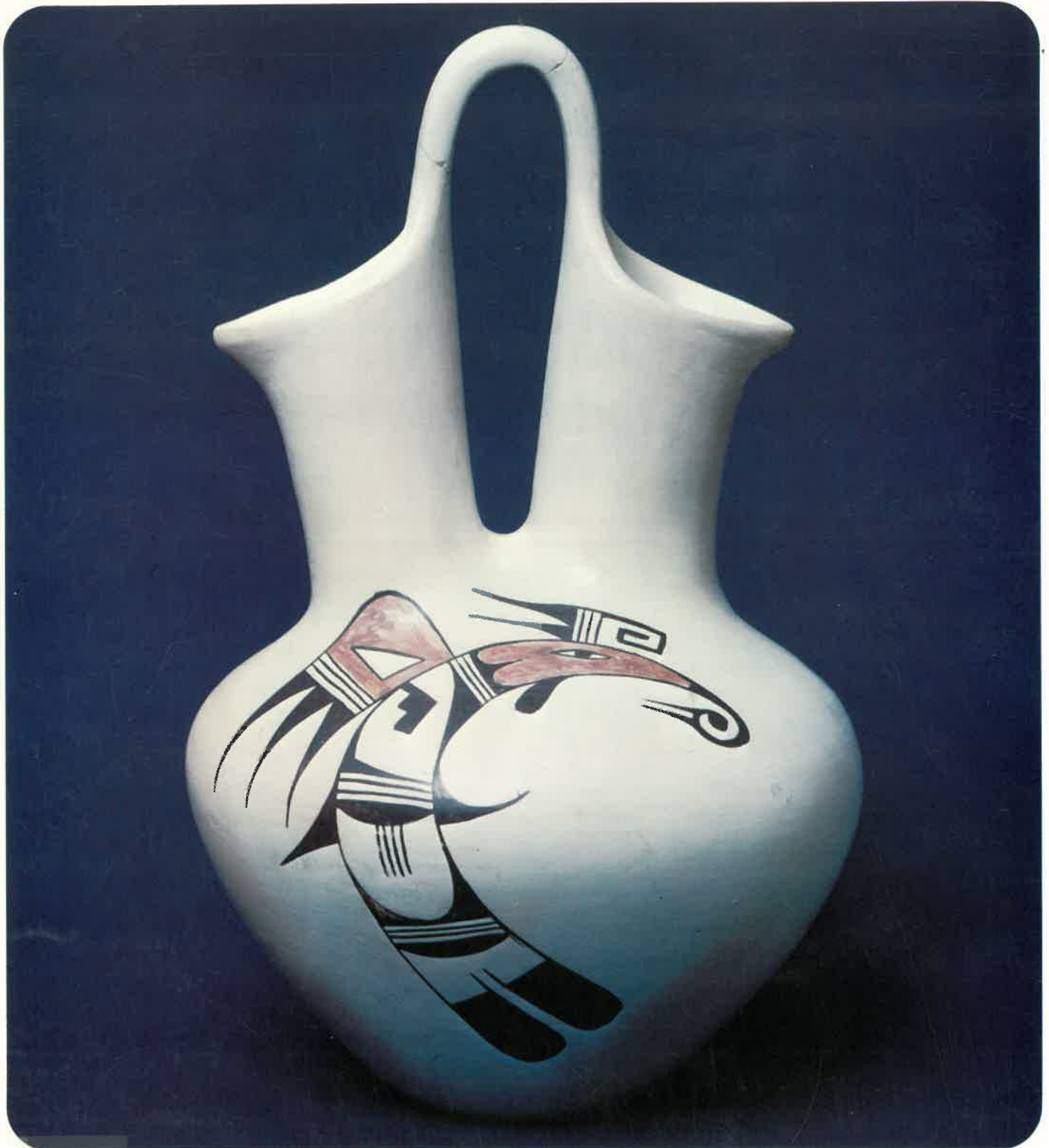


PLATEAU

THE MAGAZINE OF THE MUSEUM OF NORTHERN ARIZONA / WINTER 1977



Hopi and Hopi - Tewa Pottery

When the concept of an issue of *Plateau* devoted to Hopi pottery became a reality, I found myself in a peculiar situation. Editors usually must struggle to find qualified writers and photographers and to locate sufficient quality illustrative material. In the case of this issue, I found myself confronted with the opposite problem.

Who from a staff heavy with people knowledgeable in matters Hopi should be singled out to write and photograph for our pottery issue? Which of hundreds of beautiful Hopi pots in our ceramics repository should be selected to illustrate the textual material?

The decisions were necessarily lopsided and to some extent arbitrary. Perhaps the result can best be summarized by pointing out that what you are holding may appear to be the result of the labors of a skeleton editorial crew and three writers and three photographers. It is, however, only the tip of a massive pyramid of expertise and information. Obviously the authors and photographers of this issue knew what they were doing. But for each of these experts there were several more with overlapping interests and expertise whom we relied upon for review, for suggestions, and for supporting information. Among those are: Bob Breunig, Carolyn Cohen, Dave Cross, Marsha Gallagher, Dotty House, Lex Lindsay and Margaret Wright. These consultants along with numerous other individuals are owed a debt of gratitude for their help in making this issue a reality.

The terms "Hopi" and "Hopi-Tewa" require some explanation. Some anthropologists separate members of the Hopi tribe into Hopi and Hopi-Tewa subgroupings. This distinction is based on the different cultural origins of these two groups, and it is relevant here only in pointing out that most potters are of the Hopi-Tewa group. Even though some of the authors in this issue have elected to refer to these groups in discussing particular points, the distinction is not consistently made. Unless the context of the article implies otherwise, the use of the term *Hopi*, whether referring to potters or pottery, is meant to include both the Hopi and Hopi-Tewa subgroupings.



E. C. FREDERICK, EDITOR

Individual copy price: \$1.50

Plateau is published quarterly by the
Museum of Northern Arizona.

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US ISSN 0032-1346

FRONT COVER: A wedding vase by Helen Naha.
Photograph by Mark Middleton.

BACK COVER: Rachel Nampeyo paints the
surface of a vessel before firing.
Photograph by John Running.

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A History of Hopi Pottery

The history of Hopi pottery is the history of the Kayenta branch of the Anasazi. It is a long and complex story reaching far back in time. Anasazi is the name given to the prehistoric inhabitants of the Four Corners country who were the makers of the black-on-white pottery which is so characteristic of the area we know today as the northern Southwest.

Peoples of the Kayenta branch, with which we are primarily concerned, inhabited a large territory which, at its greatest extent, reached from a little north of the San Juan River in Utah to the Puerco River in the south, and from the Little Colorado River on the west to the Chinle Valley on the east. The Hopi Indians live almost in the middle of this area and are believed to be the surviving members of the Kayenta branch.

Hopi traditions indicate that from time to time they were joined by additional small groups of immigrants from other areas and of different cultural backgrounds. The people of Tewa who were invited to settle on First Mesa around 1700 are the best known and most recent addition to the Hopi population.

Hopi pottery as we know it today is generally a beautiful golden yellow, shading to apricot and peach depending upon the firing. In addition, polychromes (decorated with colored paints) of three types are made: 1) black and red on yellow; 2) red and black on white; and 3) black and white on red. (Descriptions like this specify as in 1), a yellow vessel decorated with black and red painted designs.) The yellow pots are made from the most abundant clays found at First Mesa, while the red and white ones are moulded

By Katharine Bartlett

from the same clay covered with thin *slips* which turn red or white when fired. As we shall see, yellow pottery has not always been characteristic of the Hopi.

BEGINNINGS

In the northern Southwest, pottery was first made about A.D. 500 by the process known as coiling. It was made entirely by hand. This process was not invented there but learned from neighboring peoples who lived to the south along the Mogollon Rim or in the mountain country below the Rim. The earliest pottery was gray and was plain or with crude black decoration. This early style was later followed by white ware decorated in black.

After A.D. 700, storage jars and cook pots were gray and ornamented with plain or fancy corrugations. The corrugations were made by carefully pressing together the coils of clay used in their manufacture to produce a ridged surface. Rough surfaces and corrugations made large jars easier to handle than if their surfaces were smooth, and the corrugated vessels also presented more surface area for exposure to heat, hastening the cooking process. On the other hand, vessels for serv-

ing food - bowls of different sizes, mugs, jugs, ladles, seed jars - and those vessels for ceremonial use were finished with polished surfaces and decorated with black painted designs. For hundreds of years, except for occasional orange or red types, gray utility pottery and black-on-white decorated "table wares" were predominant among all the Anasazi groups.

About a century after gray pottery was first made, we find that red-on-orange and then black-on-red pottery appeared near the Four Corners. Surprisingly the black-on-red developed soon after the red-on-orange and became much more popular. Black-on-red vessels were moulded from the orange-firing clay, slipped with red and decorated in black. In the area where black-on-red wares were first made they seem to have had little attraction, but farther west, from the Chinle Valley to the Colorado River, the types called *Tsegi Orange* wares were highly favored, and many black-on-red styles were produced. Little by little, however, the potters seem to have perceived that the orange-buff base was a pleasing color, and they began to produce polychromes in which the orange-buff became part of the decoration with limited areas painted red and/or black. By A.D. 1200 white paint had been added to the palette. The types of clays, the properties of tempering materials added to the clay to keep it from cracking during firing (crushed rock, sand or crushed potsherds), and the kinds of paints used for decoration assist in determining whether the pottery was made in the northern portion near the San Juan River or the Hopi-Puerco-Little Colorado portion in the south.



A modern Hopi jar showing the low, wide-shouldered shape inspired by the ancient Sikyatki forms. Pale yellow with black and red design. Made in 1942.

(below) Black-on-red bowl of the low shallow Sikyatki Revival style. The colors are those of ancient Tsegi Orange Ware vessels as shown on page 7. Made for sale in the 1920s.



GREAT DROUGHT BRINGS CHANGE

Between the years 1276 and 1299 the Great Drought occurred bringing great changes to all the Anasazi. Those who have studied it believe there was a decline in rainfall, especially during the summer rainy season, causing repeated crop failures. Springs dried up and excessive erosion occurred. The inhabitants of many pueblos abandoned their homes to move to localities not so severely affected. The Hopi mesas were such an area. The Kayenta Anasazi in the north, from along the San Juan, the Rainbow Plateau, the Tsegi Canyons and Monument Valley, moved southwest and joined their relatives on the Mesas. The large pueblos near Winslow also received large influxes of population at this time, but after another 100 years they too joined the Hopis.

Before the drought practically all Anasazi pottery was fired with wood for fuel. Without discussing the

complex subject of ceramic firing techniques, we should point out that a reducing atmosphere, which produced most of the gray and black-on-white pottery, was achieved by protecting the pottery throughout the firing, so that all air was cut off from the vessels being fired. An oxidizing atmosphere, in which orange, red and yellow pottery was fired, was induced by allowing as much air as possible to reach the vessels at the end of the firing period, as Hopi potters do today.

During the long years of the drought, coal became the principal fuel for firing pottery. Thin beds of lignite and subbituminous coal are found everywhere in the Mesa Verde sandstone that caps the Hopi mesas, and it had been used there for heating, cooking and occasionally for pottery firing (see page 18 in Gummerman, *et al.*, 1972) for perhaps 200 years. Hack, in his monograph, *Prehistoric Coal Mining in the Jeddito Valley*, says that no evidence has

Fourteenth century Jeddito Black-on-yellow bowl typical of Hopi yellow pottery decorated with designs in black or brown.





(above) Citadel Polychrome bowl. This is an example of a late style of Tsegi Orange Ware in which the color of the orange-firing base clay combined with red slip and black paint as part of the design.

(below) A Yellow Jeddito Corrugated cookpot, 1300-1600.



been discovered to explain why coal came to be used as a fuel. "The Hopi mesas lie in a border zone between desert scrub-type vegetation to the southwest and pinyon-juniper forest to the north and east. It may be that coal was discovered accidentally...and was used when the forest border was pushed back from the villages by cutting or when it retreated because of climatic change."

Perhaps the forest border retreated during the drought so that it was easier to fire pottery with nearby coal than to haul wood for a long distance. At that time everything had to be carried upon human backs! Hack also suggests that it may have been easier to obtain coal than to cut wood with the primitive stone axes then in use.

YELLOW WARES

Beginning during the drought, all Hopi pottery was fired with coal and in an oxydizing atmosphere, so that thereafter only orange or yellow pottery was made. As yet no one has vouchsafed an explanation as to why the reducing atmosphere that produced the gray and black-on-white pottery was abandoned. Perhaps gray and white just went out of style. At any rate, the Hopis henceforth were famous for their yellow pottery. It was traded as far away as the Verde and Salt River Valleys in Arizona, the Rio Grande Valley in New Mexico and the Virgin Valley in southwestern Utah, and imitations of it were made in several distant places.

Hopi yellow wares flourished from about 1325 to 1630, with several yellow types decorated with black and corresponding polychromes adorned with red, black and white. Although these are called "yellow wares," their color may be cream, buff, tan, yellow, orange, peach or a light red or any shade between depending upon both the amount of iron in the clay and the firing. The black paint, when fired, often changes into various shades of brown, which added more variety to the vessels. Stippling and engraving were added decorative techniques. The shapes of decorated pieces were similar to those made in the past. Jars, in many sizes, were globular with short necks, either wide or narrow, and bowls

This Kiet Siel Polychrome seed jar was made by northern Kayenta people just about the time of the great drought when they abandoned their homeland and migrated to the Hopi area. It was made of orange-firing base clay decorated with red, black and white and is dated A.D. 1225-1300.



hemispherical with interior decoration as well. Geometric designs embellished both jars and bowls as they had since the beginning of the pottery art in the Four Corners area. Plain and corrugated yellow cooking vessels and storage jars with rough unpolished exteriors were produced in great numbers.

The culmination in artistic quality and beauty of Hopi yellow wares came in late prehistoric time (A.D. 1400 - 1600) with types called Jeddito Black-on-yellow and Sikyatki Polychrome. The latter were described by Smith in 1971 as having "a striking flamboyance of decoration, involving the use of life forms, asymmetrical layouts and novel shapes, especially large squat neckless jars." Very shallow bowls with in-curved rims were also characteristic. In their painted decoration the bowls, particularly, exhibit a vast number of usually stylized life forms which are centered in the bottom, often as isolated figures, but sometimes encircled by hands which join them to the rims. Figures depict: humans and kachinas, various mammals such as deer, rabbit, antelope, moun-

tain sheep and mountain lion; birds shown in lateral, dorsal, and ventral views, drawn realistically in a highly stylized manner; reptiles; spiders; dragonflies; butterflies and moths; and rain clouds, stars, sun symbols, etc. In addition to the bird representations, innumerable feather designs were employed.

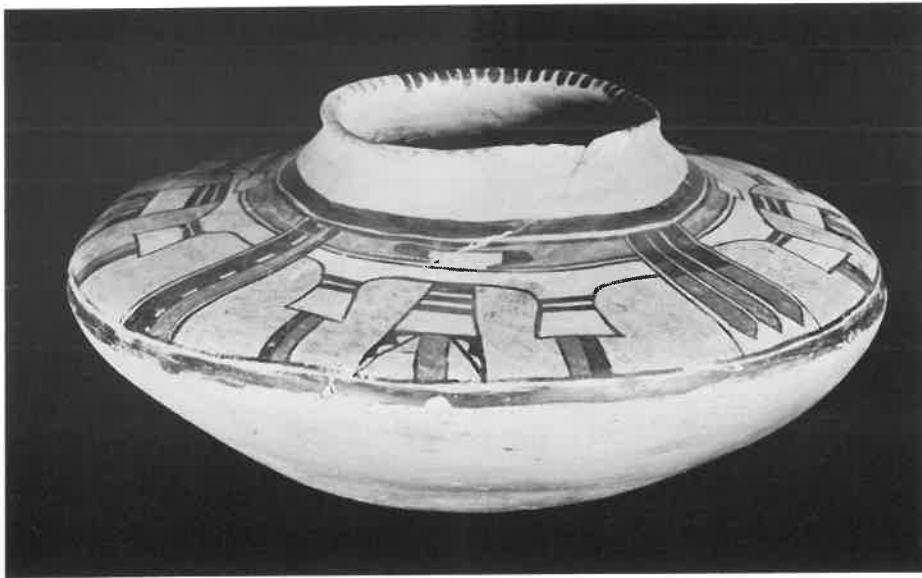
Although hundreds of the Sikyatki Polychrome pieces are beautifully shaped and decorated, not every one can be so described. As is true today, pottery was made by very young as well as middle-aged and very old women and by those with artistic talent and by those without talent. This means that there is great variation in the quality of the products. This variation can be seen in the color plates of pottery in the reports of Dr. J. Walter Fewkes (1898 and 1904) on his excavations at Sikyatki and at other Hopi ruins.

MISSION PERIOD

The Jeddito Black-on-yellow - Sikyatki Polychrome tradition continued into the early 1600's, but by that time the quality of the pottery had declined somewhat. We have

seen that Hopi wares were widely traded and had been known to many Indians for several centuries. Hargrave has suggested that the golden yellow Hopi pottery may have been the inspiration for tales of wealth which lured the early Spaniards to the Seven Cities of Cibola, since to people who did not refine precious metals, gold could have referred to the color. Whatever the reason, the Hopis were first visited by the Coronado Expedition in 1540 and by other *entradas* in 1583, 1598 and 1604-05. These brief encounters had little effect on the Hopi people. In 1628, however, Father Francisco Porras and two other padres came to the Hopi villages to stay, marking the beginning of the Mission period which brought many changes in Hopi life and even influenced the pottery in the half-century of its duration.

With the establishment of the missions at Awatovi on Antelope Mesa, First, Second and Third Mesas, sheep were introduced to the Hopi. Very soon after, pottery was being fired with sheep dung for fuel as it is to this day. The use of coal as a



(above) Sikyatki Polychrome jar (Kawaioku variety) showing the characteristic squat shape and wide shoulder adorned with elaborate painted design in black and red with broad stippled areas. Made between A.D. 1450 and 1550.

source of heat, for cooking and for firing pottery was abandoned. Pottery became thicker and heavier than it had been, shapes reverted to the pre-Sikyatki hemispherical bowls and globular jars, and painted decoration was confined to geometric designs as before. Imitations of wheel-thrown pottery, such as plates with ring bases, were made by Hopi women who saw imported Spanish and Mexican pottery at the missions. The Mission era ended abruptly in 1680 when the Hopis joined the Pueblo Indians of New Mexico in the Pueblo Rebellion.

For the next 200 years we have little information about the Hopis or their pottery. The few Spanish, and later Mexican, visitors left some documents to be sure, but mostly on Hopi stubbornness and not on pottery. No sites of this period have been excavated, so that we must depend on surface collections of potsherds to tell us what sort of pottery was being made. The tradition of a yellow ware with black and black and red painted designs continued, and the vessels were thinner and better fired than in Mission times.

ZUNI INFLUENCE

Sparse historic records indicate that a drought, with accompanying crop failure, and smallpox, an Old World disease that came to the Southwest with the Spaniards, assailed the villages in 1775. Other

(below) Medicine Black-on-red bowl typical of early black-on-red styles in which basic orange-firing clay was completely slipped with red and decorated with black.



epidemics of smallpox cropped up at intervals during the following decades, and along with confrontations with encroaching Navajos reduced the population. In 1853 and 1854 another severe smallpox outbreak was recorded. Following one or perhaps more of these periods when many people had died, a large number of Hopi families migrated to Zuni Pueblo in western New Mexico and stayed several years. Upon their return home, the potters were using new techniques, new shapes and new designs, all learned from their Zuni friends. Hopi pottery had become a grayish-white and was decorated in black or black and red, and is called Polacca Black-on-white or Polacca Polychrome. The old Hopi clay that fired yellow was used to form the vessel, then when dry it was slipped with an iron-free clay that fired grayish-white. The slip had a different shrinkage factor from the base clay, so that when fired a crackled surface resulted. Perhaps because of the crackled surface or the particular clay employed, the white slip is much grayer in appearance than those slips used for Anasazi Black-on-white pottery made around A.D. 1100 or 1200.

A favorite new Zuni shape was a bowl with an out-curving rim, made especially for serving hominy and mutton stew. The interior of the rim was decorated with geometric designs. The exterior or the body was decorated with arabesques or "rain-bird" figures as described by Mera (1937), or with a geometric band design. Large deep bowls, generally with interior decoration only, were made especially to hold cornmeal. Other old shapes of pre-Zuni time continued, but all pottery now has the crackled grayish-white surface. Hopi pottery, as in all the ages past, was made solely for the use of the potter's family or the relatives and friends with whom she traded. This was the status of Hopi ceramic art when Americans began to come to the villages in the 1870's and 1880's.

SIKYATKI REVIVAL

Hopi life began to change with the coming of the Americans. A trading post was established at Keams Canyon, and Hopi pottery was soon traded by Hopi women for things that they wanted: coffee, sugar, white flour, cloth, metal cooking utensils and china tableware. Nampeyo of Tewa village on First Mesa was one of these women.

A Sikyatki Revival style jar with beautiful low, wide-shouldered shape that was so characteristic of the 15th century jars. Pale yellow with black and red design. Made for sale in 1960.





A modern Hopi jar showing a favorite globular shape and white with black design. Made for sale in 1966.

She has become famous as the person who began the revival of the prehistoric Sikyatki style of pottery and her name is familiar to all who are interested in Indian art.

Without going into detail about Nampeyo and her husband Lesou, whose careers have been discussed at length elsewhere, we wish to point out that she first used the prehistoric designs on her own pottery between 1885 and 1890 (Ashton 1976), painting them on the grayish-white crackled surface pottery then made by all the Hopi and Hopi-Tewa women. Between 1895 and 1900, perhaps at the suggestion of Dr. J. Walter Fewkes, who was excavating the site of Sikyatki, or Dr. Walter Hough, who was assisting him, Nampeyo abandoned the use of the slip and finished her pieces by floating and polishing, the technique employed in late prehistoric times. The Sikyatki Revival, the modern period of Hopi pottery, began when Nampeyo painted the ancient ancestral designs on unslipped polished vessels. The surface color of these vessels fired some shade of yellow.

That Nampeyo and Lesou were artists there is no doubt. Nampeyo was inspired by the old pottery designs of the 11th through the 15th centuries, but except in the very beginning she did not make copies. She appreciated the beauty of the shapes and painted decoration of the old pieces from the ruins, and using them for inspiration made equally beautiful new ones. She adopted as her own the shapes of the squat, wide-shouldered Sikyatki jars and the shallow bowls. Her products, dispersed through trading posts, soon appeared in curio shops all over the Southwest. They were of such fine quality that Dr. Fewkes feared that they might be sold as prehistoric pieces by unscrupulous dealers. Drs. Fewkes and Hough and various traders like Lorenzo Hubbell and Tom Pavatea, who appreciated the quality of her work, shared in making her famous. Her demonstrations of pottery making at various expositions and at the Grand Canyon also enhanced her fame.

The other potters of First Mesa,

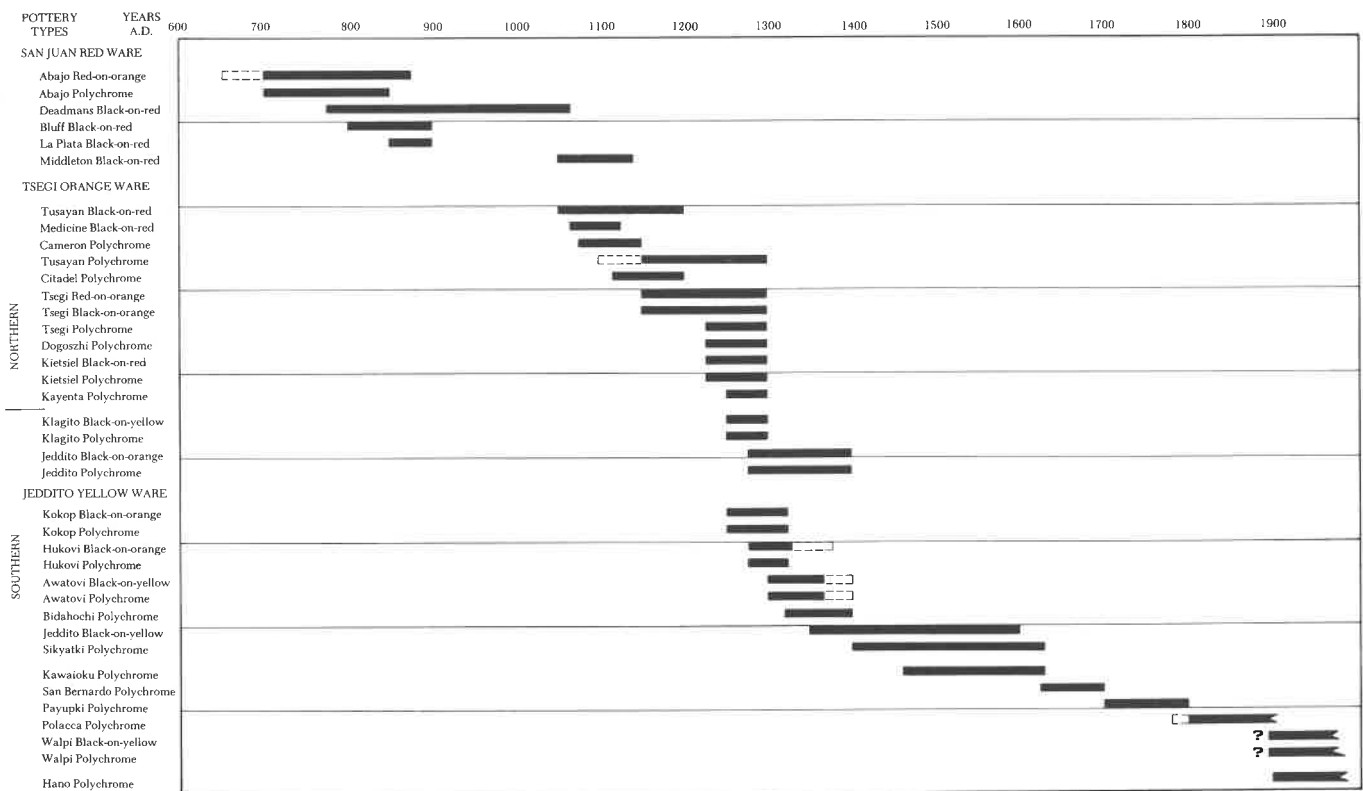


Polacca Polychrome canteen with crackled surface and arabesque design showing the Zuni influence in Hopi pottery after the mid-19th century. Many Hopis fled to Zuni during a smallpox epidemic and remained there several years.



Walpi Polychrome piki bowl. This piece was made in the mid-1930s, but it shows the 19th century Zuni designs which are painted on vessels primarily for Hopi use even in the 1970s.

The Genealogy of Hopi Pottery



A Sityatki Revival style Black-on-yellow bowl made for sale in the 1930s.



who were just as good business women as Nampeyo, quickly began to make pottery without the white slip and to paint on it the old Sikyatki designs, joining the lucrative market for Hopi pottery. There were soon two classes of pottery, which have continued to the present: pottery made for sale or trade; and pottery made for Hopi use. The pottery made for trade included all sorts of bowl and jar forms, both large and small, ladles, canteens and a vast array of small pieces often made at the suggestion of the traders. Among the latter were tiles, which were very popular in the early 1900's.

The pottery for home use, either by the family of the maker or given or traded to other Hopis, continued in the traditional old Zuni style: hominy and mutton stew bowls, large bowls for cornmeal, bowls for piki bread batter and various smaller pieces. Soon after the custom of using a white slip on pottery made for the traders was abandoned, its use for Hopi domestic types also came to an end. Even today we find the pottery for Hopi use is yellow but still continues the Zuni style of painted decoration.

At an unknown date, before 1900, the manufacture of pottery gradually disappeared on Second and Third Mesas, and since then decorated pottery has been made only at First Mesa. As recently as the 1930's and 1940's, there were a few potters at Hotevilla who could make large plain storage jars, cooking pots and canteens.

The influence of the traders on the work of the First Mesa potters became more and more important. By 1920, pottery art had deteriorated in quality in favor of quantity. Every potter was busy turning out as many little curios as possible - ashtrays in the form of cowboy hats was a horrible example - in addition to a few larger pieces for her own use. The quality of black paint had also declined, for it easily rubbed off.

I have been told that in the early 1920's Frank Applegate of Santa Fe spent some time on First Mesa and tried to help the potters with problems that had developed. He proposed that they should remedy the poor quality of the black paint by adding sodium silicate to it. Its use

probably lasted as long as he was there to supply it, and no longer. Applegate is also attributed with the introduction of the tall vase-like shape which became very popular with both the potters and the public. It was made in assorted sizes from seven or eight inches to three feet high, the latter often used for umbrella stands. Today this shape appears only occasionally.

THE MUSEUM'S INFLUENCE

In 1930, the Museum of Northern Arizona held its first Hopi Craftsmen Exhibition (1977 marks the 44th), and we like to think that the quality of Hopi pottery has improved because of it. Mary-Russell F. Colton, who first conceived of the idea of an exclusively Hopi Indian show, encouraged the potters to save from each firing the pieces they considered their best and to send them to Flagstaff for the Exhibition. She also encouraged them to make pieces of assorted sizes and shapes in the Hopi tradition, both the styles made for trade and those for Hopi use, and to mark their pottery with their own name or symbol in order to establish a reputation for themselves. Her first two suggestions were followed, but the third, to place a name or symbol on each piece, was adopted by very few women; possibly they failed to do so because it is not the Hopi way to draw attention to oneself, which the name or symbol would do. However, in the last few years, more and more women are signing their works (see article on Identification Marks). The Hopi Craftsman Exhibition provided an important stimulus to the potters and other craftsmen through the sale of the show's entries. In addition, every article bore a tag showing the maker's name and village.

Dr. Harold S. Colton, founder of the Museum, had learned a great deal about pottery manufacture in his studies of the prehistoric pottery of the Anasazi, relating Hopi methods to the ancient ones. He talked with the potters about their problems with firing pottery and why the black paint they made rubbed off, and he made suggestions about improving both.

MODERN TRENDS

When one compares the pottery of the 1930's with that of 1976, one can see a tremendous improvement in the quality as well as a proliferation of colors. Today, red-slipped pottery decorated in black and in black and white and white-slipped pottery decorated in black and red are produced in quantities almost equal to the black or black and red decorated yellow wares. The white-slipped pieces are very white, unlike the old Zuni-style cracked surface ones. In view of the general revival of interest in American Indian arts and crafts, it is now economically feasible for a Hopi potter to spend a great deal of time and effort on one piece of pottery, for it will bring her a goodly sum of money. Pottery which sold at prices of 75 cents to ten dollars in the 1930's will now bring ten to several hundred dollars.

We have not discussed the techniques and technicalities of pottery making: molding, scraping, drying, slipping, floating, polishing and painting, nor the various clays, tempering materials, slips and paints employed, for all have been described in detail elsewhere. Neither have we considered any other Southwestern cultures and their ceramic art which are known to have influenced Anasazi pottery. We have attempted to briefly trace the development of Hopi pottery over several centuries from the early red-on-orange type through the modern styles, noting its gradual evolution with changes in methods of firing, colors, paints, styles of shape and decoration. These changes are traced to show that today's Hopi pottery is a direct descendent of the early decorated pottery of the Anasazi.

See suggested reading list at the end of this issue for the complete references cited in this article.

MAKING HOPI POTTERY

Techniques and Materials

By Kathleen E. Gratz

"Good" Hopi pottery is a standard of quality in Pueblo ceramics, and pieces by specific potters or families of potters are avidly sought by collectors. When Coronado first entered what has since become the United States, the Hopi were producing a yellow ceramic ware very similar to certain pieces they produce today. There was a big difference though, since the Hopi of Coronado's day made all of their pottery for utilitarian household purposes and not for sale to collectors.

If one were to compare Hopi vessels made when the Spanish came to the Southwest with some of those being made today, the similarity would be striking. But the two vessels have more than just superficial similarity. They were probably constructed in much the same way, for the Hopi have not radically changed the manner in which they make their pottery.

In order to understand Hopi pottery, it is worthwhile to discuss the methods and materials used to make Hopi vessels. The Hopi people make numerous types of ceramics depending on which clay is used, whether the vessel is slipped (coated with a thin layer of clay), and what kind of decoration, if any, is applied to the surface.

TYPES OF HOPI POTTERY

Some of the more common types which may be encountered by the public are:

- a hard yellow ware decorated with black or black and red designs;
- a hard yellow ware, polished but not decorated with painted designs;
- a soft red ware decorated with black or occasionally black and white designs;
- a soft red ware which is polished and undecorated;
- a soft red ware which is polished and has a punched decoration;
- a white ware which has designs painted in black or black and red;
- a combination white and red ware with black and red decoration;
- an unslipped whitish (with pink, yellow or brown "tinge") ware which may be decorated by raised clay applique or painted with black designs.

CLAYS

The differences in overall color of the vessels is due to differences in the clays used to cover the surface. Use of clays which contain a high

percentage of iron will produce a yellow, orange or red color if fired in the presence of oxygen (called an oxidizing atmosphere). The variations in color depend upon the percentage of iron in the clay and the temperature achieved during the firing of the vessel.

White vessels which are slipped do not show these wide variations; they usually appear milk white with little or no variation of the surface color. The clay used for the white slip is a *kaolin* which will not change color no matter what atmosphere or temperature the vessel is subjected to during firing. Unslipped white vessels, on the other hand, are not made from as pure a clay as kaolin (for technical reasons, kaolin is not suitable for making an entire vessel) and must be fired to a very high temperature to remain white. Such vessels often show grades of color on their surfaces and are rarely pure white. It is very difficult for the Hopi potter to achieve high temperatures in the traditional kiln where temperatures rarely go over 850° Celsius. This primitive kiln is made from dried sheep or goat dung which is chopped into brick-sized pieces and stacked over the vessels to be fired, somewhat like a beehive. Some Hopi women now fire their

unslipped white wares in electric kilns which can produce much higher temperatures than the traditional outdoor kiln.

PAINTS

The most commonly encountered decorative paints used on Hopi pottery are black and red. These are applied in designs before the vessel is fired and are therefore termed "permanent," although they do eventually rub off because both colors are made with high mineral content pigments which will not seep into the vessel surface. Neither the black nor the red is a pure color; both have a brownish, rusty tint.

The red pigment is generally made by crushing a piece of limonite clay (one of the iron ores) to dust, then adding a bit of water to form a thin colored liquid which can be painted on the vessel surface. This pigment appears yellow before the firing changes it to red.

The black paint is made by a more laborious process and is formed by the combination of two elements. One is a mineral (also referred to as inorganic), and the other is a carbon (or organic) substance. The mineral (inorganic) part of the pigment is supplied as a small piece of unaltered hematite (an iron oxide). The carbon

(organic) element is made from plant juice. Usually one of the Rocky Mountain Bee Plant or Mustard family plants is gathered in quantity and then crushed and boiled until the liquid is reduced to a thick, dark syrup. The substance is allowed to dry into flat slabs which can be cut into small usable pieces. A finger-nail-sized piece of this plant extract when soaked in water produces a thin color solution. A small amount of this is mixed with a small amount of the hematite for a black pigment which is then painted onto the vessel surface before the vessel is fired.

Designs were traditionally painted with frayed yucca spine brushes, and some women still use this method; however, many have begun to use commercial paint brushes.

TOOLS OF THE POTTER

The clay and paint a potter uses are her basic tools. These are augmented by a work kit which is efficient, if simple, and which has probably evolved over centuries. The ceramicist has scraping tools which she uses to thin and smooth the surface coil marks on her vessel. Circular pieces of squash rind, parts of gourds, flat wooden sticks and occasionally broken pieces of pottery serve as scrapers.

Two pieces of woven cloth are used. One is placed on the potter's lap simply to act as an apron. The other piece of fabric is dipped in water or a colloidal solution of water and clay to be wiped onto the surface of the vessel once it reaches a leather-hard stage. This is an essential preliminary step to polishing.

Polishing the vessel surface is accomplished with a small water-worn pebble which is dipped in water from time to time and rubbed over the surface of the vessel until a shine is produced. The vessel may then be painted and fired.

Many women use tool kits handed down from their mothers or grandmothers, and there are often ritual taboos which must be satisfied whenever a new tool is acquired. Much of the process by which Hopi pottery is made derives from centuries of tradition, a tradition which is often tenaciously followed even in this modern age when pottery is less commonly used in the home.

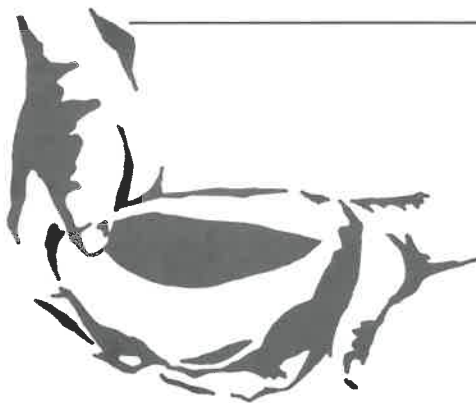


*Tools of the Hopi potter:
scrapers, sanding stone,
polishing stones and yucca
brushes.*

Continued on following page

Production Sequence

- 1 Starting with a fist-sized lump of clay of the proper plasticity (controlled by carefully adding water and kneading) the potter first forms a base shaped like a shallow bowl.



- 2 Rolling clay between the palms of her hands the potter produces a long cylinder of clay called a coil. The coil, usually about three-quarters of an inch in diameter, is laid around and pinched to the edge of the base. The coil is then pinched in place around and upward to form the wall of the vessel. Several coils may be needed to form the wall of the vessel.



- 3 When the wall has been built to the desired height, the potter takes a tool such as a gourd rind and scrapes the surface holding the left hand inside obliterating the coils and pinch marks and shaping the vessel. If the potter wishes, additional coils may be placed above this finished part and later scraped until the vessel is shaped.



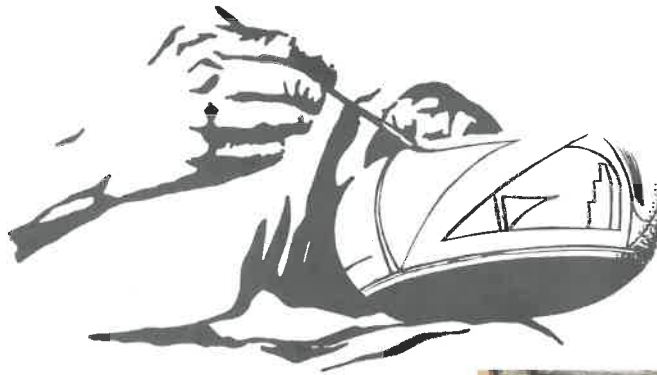
- 4 After the vessel is shaped it is set aside to dry. When the clay is partly dry and has reached the so-called "leather hard" stage the potter scrapes the surface with a sherd or similar tool to thin walls and remove inequalities. When the vessel is fully dry the potter smooths the surface with a piece of sandstone.



5 After the vessel is smoothed by sanding, the surface is moistened with a little water mixed with a special clay. A highly polished quartzite river pebble is then used to rub the surface. This rubbing creates a smooth shiny appearance on the surface of the vessel.



6 The vessel is now sufficiently finished to receive a painted design. With brushes of various widths, the potter paints the designs on the vessel. These brushes are traditionally made from the leaves of narrow-leaf yucca. The design the potter uses is often related to designs commonly used by other family potters, though not always.



JOHN RUNNING

7 When the design is completed and the surface has dried, the vessel is ready for firing. After the vessels are dried around a fire made of sheep dung piled on juniper wood chips, a platform made of sandstone and/or a grate of some kind is positioned over the burning dung.

On this platform are laid a few large sherds from broken vessels and on the sherds are placed the pots in an upside down position. Over the pots is laid a dome of large sherds to protect the pots from the dung which the potter then piles over the sherds.



JOHN RUNNING

8 Soon the pile bursts into flames. The pots are fired in this manner for several hours, until the pile of gray ashes is nearly cold. When the pots can be handled with bare hands they are removed and the final product is inspected.



The Makers

Photography by Marc Gaede

Numerous articles and books have focused on the pottery of the Hopi. For the most part, these works have concerned themselves with the pots themselves or with the histories and cultural affiliations of Hopi potters. We see very little of the Hopi and Hopi-Tewa people that fashion these pots.

Hopi pottery has become so abstracted, analysed, marketed and systematized that it becomes deceptively easy to forget that it is fashioned

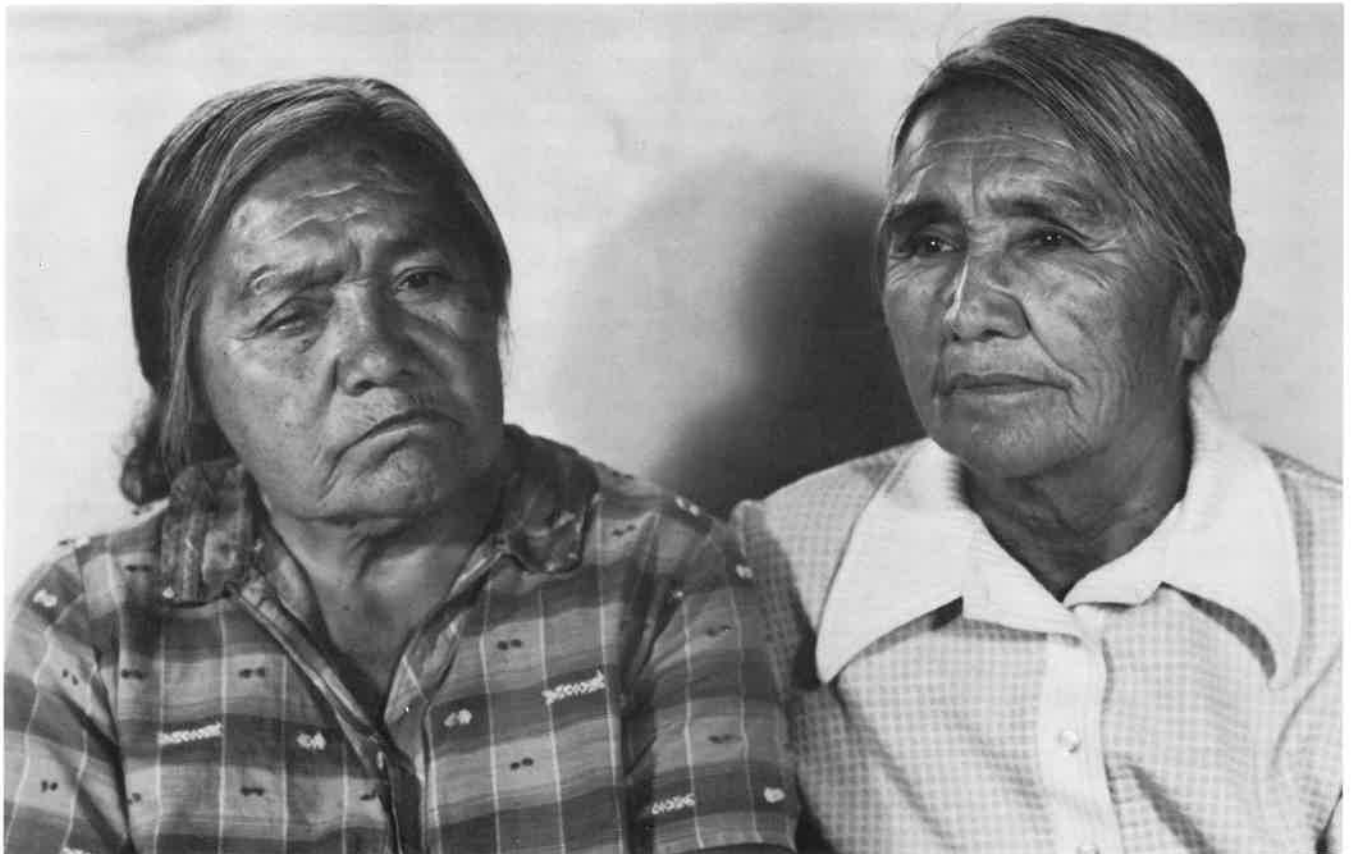
by human hands. The pots that we see in museums, in books and on craft shop shelves become disconnected from humanity.

This collection of photographs is an attempt to bring the human dimension back into our appreciation of Hopi pottery. Lest we forget—every piece of Hopi pottery is brought into being by hands guided by generations of tradition.

Each individual potter weaves his or her own variations into this tra-

ditional pattern. And these variations—where do they come from? They come from that complex of experience and racial and familial history which produces individuality.

This article began as a lengthy and somewhat ambitious attempt to put into words the influence of these individual elements on Hopi pottery. It ends here because the story is more powerfully told in the faces of the Hopi and Hopi-Tewa potters which fill the following pages.





(above left) Susie Youvella, a resident of Sichomovi, is shown here painting the design on a bowl.

(below left) Garnet Pavatea, also known as "flower girl," has been a demonstrator at the Museum's annual Hopi Craftsmen Show for many years.

(above right) Hano resident, Rodina Huma.

(opposite page) Mamie Nahodyce (right) and her sister Patty Maho (left) work together on their pottery. Failing eyesight restricts Patty to shaping the vessels which are then finished by Mamie.



(below left) Grace Chapella, reputed to be over 100 years of age, lives in Polacca on First Mesa.

(above right) Wallace Youvella, son of Susie Youvella, is one of a handful of male Hopi potters. He is known for his carved miniatures. His great uncle Silas Talawuna, pictured behind him, strongly influenced Wallace's work.

(above left) Clarice Sahmie

(below right) Sadie Adams' work is known throughout the Southwest. Although she lives in Keams Canyon she maintains a home in Hano. Her mark is a flower.





(below right) Beth Sakeva of Hano, a Hopi-Tewa village on First Mesa.

(below left) Violet Huma is one of several excellent potters living in Sichomovi.

(above right) Anita Polacca.

(above left) Rena Kavena, as a small girl of nine, witnessed the split at Oraibi in 1906. She has lived in Sichomovi for many years, and still makes pottery.



A CONSUMER'S GUIDE TO HOPI POTTERY

by Ann Hitchcock



Buying Hopi pottery, like buying anything else, requires some knowledge on the part of the purchaser. *Caveat emptor!* It is the buyer's responsibility to be well informed regarding the product to be purchased. But finding out about some products is easier than finding out about others. For refrigerators and cars we go to consumer magazines, and we buy name brands. Buying Hopi pottery requires the same type of basic research, though the references are different. Being well informed regarding the product is important and one of the best ways to insure enjoyment of your purchase.

Equally important to making a wise purchase is providing proper care for your new possession. It is important to be aware of the physical properties of the object and what types of uses are appropriate and will insure its longevity.

A part of the enjoyment of owning handcrafted items is understanding something of the culture and tradition which has produced them. Keeping a record of information on the purchased item adds, not only to your appreciation, but also to the object's value.

The importance of each of these factors—research before purchase,

care and documentation of the object—will depend on the aims of the consumer, i.e. whether the purchase is a “knickknack,” a utilitarian item, or a major investment. In any case, the above considerations should be applied in some degree to all purchases. For those unfamiliar with Hopi pottery, the following pointers may help to develop your expertise.

CONSUMER EDUCATION

Reasons for Purchase

Your intended use for the object will play a major role in deciding the nature of the pot you buy. The requisites for a utility pot will be different from those for an *object d'art*, or an investment.

Sources for Information

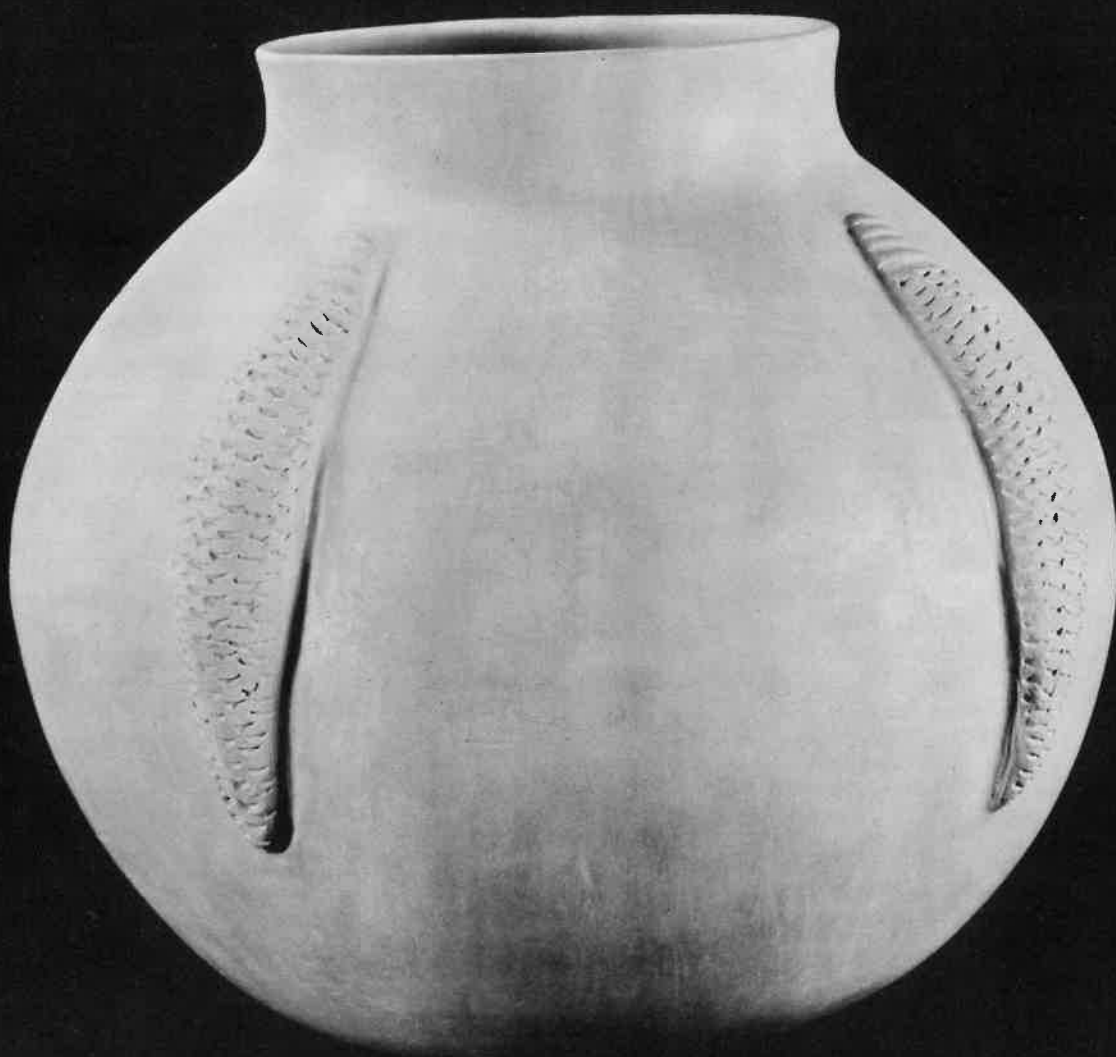
Before you make a purchase allow yourself time to gather information which will help you make a decision.

Read the literature: Familiarize yourself with the style and techniques of Hopi pottery. The more you understand about the manufacture of this pottery, the better able you will be to judge and appreciate it. When you understand what it means to coil, scrape and polish you will then be able to evaluate the execution of these techniques. When you have gained a feeling for traditional decorative motifs you will be able to recognize the best examples of these designs and interesting variations. The list of selected references at the end of this issue may help you to begin your reading program.

Talk with experts: Most authorities will be glad to tell you what they know about their fields of interest. Some of the best sources for information are the buyers and managers of shops and trading posts selling top

photography by Mark Middleton

The pottery of Elizabeth White can often be distinguished from the work of other potters by her frequent use of appliques such as this corn design.



quality Indian arts and crafts.

If you have the opportunity, you might visit craftsmen in their homes. This may mean a drive to First Mesa on the Hopi Reservation, but it will be well worth the trip. Most craftsmen will welcome potential buyers into their homes and will be glad to talk about their work.

Visit museums and art galleries:

View the permanent displays and special showings of Hopi pottery. The staff should be willing to talk with you. Frequently, at special exhibitions such as the Museum of Northern Arizona's Hopi Craftsmen Show, you will have the opportunity not only to talk with collectors and staff but also with the craftsmen. In addition, museums and universities have libraries which might be able to supply you with specialized references.

Judging Quality

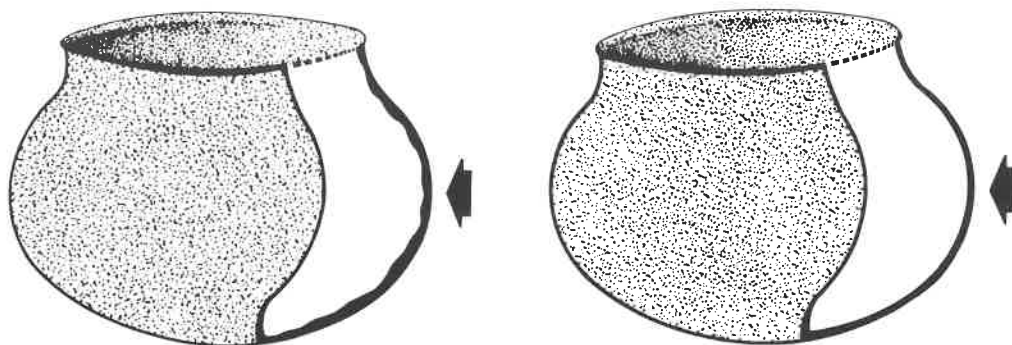
The main purpose of perusing the literature and talking with experts is to build your own ability to judge the quality of pottery from the standpoint of technique of manufacture and design. Though there are variations in manufacture and design, a few characteristics are listed here as a basic reference.

Manufacture: Hopi pottery vessels, in general, are made by the coil and scrape method. With this method, clay is coiled upwards to form the walls of the pot, and the coils are smoothed as the walls progress. A well-executed pot will be uniform and (usually) symmetrical, with smooth walls of even thickness, from the base to the rim. The thinner the walls and the lighter the pot for its size, the more expert is the maker.

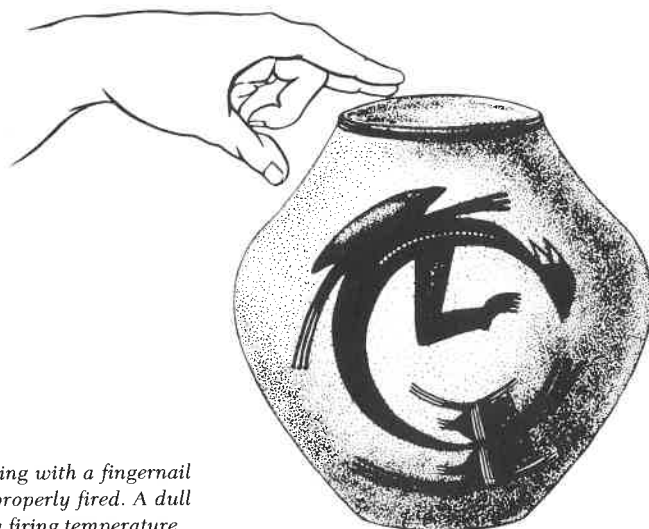
Techniques for finishing the surface vary. The smoother and more highly polished the surface, the more work required and the higher the price of the pottery. With most Hopi pottery, the desired effect is a highly polished surface with no visible polishing marks. The pottery is first scraped and then polished with a smooth stone.

Most Hopi pottery is fired at low temperature. Generally speaking, the more highly fired the piece, the more durable it will be. You may test for firing by tapping the rim with your fingernail. If the object is unfired or fired at a low temperature the sound will be dull (similar to tapping wood). If the object is more highly fired, it will give a high pitched ring. In addition, any pot which is cracked will tend to give a dull sound when tapped.

Drawings by Pamela Lunge'



An even thickness from the base of the pot through its rim is one of the principle features of a well-executed piece.



A ringing sound on tapping with a fingernail is a sign that a piece is properly fired. A dull sound indicates too low a firing temperature.



A discolored, cloudy area on a pot is called a "fire cloud." Fire clouding should be minimal to absent in quality Hopi pottery.

Examine the pot for any defects, e.g. impure or irregular clay bodies, cracks, chips, etc. Frequently, defects may be introduced at the time of firing.

Due to uneven heat and oxygen supplies, fire clouds may appear on the surface (a discolored, cloudy area in relation to the rest of the pot). Though Hopi pottery often contains fire clouds, they are not considered desirable and the fewer fire clouds the better. Frequently impurities in the clay body will cause small portions of the surface of the pot to *spall off* (pit or chip); this may happen during or after firing.

The care with which the design has been executed is important. The paint

(or slip) should be applied evenly and in unwavering lines. Generally, it should not appear thin or washed out. Run your hand over the surface of the pot to make sure that the painted (or slipped) surface is not crazed (cracked) or flaked. If the pot has appliqued designs, check to make sure there is a smooth joint between the applied clay and the main body.

Design: As with manufacture, the design must be judged in terms of the tradition of which it is a part. Bird motifs which appear awkward or peculiar to you may be beautifully executed in terms of the pottery tradition of the tribe. When judging the design, first examine the form of the pot. Is it well balanced? Is there a

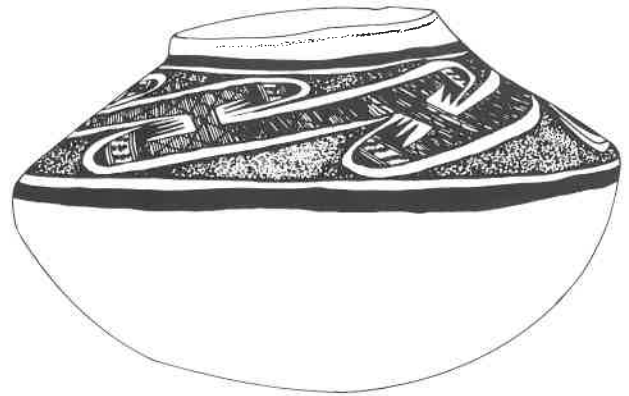
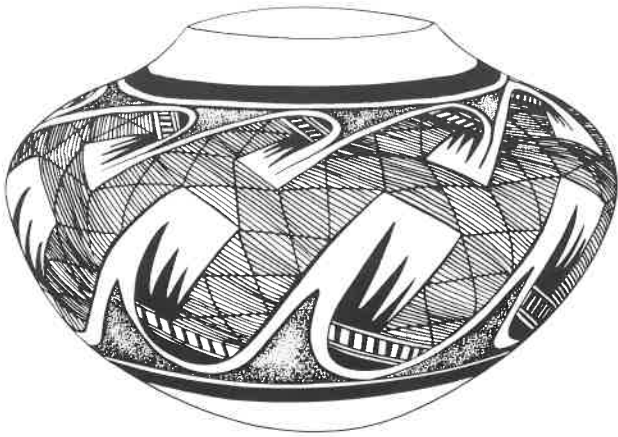
flow of form or does it look like the rim belongs on another vessel?

Next, look at the design layout. Is the design well-suited to the vessel form? Is the design well-planned and balanced or did the potter run out of room and have to squeeze in the last element? Then look at the execution of the design elements. Are repeated elements uniform? Is spacing even? Consider the complexity of the design, remembering that the more difficult and time-consuming the design, the more valuable is the item.

Your Taste

Your taste should always be the ultimate factor in deciding whether or not to buy. Have confidence in

Evaluating a pot's aesthetic qualities takes a practiced eye. Does the overall shape look uniform and balanced? Is the design evenly executed or is it crowded in some areas? Compare the two pots drawn below.



Hopi pottery is susceptible to a pitting or breaking up of its surface which can occur in a number of ways. Pitting which occurs during firing is called "spalling off." The kind of damage shown on this early Hopi pot is probably the result of a combination of abrasion and prolonged contact with liquid or a damp object.





The base of a pot is especially subject to wear. The kind of abrasion shown on the base of this Frog Woman pot could be avoided by standing the piece on a felt pad or protective cloth.

your own ability to judge quality and to know your likes and dislikes. If you judge a pot to be well-manufactured with a beautifully executed design, yet it has no appeal to you, do not purchase it. Your ultimate satisfaction will depend on your liking the object.

CARE

Appropriate Use

If used properly, most Hopi pottery is quite durable. However, low fired pottery is highly friable and should not be used in a utilitarian fashion.

Since Hopi pottery is unglazed and porous, it is generally not advisable to use it in situations where it is likely to absorb its liquid contents, e.g. as a base under a flower pot it absorbs moisture which seeps through to the surface below and tends to break up the polished and slipped surface of the

pottery. In addition, minerals from the water may leach through the pot and be deposited on the surface as the water evaporates. This is frequently seen on old pots which have been used for water storage. Treatment by a conservator can usually remove these mineral deposits, but damaged areas of the surface remain.

Oil from foods also tends to be absorbed by the pottery and forms spots. However, if properly seasoned with oil (see directions at end of article) unpainted pottery may successfully be used for serving and baking oily foods.

Most Hopi pottery is not highly fired and is not resistant to abrasion. Just remember that if you decide to keep hard items like your keys and loose change in a pot, it will eventually become marred. Likewise, the base of a pot is also subject to wear. If kept on a hard surface, even

if moved infrequently, the base of the vessel will be abraded. When the base has a signature or maker's mark, this valuable information will be worn off unless the pot is placed on a felt pad or protective cloth.

Handling

If a pot is purchased for a utilitarian purpose, it must be handled in the most convenient manner, regardless of the risk involved. However, here are a few "museum" rules for handling pottery. Never lift by rims or by handles (as they may have weak connections); always lift by the base with both hands. In addition, remove a lid or loose attachment before moving. With lightly colored porous pottery wear gloves so that the oils from your skin will not be absorbed by the pottery. Large rings may scratch the surface of the pottery during handling as may other types of jewelry. Never try to carry more than one pot at a time, have someone open doors and always have a place to put the pot at its destination.

Cleaning

Whatever method you choose for cleaning, test it first to make sure it will not adversely affect the pot either by washing away the paints or abrading the surface. Periodic light dusting is necessary for esthetic purposes. When dusting is not sufficient, *most* fired pottery may be gently wiped with a damp sponge or washed in water to which has been added a small amount of ammonia or a few drops of liquid detergent. But first, test the water and ammonia or detergent on the object by placing a piece of cotton dampened with the solution on inconspicuous areas of the pottery. Examine the cotton for dissolved paints. Be sure to test all colors. Use a soft sponge to gently clean the surface; never scrub. Rinse thoroughly after washing. If your tap water has a high mineral content, it is best to use distilled water for washing.

Repair

The proper repair of pottery can require quite complex techniques and in some cases the skill of an experienced conservator. The reader is referred to one of the selected references which more completely describes the mending and restoration of pottery. Suffice it to say that for

minor chips and breaks an adhesive of polyvinyl acetate in acetone or nitrocellulose (e.g. *Duco Cement*), may be used. Excess glue should be wiped off with a lint free tissue saturated with the appropriate solvent (e.g. for the adhesives mentioned, acetone). The mended pieces may be set in a sandbox for support while drying. It is important to choose an adhesive which is reversible (i.e. if you make a mistake you can thoroughly and easily remove the adhesive with a solvent). It is also important that the adhesive and solvent be tested prior to use to make sure they will not adversely affect the object. When in doubt regarding repair, it is best to consult the experts. The Museum of Northern Arizona is glad to provide advice.

PRODUCT DOCUMENTATION

Collecting Documentation

As should be obvious by now, one of the most enjoyable aspects of owning Hopi pottery is learning about the traditions involved in its manufacture and the culture which produces it. The experience of talking with a potter, watching pottery being made or fired, or looking at the life work of a particular potter enhances our appreciation of pottery in general. Every ceramic pot is unique, individually handcrafted. Each Hopi potter stands on a long line of tradition. Given the opportunity, most potters can give you much information about their craft: when they learned it, how long it takes to make a pot, etc. When you buy a vessel, ask these kinds of questions of the maker or the shop personnel who sell it to you.

Keep a File

Keep a brief catalog of your purchases. Note the date you bought it, where it was purchased, the price paid, the name of the maker, village and clan, and any other documentary information you are able to collect. Place this information on a standard index card. Do this for each purchase you make. Photograph the object (a black and white 35 mm. contact print is ideal) and place the photograph on the card. Not only will this information prove valuable in documenting the history of the object long after you have forgotten the exact

Instead, Hopi pottery should be lifted from below using both hands.

details, but it will also be useful for insurance and income tax purposes.

If you wish, items in your collection may be numbered for ease of reference. Generally, the best method is to paint a small dab of nail polish or airplane dope on an inconspicuous part of the rim interior or base (choose an area that won't receive any wear). Let this dry and then write a number with a crow quill pen and India ink on the lacquered surface, then lacquer over the number when it has dried. As with repairing, it is important to choose a method of numbering which is reversible. The lacquer may be removed with nail polish remover or acetone. Make sure that neither the lacquer nor the solvent will adversely affect the object. Never use self-adhering labels as they

will permanently mar the object.

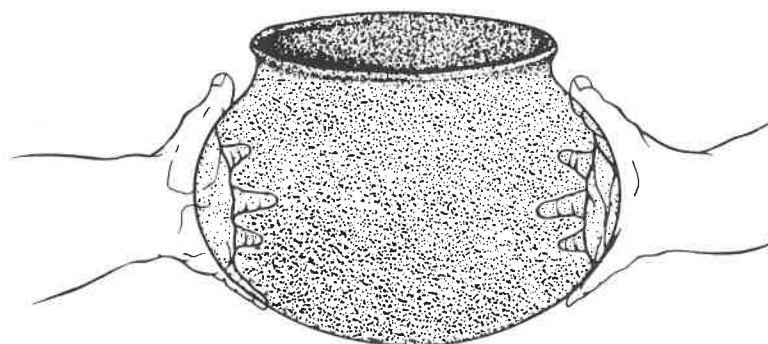
Good documentation of the object will not only insure your enjoyment and increase the value of the object but will also allow you to pass this information on to others, perhaps to your family, to a prospective buyer, or to a museum.

A NOTE ON PRICES

As with all handcrafted items, prices are highly variable. Generally, prices are lower when you buy directly from the maker. Frequently, the prices at trading posts tend to be lower than comparable retail shops in Southwest cities, but this is not always the case. Diligent comparative shopping is the best way to determine the "going price."



Pottery should never be lifted by handles, by the neck or by the rim as is shown here. These areas all represent weak points in the construction of pottery.





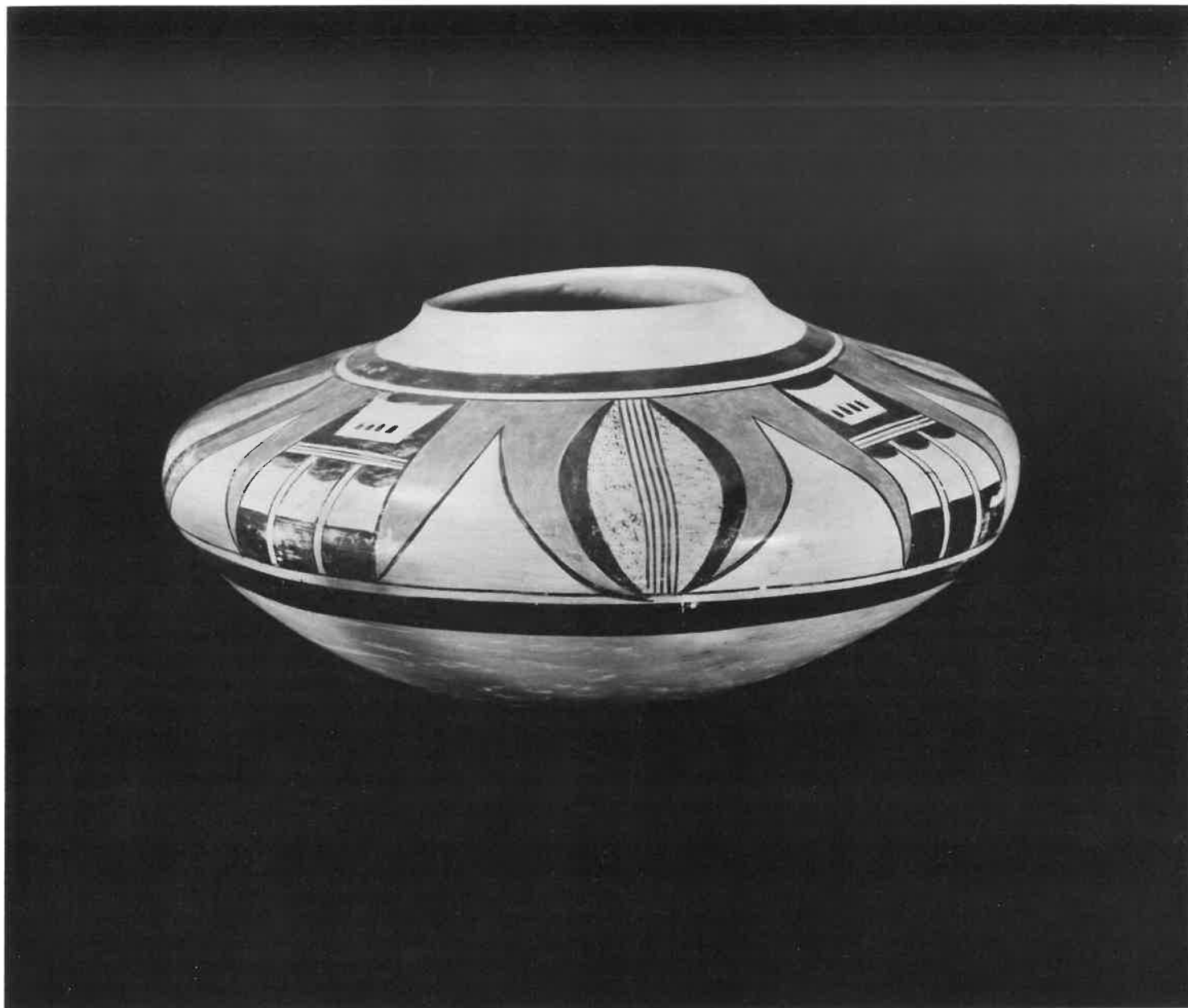
This bowl by Priscilla Namingha is an example of an elegantly designed and executed pot. It doesn't take an expert's eye to see the graceful shape of this vessel or its finely executed well-balanced design.



Hopi white with black design jar (above).

(below) This polychrome bowl by Carol Namoki of Tewa shows the head and wings of the Hunters Dance Kachina. This unusual piece won first prize in the 1969 Hopi Craftsmen Show.





THE CARE AND SEASONING OF HOPI POTTERY

*Developed by Margaret Wright
for the Museum of Northern Arizona*

Salad bowl: No special treatment is necessary, although the bowl may be rubbed with salad oil before it is used.

Casserole: When used for cooking, the bowl should be seasoned to prevent food from sticking. Grease the interior thoroughly with vegetable oil and place in a 250° oven for 6 to 8 hours. Occasionally remove bowl from oven, tilt and turn to redistribute the oil on the sides of the bowl.

Bean pot: This should be seasoned in the same manner as the casserole.

The pot may be used over gas burners, but an asbestos mat should be used between an electric burner and the pot.

CAUTION

Be careful not to subject the pottery to sudden temperature changes. When reheating food in the casserole or bean pot, put it in the oven as soon as you turn it on. DO NOT preheat the oven and then put the pot directly into it from the refrigerator.

This Sikyatki style pot was made by Fanny Polacca in 1922. It is on display in the Museum.

ADDITIONAL SOURCES FOR CONSUMER INFORMATION

References:

Abel, Leland J. 1955 *Pottery Types of the Southwest: San Juan Red Ware, Mesa Verde Gray and White Ware, San Juan White Ware*. Museum of Northern Arizona, Ceramic Series 3B.

Ashton, Robert, Jr. 1976 Nampeyo and Lesou. *American Indian Art*, Vol. 1, No. 3, October. pp. 24-33.

Breternitz, David A. 1966 *An Appraisal of Tree-Ring Dated Pottery in the Southwest*. University of Arizona, Anthropological Papers, No. 10.

Colton, Harold S. 1953 *Potsherds, an Introduction to the Study of Prehistoric Southwestern Ceramics and Their Use in Historical Reconstruction*. Museum of Northern Arizona, Bulletin 25.

_____. 1956 *Pottery Types of the Southwest: San Juan Red Ware, Tsegi Orange Ware, Homolovi Orange Ware, Winslow Orange Ware, Awatovi Yellow Ware, Jeddito Yellow Ware, Sichomovi Red Ware*. Museum of Northern Arizona, Ceramic Series 3C.

Fewkes, J. W. 1898 Archaeological Expedition of Arizona in 1895. *Bureau of American Ethnology*, 17th Annual Report, Pt. 2. pp. 519-742.

_____. 1904 Two Summers' Work in Pueblo Ruins. *Bureau of American Ethnology*, 22nd Annual Report, Pt. 1. pp. 1-196.

_____. 1919 Designs on Prehistoric Hopi Pottery. *Bureau of American Ethnology*, 33rd Annual Report. pp. 207-283.

Gumerman, George J., Deborah Westfall and Carol S. Weed. 1972 *Black Mesa: Archaeological Investigations on Black Mesa, the 1969-1970 Seasons*. Prescott College, Studies in Anthropology, No. 4.

Hack, John T. 1942 Prehistoric Coal Mining in the Jeddito Valley, Arizona. *Peabody Museum of American Archaeology and Ethnology*, Papers, vol. 35, No. 2.

Hargrave, Lyndon L. 1935 The Jeddito Valley and the First Pueblo Towns in Arizona to Be Visited by Europeans. *Museum of Northern Arizona, Museum Notes*, o.s. Vol. 8, No. 4, October. pp. 17-24.

Mera, Harry P. 1937 The "Rain Bird," a Study in Pueblo Design. *Laboratory of Anthropology, Memoirs*, Vol. 2.

Smith, Watson 1971 Painted Ceramics of the Western Mound at Awatovi. *Peabody Museum of Archaeology and Ethnology, Papers*, Vol. 38.

Stanislawski, Michael B., Ann Hitchcock and Barbara B. Stanislawski 1976 Identification Marks on Hopi and Hopi-Tewa Pottery. *Museum of Northern Arizona, Plateau*, Vol. 48, Nos. 3-4, Spring. pp. 47-65

SUGGESTED READING ON THE HISTORY OF HOPI POTTERY

Selected References:

Arizona Highways 1974 February and May Issues on Southwest Crafts.

Barsook, Beverly; Black, Sally; Dillingham, Rick; Rhodes, Steve 1974 *Seven Families in Pueblo Pottery*, Maxwell Museum of Anthropology, University of New Mexico, Albuquerque.

Collins, John E. 1974 *Nampeyo, Hopi Potter*, Muckenthaler Cultural Center, Fullerton.

Davis, Gordon 1975 Cleaning of Pueblo Pottery, *Pottery Southwest*, Albuquerque Archaeological Society, Vol. 2, No. 2, pp. 7-8.

_____. 1975 Mending Pottery, *Pottery Southwest*, Albuquerque Archaeological Society, Vol. 2, No. 3, pp. 5-6.

_____. 1975 Museum Pottery: Patching and Preparation for Storage, *Southwest Pottery*, Albuquerque Archaeological Society, Vol. 2, No. 4, pp. 5-7.

Frank, Larry and Francis H. Harlow 1974 *Historic Pottery of the Pueblo Indians, 1600-1800*. Boston: New York Graphic Society.

Frisbie, Theodore R. 1975 The Art of Ceramic Restoration, *Pottery Southwest*, Albuquerque Archaeological Society, Vol. 2, No. 2, pp. 8-9; Vol. 2, No. 3, pp. 6-8; Vol. 2, No. 4, pp. 7-8.

Sikorski, Kathryn A. 1968 *Modern Hopi Pottery*, Utah State University Monograph Series, Vol. 15, No. 2.

Stanislawski, Michael; Hitchcock, Ann; Stanislawski, Barbara 1976 Identification Marks on Hopi and Hopi-Tewa Pottery, *Plateau*, Vol. 48, No. 3-4, pp. 47-65.

Tanner, Clara Lee 1968 *Southwest Indian Craft Arts*, University of Arizona Press, Tucson.

Underhill, Ruth 1945 Pueblo Crafts. *U.S. Indian Service, Indian Handcrafts No. 7*.

ABOUT THE AUTHORS AND PHOTOGRAPHERS

KATHARINE BARTLETT has been with the Museum since its early years. Although she is perhaps best known for her archaeological work, Katharine has maintained an active interest in history which has led to her current position as Curator of History. Katherine has published numerous articles on the Hopi. These publications encompass not only Hopi history but also ethnographic topics such as Hopi baskets and costumes.

KATHLEEN GRATZ has a wealth of experience as the Museum's ceramicist behind her article on making Hopi pottery. Kathleen has also served as Assistant Editor of the Ceramic Series - a collection of books on the prehistoric pottery of the Southwest. She is also the author of numerous scholarly publications on the archaeology of the Cibola area as well as other areas of prehistoric habitation.

ANN HITCHCOCK, currently Assistant Chief Curator of the Manitoba Museum of Man and Nature, was with the Museum of Northern Arizona for many years. Ann, a well known Museologist / Anthropologist, has received conservation training at the Smithsonian and at the British Museum. Her scholarly interests encompass many areas of southwestern ethnology.

MARK MIDDLETON learned his photography as a graduate student in biology. In the few years he has been our Museum photographer, Mark has expanded his skills to the difficult process of photographing archaeological artifacts. All of the photographs of pottery in this issue were taken by Mark.

JOHN RUNNING has been photographing Southwestern people and places for more than 11 years. His photographs have appeared in *Natural History*, *Holiday* and *National Geographic* as well as numerous other national publications. He resides in Flagstaff with his wife Helen and his two children.

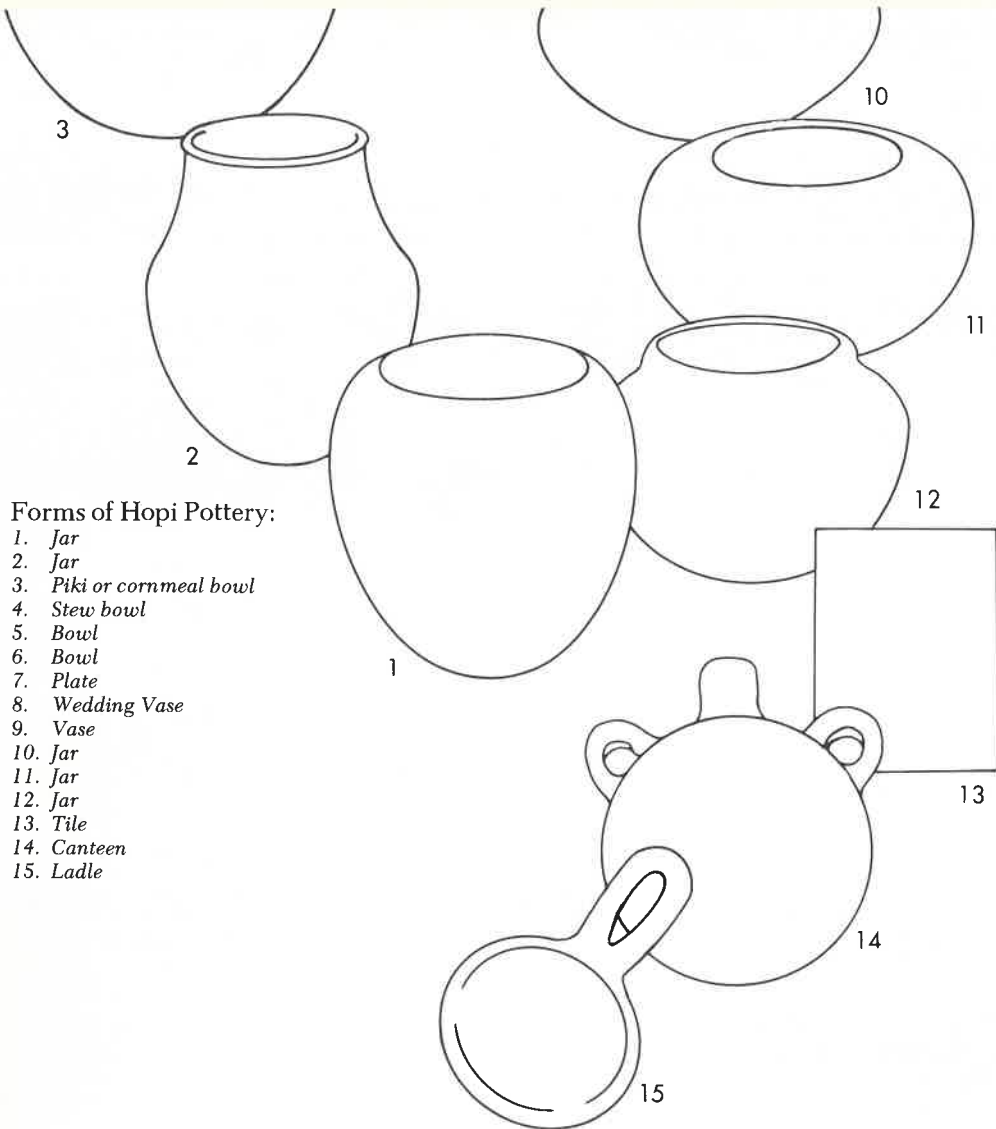
MARC GAEDE, the Museum's Curator of Photography, has been taking photographs in the Southwest for the past fifteen years. Marc's photographs in a recent Museum publication, *The Anasazi: Prehistoric People of the Four Corners Region*, have received much critical acclaim. Marc is currently on leave working with Ansel Adams in Carmel, California.

COMING ISSUES OF *PLATEAU*

Spring 77 - Grand Canyon Geology
Summer 77 - The San Francisco Peaks

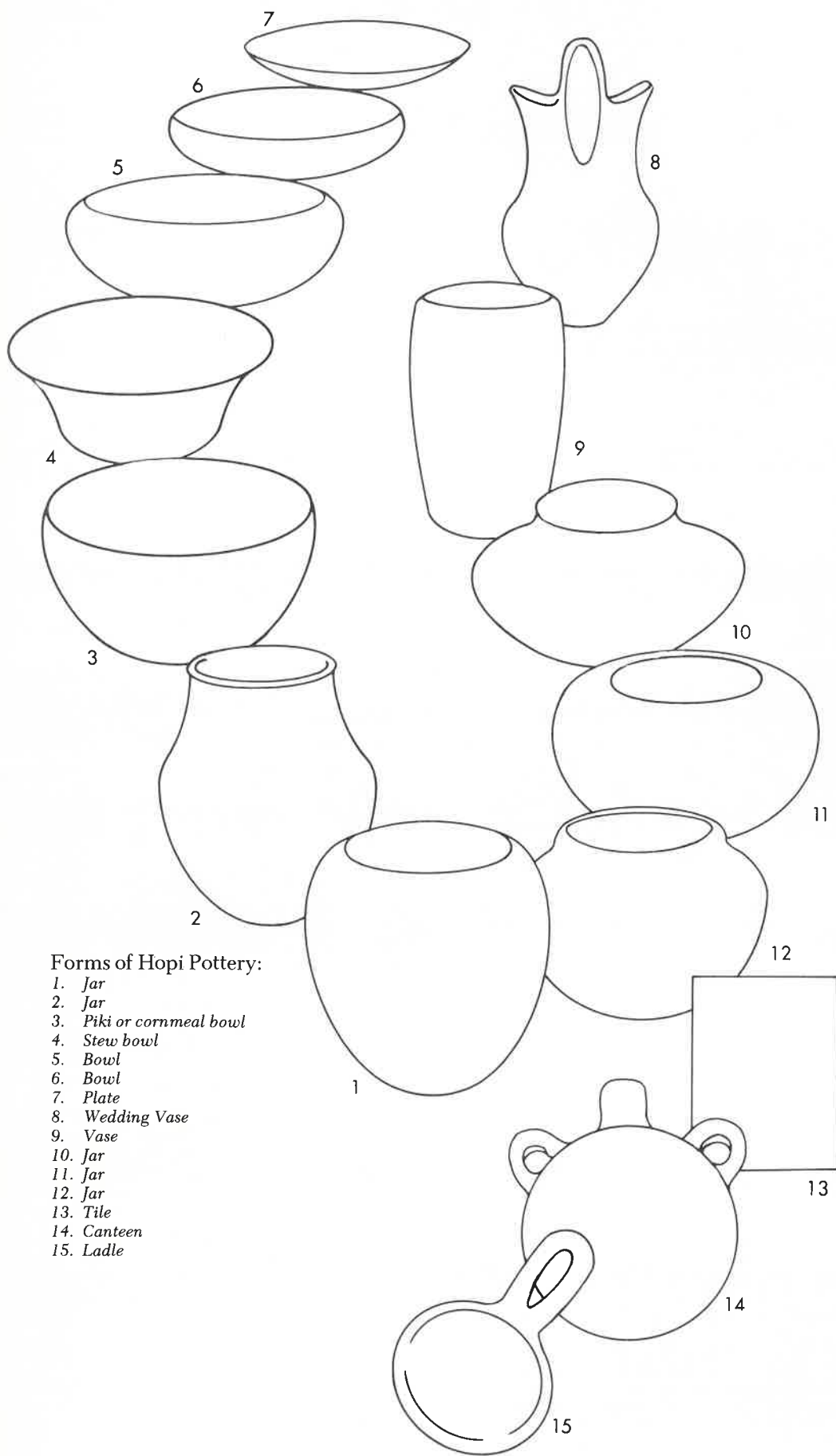


Design Motifs of Hopi Pottery



Forms of Hopi Pottery:

1. Jar
2. Jar
3. Piki or cornmeal bowl
4. Stew bowl
5. Bowl
6. Bowl
7. Plate
8. Wedding Vase
9. Vase
10. Jar
11. Jar
12. Jar
13. Tile
14. Canteen
15. Ladle



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