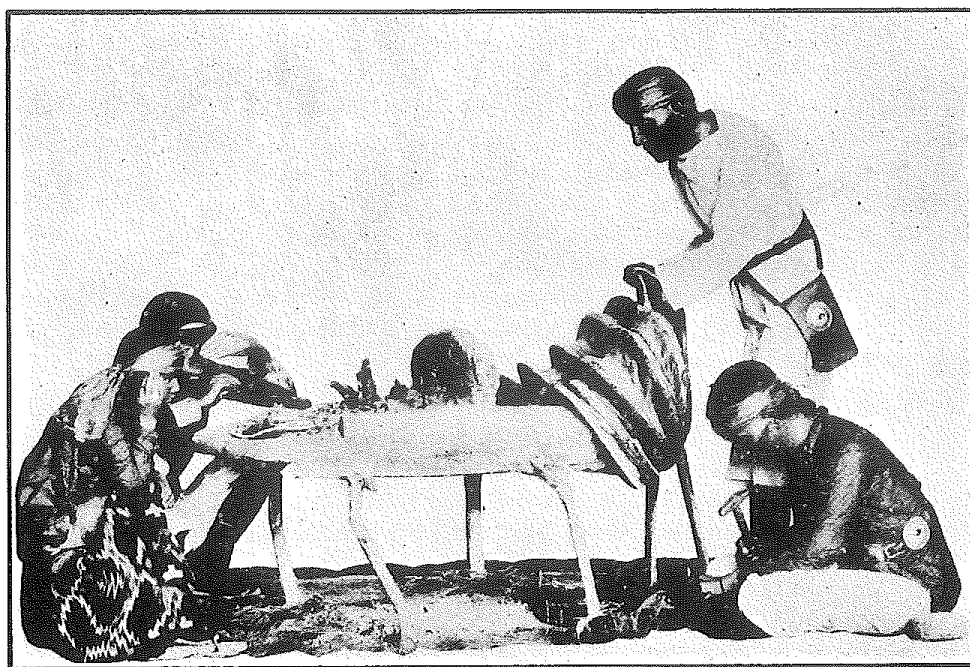
DENVER ART MUSEUM

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DEPARTMENT OF INDIAN ART

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GROUP OF NAVAHO SILVERSMITHS

NAVAHO SILVERSMITHING

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1. **THE NAVAHO INDIANS** are of Athabaskan stock, number about 50,000 and live on a very large reservation lying principally in northeastern Arizona and running over into New Mexico and Utah. They were formerly a rather small tribe of warlike nomads, but in the last sixty years they have increased very rapidly and turned from war to sheep and horse raising, farming and the making of blankets and silver jewelry. For details of their weaving see Leaflets 3 and 59-60.

2. **ORIGIN OF SILVERWORK.** The Navaho learned silversmithing from the Mexicans, who had long been proficient in that art. Wandering Mexican smiths traveled through the Navaho country, working up the Indians' silver in exchange for horses. About 1850 the Navaho began to do their own work, the first dated reference to silversmithing by a Navaho being November, 1853. The first recognized smith was Atsidi Sani, called Herrero Delgadito by the Mexicans. He learned the art from a Mexican smith taken to the Fort Defiance region by Captain Henry L. Dodge in 1853. It seems certain that the Navahos made no silver jewelry earlier than 1850 because none of the travelers and army officers who visited the Southwest in the forties and earlier make any mention of this type of work, though other activities of the Navaho are fully described. There are several descriptions of the Mexican smiths of the time.

By 1880, when Dr. Washington Matthews lived in the country, the art had so far progressed that a good many men could do a little crude work, but only three or four produced anything elaborate. He says that the work of 1865 was much inferior to that of his time.

Today the industry is a flourishing one. Between two and three hundred smiths are constantly at work producing articles of silver which sell for many thousands annually.

3. **FORGE.** The early forge consisted of a small rectangular structure of stone or adobe brick, held in place by a wooden frame and filled with clay. In the center of this clay mass, which was five or six inches high and about two feet long, was a basin-like depression on which the fire was built. At the bottom of this basin was a small hole leading through a tube laid in the clay to a nozzle which projected from the back of the forge. This tube was either made of wood lined with clay or molded in the clay itself. At present this clay forge is often replaced by one made from an old tin basin or from a five-gallon oil can with the top and one side removed. Commercial blacksmiths' forges are also used today.

4. **BELLOWS.** A sack from 10 to 18 inches in diameter and a foot or so long is made from tanned sheepskin. In this sack are placed three or four hoops of willow twigs to keep it distended. One end of the sack is tied to the nozzle projecting from the forge. The other end is nailed to a round wooden disk having two projections. One, the shorter, is on the top and is the handle; the other, on the bottom and somewhat longer, acts as a supporting leg. In the center of the disk is the valve, a round hole covered on the inside by a piece of leather. The bellows is worked by moving the disk back and forth on its supporting leg. Sometimes a bellows is made with two chambers, so constructed that by means of an iron rod connecting the disks one chamber is always open, thus producing a more constant stream of air. Sometimes the forge and bellows are built on a crude four-legged platform.

5. **FUEL.** Juniper wood is burned to produce the charcoal used as fuel. A large pile of trunks and branches is set on fire in the evening and allowed to burn until it is a mass of hot coals. These coals are smothered with earth and left to cool over night. The charcoal is taken out in the morning.

- 6. ANVIL.** Originally hard flat stones were used for anvils, but later odd pieces of iron came into use, such as pickheads, axe blades, wedges or large bolts. Bolts are driven into logs of wood or short lengths of railroad ties.
- 7. CRUCIBLES** were made of hard baked clay. The early ones were small three sided affairs with rounded bottoms. Later a somewhat larger size was used, much resembling a common water glass. These clay crucibles were not very durable. After being in the fire two or three times they swelled and became porous and, if used longer, fell to pieces. Nowadays commercial crucibles are bought at the trading posts.
- 8. MOLDS** for casting ingots are cut in soft sandstone, soft iron, or hard wood with any sharp bit of iron. Sometimes they are molded in clay. Before the molten metal is poured in the molds they are greased with mutton tallow. Molds are cut as nearly as possible the shape of the finished article. Button molds are usually cut in iron or wood.
- 9. BLOWPIPE.** Modern smiths buy their blowpipes at the stores. The oldtime pipes were made by hammering a piece of thick brass wire into a thin sheet. This was bent into a tube with a curved tapering end. The pipes were about a foot long. The flame used in soldering with a blowpipe comes from a crude wick of twisted cotton rags soaked in tallow.
- 10. SOLDERING.** Borax, saliva and silver dust are combined with very fine wire in soldering. Borax, now bought at the stores, replaces the native alunogen once used.
- 11. POLISHING.** Sandstone, sand mixed with ashes, and buckskin were the early polishing agents. But for the last fifty years sand and emery paper from the trading posts have been used for this purpose, though the first polishing is still done with sandstone or sand and ashes.
- 12. WHITENING.** Silver tarnished by being worked is whitened by boiling the pieces in a solution of either rock salt or alunogen.
- 13. TOOLS.** Tongs and pliers of several kinds, small files, awls, cold-chisels, scissors, vises and stamps are the tools most used. They are all procured from the traders. Dies and stamps are made by the Indians, who file or cut the designs on suitable pieces of metal, usually old files.
- 14. SILVER.** American silver coins provided the metal first used by the smiths. In 1871 Mexican silver dollars were introduced. Both types of coin were later replaced by sheet or ingot silver obtained from the traders. Silver in these latter forms is used today. The differences in color seen in pieces of Navaho silver are due to the different percentages of copper used as alloys. But until extensive laboratory tests have been made nothing can be said as to the colors produced by the different types of alloyed silver.
- 15. PROCESSES.** The silver is worked in two ways. It is either melted in the crucibles and poured into molds approximating the finished shapes, or hammered into thin sheets and cut as desired. Decoration is applied either by chasing with a sharp iron point or by stamping with dies and a hammer.
- 16. BEAD MAKING.** The round hollow beads of the necklaces are made by hammering out silver into a thin sheet. From this sheet small squares are cut with shears. Each one is next placed on a piece of iron having a number of funnel shaped holes cut through it. The silver is put over one of these holes and is then forced into it with a bar of iron having a rounded end. Since the bar is larger than the hole, it cuts the silver off around the rim of the hole. The half globe thus formed is cleared of its rough edges by rubbing with a file or sandstone, and a hole is pierced through its center. When two have been made they are strung on a wire facing each other and the joint is fastened together with finewire and solder.

17. SHAPES. Buttons, beads, bracelets, rings, crescent pendants, crosses, large plates for belts, bridle mountings, wrist guards, earrings, buckles and tweezers were the old native types. Miniature canteens, powder chargers, stickpins, brooches, hatbands, spoons, ash trays, cigarette boxes, forks and knives are not native shapes and have been made at the request of the Americans.

18. ORIGIN OF SHAPES. Fluted wide bracelets, round and triangular bracelets, finger rings, belt plates, and crescent earring shapes are derived from types of silver ornaments made for the Indian trade by American silversmiths in eastern cities. These forms reached the Navaho by trade with the Plains tribes, especially the Ute, Kiowa and Comanche. From the Mexicans came all types of buttons, the globular beads, the crescent pendant, and the beads usually called today by the term squash blossom. This term is a misnomer, for these beads are really pomegranates. The crescent pendant is an ancient European shape which passed from the eastern United States through the southern Plains tribes to Mexico and up to the Navaho.

19. DESIGNS. The early work was decorated with sets of fine lines scratched with a file; rows of dots; squares, diamonds and curving lines engraved with a sharp point. Twisted rods, small superimposed drops and raised ribs, flutes and frets are found on the older work. Stamping with simple hand-made dies was also done. The designs on the stamps were copied direct from those used by the Mexicans in stamping leather. The arrows, swastikas, large birds and similar figures so common today are not native with the Navaho but have been taught to them by dealers and traders. This type of stamp is made by the Indians though the designs are not their own. The designs on silver have no mystic meaning or significance, despite popular opinion to the contrary. Their only purpose is to please the eyes of the maker.

20. SETTINGS. The first work had no stones set in it. In the period 1880 to 1885 the practice of setting silver with turquoise, native garnets, bits of glass, etc. had a small beginning. These early pieces are now very rare. The extensive use of turquoise did not begin until around 1900. The Cerrillos mines near Santa Fe, and various mines in Nevada and Arizona are the sources of turquoise. Most of that used today is from Nevada. Many types of imitation turquoise have been on the market from time to time. The old turquoises were cut by the Indians themselves and are somewhat irregular in shape and not brilliantly polished. At present commercially cut and polished stones are largely used.

Navaho silver work very generally shows less turquoise setting than that produced at Zuni pueblo. Pieces with elaborate turquoise settings and not decorated by stamping are usually from Zuni.

21. IMITATIONS. Navaho silver is one of the few Indian products of which imitations are made by the whites. Government action in recent years has helped to keep down much of this faking. The best silver made today shows a government stamp "U. S. Navaho".

22. COPPER AND BRASS were used for jewelry before silver came into use. But rings and bracelets of copper are not necessarily old, since they are being made again now. Some work showing silver inlaid on copper or vice versa was also made.

Compiled from the following sources by F. H. Douglas:

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