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A Complicated pattern

Pursuing the meaning of Salado in southwestern New Mexico

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about us

Archaeology Southwest explores and protects the places of our past across the American Southwest and Mexican Northwest. We have developed a holistic, conservation-based approach known as Preservation Archaeology. By looking forward and acting now, we are achieving protections and creating meaningful connections between people and history that will benefit generations to come. **Learn more at www.archaeologysouthwest.org.**

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Archaeology Southwest

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Cover image: Detail of the interior of a Cliff Polychrome bowl. The curvilinear form with a series of triangles (feathers) appended to it is a motif known as the Kayenta bird wing. This motif frequently appeared on pottery made in the Kayenta region (northeastern Arizona and southeastern Utah), and it subsequently appeared on pottery made by Kayenta immigrants and their descendants. Visit www.archaeologysouthwest.org/asw26-3-4 to learn more about this bowl and other vessels illustrated in this issue. Photo: Mathew A. Devitt, courtesy of Eastern Arizona College. Cover design: Kathleen Bader.

Archaeology Southwest

Exploring and protecting the places of our past

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A Complicated Pattern: Pursuing the Meaning of Salado in Southwestern New Mexico

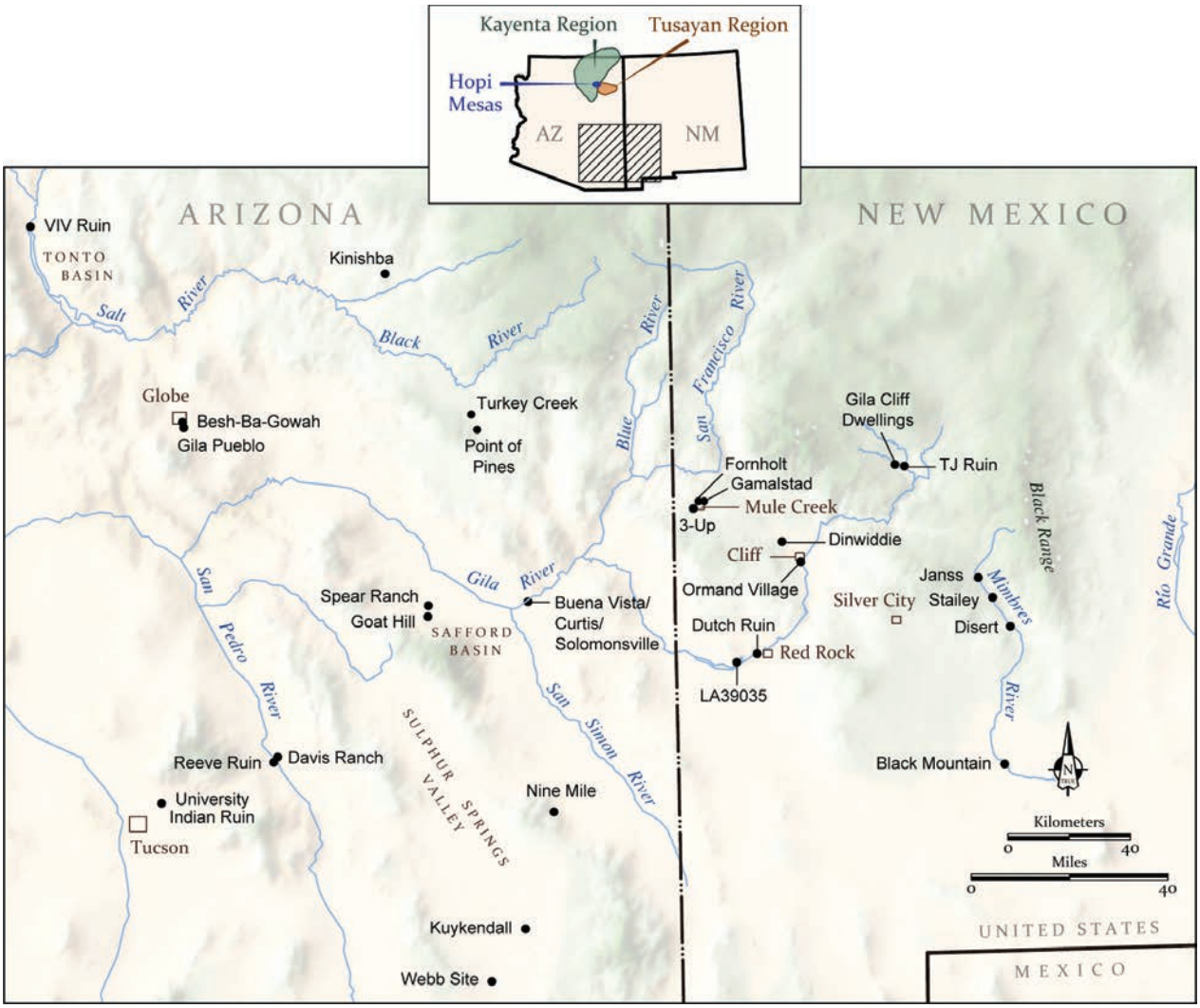
JEFFERY J. CLARK AND DEBORAH L. HUNTLEY
ARCHAEOLOGY SOUTHWEST

Salado polychrome pottery is the most archaeologically visible signature of the Salado phenomenon in the American Southwest. No matter where we find it, this pottery appears remarkably consistent in technology and style, even though the groups of potters who made it resided many days' travel from one another in different valleys. Such consistency suggests that the bold designs on late Salado polychrome pottery types expressed vital ideas. The apparently widespread adoption of this new way of thinking on the part of diverse peoples leads us to characterize Salado as an ideology of inclusion (see pages 5–6).

Preservation Archaeology Field School students and staff prepare to photograph masonry walls exposed in our excavation units at the Fornholt site, June 2012. Since 2008, students and volunteers have been invaluable contributors to our investigations and to the interpretations presented in this issue. Funding for this work has come from the National Science Foundation and other public and private sources. PHOTO: DEBORAH L. HUNTLEY

Another distinctive aspect of Salado is the connection between the spread of this ideology and the movement of archaeologically recognizable groups of people. These people, whom we call the Kayenta, had economic and social impacts far beyond their numbers wherever they resettled. Archaeology Southwest's earlier work examined the dynamics and consequences of Kayenta migration to southeastern Arizona's San Pedro River valley and the Safford Basin (see *Archaeology Southwest Magazine* 17:3 and 20:2). The Fall 2010 issue of *Archaeology Southwest Magazine* (24:4) highlighted our initial investigations into Kayenta migration and Salado development in southwestern New Mexico's Upper Gila River valley, where our fieldwork has focused on the Mule Creek area.

Since then, with two more seasons of fieldwork and many more hours of analysis under our belts, we have answers to at least some of our questions. Our continuing investigations in the greater Upper Gila region (see map on page 4), which encompasses the Upper Gila River and its tributaries, as well as the Mimbres Valley, revolve around understanding the scale and social context of two migrations to this area. One occurred in the late thirteenth century, as the Kayenta left what is now northeastern Arizona and southeastern Utah, and the other occurred in the late fourteenth century, when Salado groups left what is now southeastern Arizona. We are also evaluating community organization during that tumultuous interval.



Sites mentioned in this issue, and sites with collections used in typological and provenance studies discussed on pages 16–19. MAP: CATHERINE GILMAN

Some articles in this issue discuss the evidence for Kayenta migration to the Upper Gila and assess its impact, and others consider the local social and environmental context in which this migration occurred. Brett Hill (pages 7–8) describes how ecology influenced the location of settlements in the Mule Creek basin. Michael Diehl's work (pages 8–9) suggests that heritage might have been an important factor in community decisions about which foods to cultivate or collect. Katherine Dungan (pages 9–10) explores how architecture provides insights into heritage and ceremonial practices before and after the arrival of the Kayenta. Robert Jones tracks the dramatic increase in exchange of obsidian from the well-documented Mule Creek source after A.D. 1300 (pages 11–12).

In a series of discussions, Deborah Huntley, Patrick Lyons, and Mary Ownby examine how pottery types reveal aspects of heritage, continuity, and change through time (pages 13–18); how components such as clay and sand temper indicate where different kinds of pottery were made (page 19); and how pottery decoration provides clues about ideology and social interaction (page 20). We then consider what parts of the Salado story our work has revealed, and what parts we hope to explore next (pages 21–22).

Together, discussions in this issue underscore the local, regional, and temporal variability in what it meant to be "Salado," while addressing one or more elements of this sweeping and complex story. Andy Laurenzi's concluding article (pages 22–23) fast-forwards to the layered process by which Archaeology Southwest, professional experts, and other stakeholders are endeavoring to protect the places that help tell this story.

Who or What Was Salado?

JEFFERY J. CLARK AND DEBORAH L. HUNTLEY
ARCHAEOLOGY SOUTHWEST

Salado is, at the very least, a complicated pattern of material culture that has intrigued and vexed archaeologists for decades—most researchers would agree on that. Ideas about what Salado means, however, vary greatly.

In Archaeology Southwest's model, which is informed by the work of Emil Haury, Charles Di Peso, and Patricia Crown, Salado describes an ideology that united people of diverse heritage. It also identifies the new traditions, practices, and objects associated with that ideology. But what led to the development of such an ideology? And what evidence supports our view?

In the late 1200s, prolonged drought and social upheaval across the Four Corners region led ancestral Pueblo residents to leave their homelands. Among those immigrants were groups from what is now northeastern Arizona and southeastern Utah. These people, whom we refer to as "Kayenta," migrated to already-populated valleys in the central and southern Southwest.

This migration ultimately produced a community in diaspora. We call it a diaspora because our evaluation of the archaeological evidence suggests that, even though these immigrants were far from their homelands and dispersed among many settlements, they formed another kind of community based on shared culture.

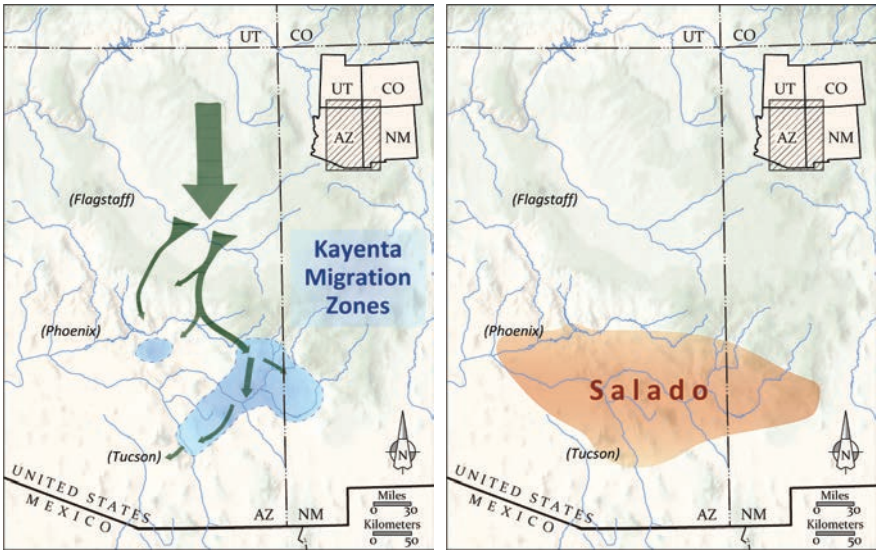
In some places, immigrants joined existing villages; in others, they created new settlements. The local people they encountered include groups known to archaeologists as the Hohokam and the Mogollon, among others. Kayenta immigrants and their descendants continued their cultural traditions in their new communities, and they maintained ties with people of similar heritage living in other communities. Distinctive kinds of pottery and a special pottery-making tool known as a perforated plate (see pages 13–15) mark the presence of Kayenta immigrants and their descendants at a site, as do specific architectural styles and features.

In many places where the Kayenta resettled, their arrival accompanied a series of significant changes. Our long-term investigations along a seventy-mile stretch of southeastern Arizona's San Pedro River valley resulted in profound insights into the impacts of this migration. Our findings highlighted the tensions that arose when the newcomers arrived. We found compelling evidence that groups who had been living in the valley for many centuries initially viewed the immigrants as menacing strangers.

Apprehension or outright hostility ensued in some, but not all, places where the Kayenta resettled, and we recognize variable responses to the newcomers across the central and southern Southwest. Still, archaeological evidence from across this landscape shows that, after a generation or two, the descendants of immigrants and local groups found ways to live together, or at least to coexist as neighbors.

Economic outreach efforts were likely significant in this regard: immigrants' descendants seem to have used their network of people with shared heritage to initiate extensive trade in obsidian, a volcanic glass used to make tools and arrow points (see pages 11–12). Descendant potters began to produce and widely exchange a bold new decorated pottery, which archaeologists call Salado polychrome or Roosevelt Red Ware (see pages 13–20).

In some places, people of local, Kayenta, and mixed heritage formed what we call coalescent communities, in which people share a place, but are culturally, and perhaps linguistically, different. From these coalescent communities emerged a new ideology—a new way of looking at things—that embraced aspects



Left: Kayenta migrations, 1275–1325. Right: Main area of Salado influence in the southern Southwest, 1300–1450. MAPS: CATHERINE GILMAN

Artist's visualization of potters working at the fourteenth-century coalescent community now known as the 3-Up site, view to th e north. The potter on the right is using a perforated plate to form the base of a vessel. IMAGE: ROBERT B. CIACCIO

of local and immigrant traditions. This florescence began in the early 1300s and continued until about 1450.

In each place where these diverse communities developed, we would expect to find somewhat different regional traditions influencing Salado; that is, what we found in the San Pedro is different from what we are finding along the Upper Gila and its tributaries, and from what others have documented elsewhere.

More remarkable, however, are the aspects of Salado that are common across a vast area. These help us define Salado and recognize its impact. Together with the widespread distribution of obsidian, especially obsidian from the Mule Creek source, the extensive production and distribution of Salado polychrome pottery provides a view on the magnitude of this change. Salado pottery itself reflects an adaptation of certain Mesoamerican imagery that was probably commonly understood across the Southwest, serving to unite people of different backgrounds (see page 20). Wide-ranging and consistent use of this imagery suggests that many people began to see themselves differently.

By characterizing Salado as an ideology of inclusion, we do not suggest that people gave up their "old" identities, but rather, that they adopted a new, more inclusive identity. People may have thought of themselves as "Kayenta Salado" or "Hohokam Salado," not unlike how some Americans think of themselves as Korean Americans or Irish Americans.

We do not find it surprising that fourteenth-century settlements associated with Salado demonstrate evidence of coalescence and diaspora. In situations where immigrants and locals frequently interact, coalescent organizations downplay differences and facilitate integration. Conversely, solidarity based on shared heritage and loss of homeland may be advantageous in other situations, as when immigrants and descendants communicate or trade among themselves.

We believe that these complementary qualities were at the heart of Salado ideology, and that they form the crux of what makes Salado such a complicated and enigmatic archaeological pattern.

Mule Creek Ecology and Settlement

J. BRETT HILL
HENDRIX COLLEGE AND ARCHAEOLOGY SOUTHWEST

Mule Creek's natural environment offers clues to what drew settlers to this beautiful upland basin in the distant past. Open grassland, cottonwood-lined streams, forested hills, and abundant game attest to the productivity of this environment and provide a glimpse of what many parts of the Southwest might have looked like in earlier times. As described in this issue, the availability of obsidian was important to the area's precontact inhabitants and to our research (see pages 11–12). Some of the same geological factors that produced obsidian here continue to influence the area's ecology.

The basin drained by Mule Creek appears to have resulted from an ancient volcanic eruption that left a broad, shallow depression with a narrow canyon and stream flowing northward to the San Francisco River (see map on page 4). This canyon and its constraining influence on local hydrology contribute to the area's ecological abundance, in that the local geology inhibits the stream-channel incision that has plagued so many areas of the Southwest. The bedrock canyon resists erosion and dams water behind it, resulting in a higher, more reliably accessible flow.

The effects of this bedrock canyon are evident in the abundant surface water found throughout the valley. During our field seasons, water flowed in stretches of Mule Creek and its tributaries and in seeps and springs, all near large archaeological sites. A functioning well at a ranch near the 3-Up site had water a few feet below the surface. Many stream channels close to large sites are near the level of surrounding floodplains, suggesting that simple, gravity-fed irrigation agriculture might support hundreds of people even now.

Complementing Mule Creek's generally high water tables are small stream confluences that positively affect hydrological flow near 3-Up, Gamalstad, and Fornholt, the area's largest sites (see map on page 4). It is no coincidence that these population centers are located at the junctures of Mule Creek and each of its tributaries. The effect of these junctures is similar to that of the bedrock canyon: alluvial deposition inhibits channel incision and dams hydrological flow, creating elevated water tables and facilitating irrigation.

Small bedrock reefs of volcanic tuff cross the valley near the ground surface, and we can see them in stream channels. The likely products of geological faults, these reefs also generate elevated streamflow and springs and seeps adjacent to archaeological sites. Verdant patches of grass mark the frequent occurrence of near-surface water throughout the area.

Overall, these conditions contribute to a rich ecosystem that seems to have resisted environmental degradation more successfully than neighboring areas. Parts of the Southwest experienced significant environmental variation during the twelfth through fifteenth centuries, and researchers think the Upper Gila drainage experienced a cycle of channel incision in the early 1400s.

A lush spring along Mule Creek attests to the productivity of this environment even today .
PHOTO: J. BRETT HILL

The relative environmental stability provided by Mule Creek's geology should have benefitted its inhabitants.

Although more predictable in some respects, Mule Creek ecology was not without spatial and temporal variation. For example, the shallow bedrock reefs that contribute to its springs and seeps also suggest a shallow aquifer measuring a few dozen feet deep. In times of drought, aquifers could have been depleted. Consequently, it is worth noting that the larger, earlier occupations at Gamalstad and Fornholt are located in downstream areas near the largest concentrations of streamflow and irrigable floodplain. In contrast, the latest large settlement is located upstream at 3-Up, where there is not as much arable land, but greater possibility of runoff farming on streams emerging from the hills. These streams are less susceptible to water-table depletion. This pattern may indicate that later immigrants to the Mule Creek valley had to settle where arable land was more limited, or that people retreated to places where they could continue to harvest upland water during droughts, or both.

Ancient Farming and Gathering near Mule Creek

MICHAEL W. DIEHL
DESERT ARCHAEOLOGY, INC.

Archaeologists examine charred seeds to learn which plants people ate in the past. Because charring renders seeds impervious to bacteria, insects, and all but the strongest chemicals, burned seeds can last for thousands of years. We collect bags of dirt from hearths, pits, and house fill, and then separate charred plant remains from dirt by pouring each sample into a tank of water and scooping off everything that floats. The products are—perhaps unimaginatively—called "flotation samples." I examine them under a microscope, identifying and counting the seeds in each sample.

Top: Field school students Zoe McKenzie (left) and Jake Mitchell (right) excavating burned maize cobs from a storeroom at the Fornholt site in 2011. PHOTO: WILLIAM H. DOELLE *Right: Close-up of one of the Fornholt cobs.* PHOTO: ROBERT B. CIACCIO

Analysis of flotation samples from the Mule Creek fieldwork indicates that residents of the Gamalstad, Fornholt, and 3-Up sites (see map on page 4) substantially depended on crops: corn, beans, and squash. This is not surprising. Maize was introduced to the Southwest sometime before 2100 B.C. Three thousand years of hybridization transformed maize from runty, low-yield popcorn into a floury, large-grained, high-yield staple ("corn"). At the same time, people altered squashes to yield fleshier fruits, and by 400 B.C., they had added common beans to the mix. Together, these three plants produced the best nutrition for the effort required to grow and process them.

Inhabitants of these sites also consumed wild plants. Weeds that grow in and around crops, such as goosefoot and pigweed, were relatively common through time at all three sites. Use of high-yield wild resources, such as juniper berries, pine nuts, and walnuts, was more variable. For example, residents of 3-Up used pine nuts in the 1200s, but their thirteenth-century "neighbors" at Fornholt (see page 17) do not seem to have used pine nuts, walnuts, or juniper. Inhabitants of 3-Up continued to use pine nuts through the 1300s.

At this point, we are not sure if these differences are real, or what they might imply. We may not have analyzed enough different kinds of features from the thirteenth-century settlement at Fornholt to capture the full range of plants people consumed there. Fortunately, additional flotation samples from Fornholt await examination.

If we still do not find evidence that Fornholt's residents consumed high-yield wild resources, then this may suggest that their heritage played a role in what they chose to eat. Perhaps these farmers did not or could not travel as far as their neighbors did to obtain wild foods. Alternatively, they simply might have depended on agriculture to a greater degree than we would expect, based on what is currently known about other thirteenth-century sites. If so, then the storeroom fire at Fornholt (see page 17) probably did cause villagers to leave. Without a tradition of juniper, pine nut, or walnut use, and without stored food crops, Fornholt's inhabitants would not have held adequate provisions.

Religious Architecture and Continuity, 1200–1450: Evidence from the Fornholt Site and Ormand Village

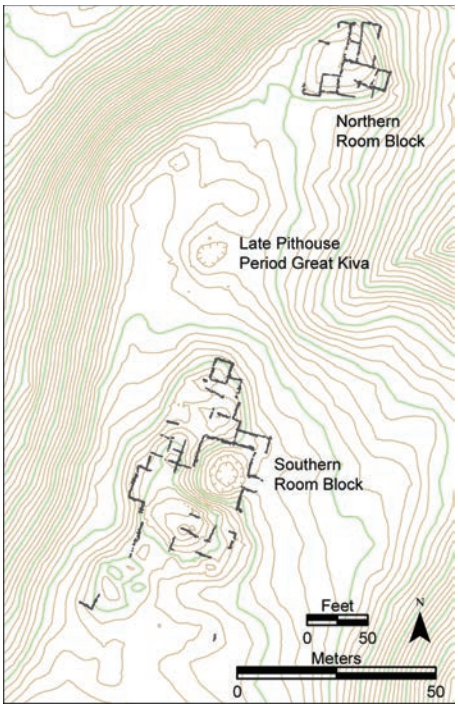
KATHERINE A. DUNGAN
UNIVERSITY OF ARIZONA AND ARCHAEOLOGY SOUTHWEST

Since 2010, Archaeology Southwest has focused its Mule Creek fieldwork on a thirteenth-century village known as the Fornholt site (see map on page 4). The settlement layout, architecture, room features, and ceramic assemblage at Fornholt show clear similarities with contemporaneous sites in the Mogollon Highlands to the north and west, where this period is called the Tularosa phase (A.D. 1200–1300). Together with the Gila Cliff Dwellings, Fornholt probably represents the far southern edge of Tularosa phase settlement—a sort of "Tularosa frontier" (see *Archaeology Southwest Magazine* 24:4). Evidence from Fornholt sheds light on the Upper Gila social landscape in the generation preceding the Kayenta immigrants' arrival, and may also contribute to our understanding of fourteenth-century settlements in the region.

Aerial view to the northwest of the southern room block at the Fornholt site. Outlines mark where crew members cleared brush from surface remains of walls to facilitate mapping. Note the sizable depression, which test excavations revealed to be a Tularosa phase great kiva. The large depression between the northern and southern room blocks is visible as an area of green vegetation at the top edge of the photo. PHOTO: HENRY D. WALLACE

One of Fornholt's most interesting features is the large depression surrounded by the southern room block. At the surface, the depression's outline strongly resembles Tularosa phase great kivas. Archaeologists have documented these large, rectangular, semisubterranean structures throughout the Mogollon Highlands and farther north in the Upper Little Colorado. The characteristic form and features of these kivas have roots in Late Pithouse period ceremonial structures. (In fact, limited excavation in Fornholt's other sizable depression, which lies between the two room blocks, revealed a probable Late Pithouse period great kiva.)

Test excavations within Fornholt's Tularosa phase great kiva depression uncovered the structure's buried walls. Its dimensions—about thirty-five feet by forty feet—correspond to those of other great kivas in the Mogollon Highlands. At the center of the structure, we found two pits, each with a small, brown worked sherd disk immediately above it. A similar association of sherd disks and floor features comes from the contemporaneous great kiva at Turkey Creek Pueblo, in the Point of Pines area of the southern Mogollon Highlands (see map on page 4). We also found a San Pedro projectile point above the larger of the two pits. Dating to 1200 B.C.–A.D. 300, the point may have been collected by Fornholt's Tularosa phase inhabitants. The larger pit contained a ceremonial deposit of animal bone and other material, and was sealed with mud plaster. Analysis of the pits' contents is ongoing.

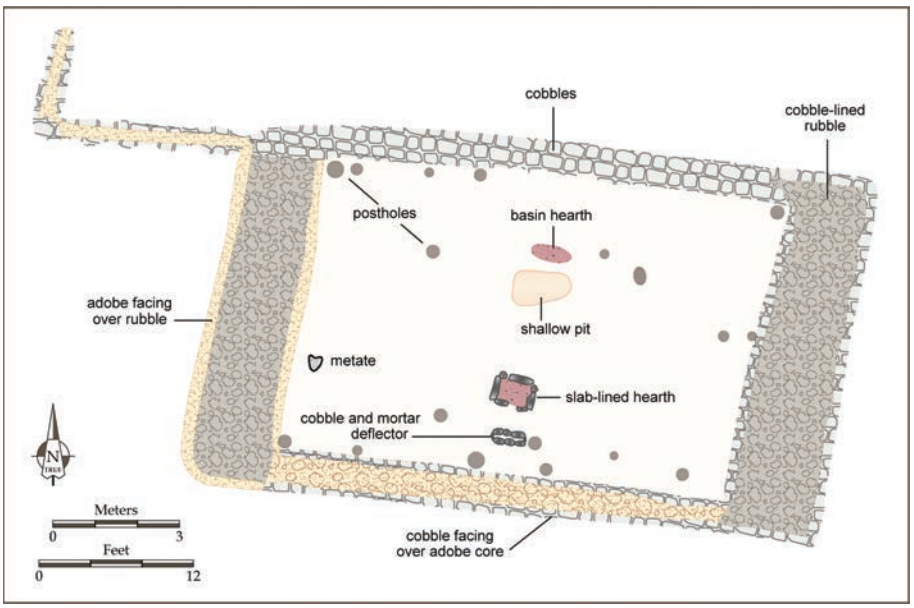


Map showing Tularosa phase room blocks at the Fornholt site. Tests in the large depression between the two room blocks showed it to be a probable Late Pithouse period great kiva. MAP: KATHERINE A. DUNGAN

Certain parallels between Fornholt's thirteenth-century great kiva and a fourteenth-century ceremonial space at Ormand Village, a Cliff phase site (A.D. 1300–1450) in the Upper Gila's Cliff Valley (see map on page 4), are instructive. When archaeologists partially excavated Ormand Village in the 1960s, they found a large, isolated room with distinctive floor features aligned north-south through its center. Each of the room's low walls reflected a slightly different building technique, and the east and west walls were almost six-and-a-half feet thick. Because of the standing walls' very low height, and the apparent lack of fallen wall or roof material, the archaeologists suggested that people purposefully dismantled the upper walls and roof. Among the few artifacts found on the floor were four worked sherd disks, including one made from a Salado polychrome sherd.

The presence of these sherd disks and the considerable size of the Ormand structure (circa 750 square feet) evoke the great kiva traditions of the Mogollon Highlands. Like the continuation of smudged and white-on-red ceramic traditions (see page 18) at Ormand, this suggests that Upper Gila residents of the 1300s and early 1400s blended Mogollon traditions into their new identities. At the same time, the combination of deflector, hearth, and oblong pit at Ormand Village is not unlike that found in northern-style kivas at Goat Hill and Davis Ranch Ruin, two Kayenta enclave sites in southeastern Arizona (see map on page 4).

Other than this great kiva-like room at Ormand Village, a smaller kiva-like structure at Besh-Ba-Gowah, and possibly some of the platform mounds at southern Arizona sites, archaeologists have not found easily recognizable ceremonial spaces at "Salado" sites—which is interesting, given the apparent religious significance of Salado polychrome iconography (see page 20). With its combination of construction techniques and references to multiple traditions, this ceremonial structure at Ormand may embody the coalescent nature of fourteenth-century Upper Gila settlements, where residents created new identities that drew upon diverse histories.



Plan view of the ceremonial structure at Ormand Village. Note the distinctive wall-construction techniques and the relative positions of features across the floor. Adapted from Hammack et al. (1966) and Wallace (1998). For complete references, go to www.archaeologysouthwest.org/asw26-3-4. GRAPHIC: CATHERINE GILMAN

Mule Creek Obsidian in the Time of Salado

ROBERT M. JONES
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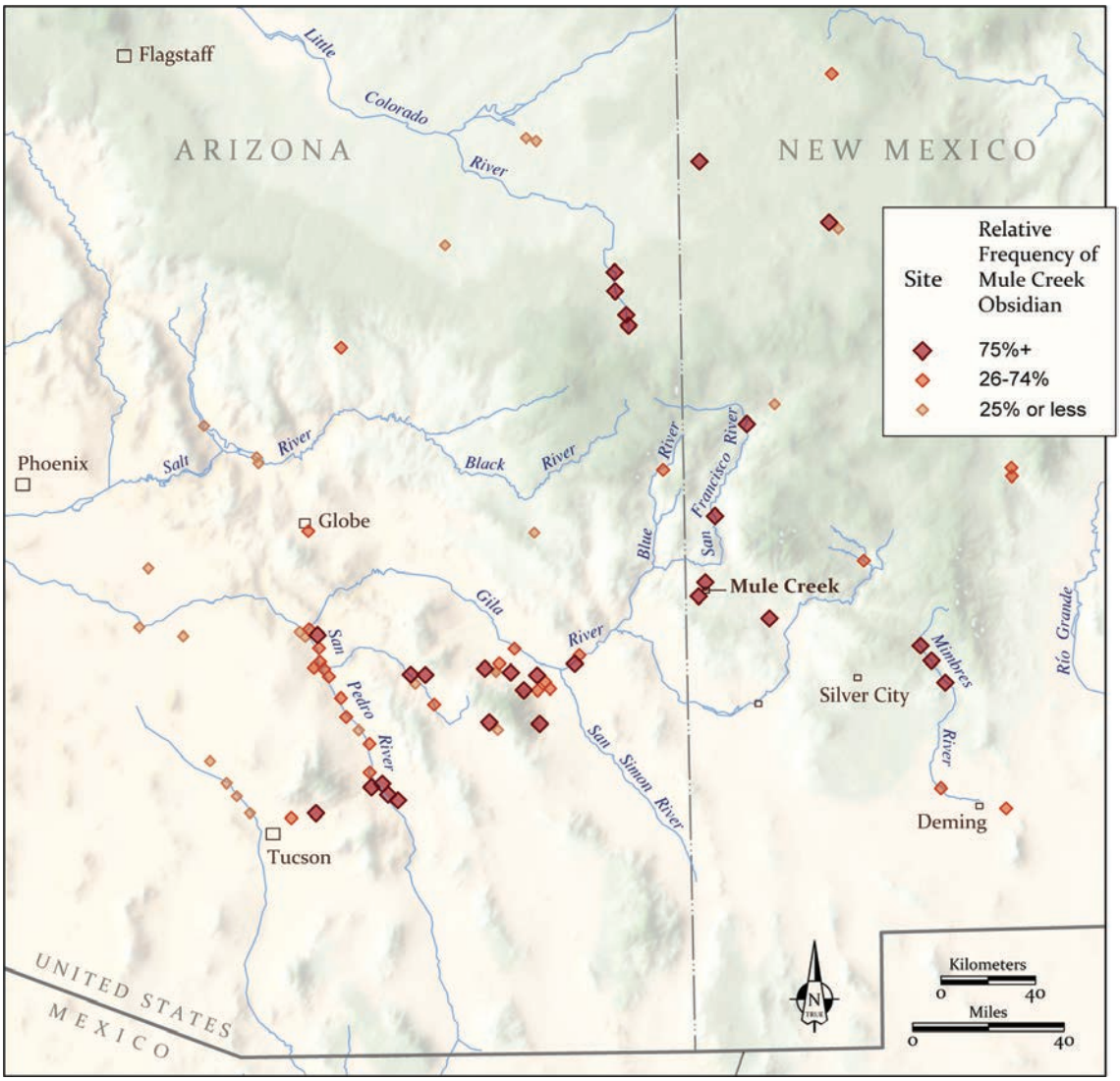
From a small valley in southwestern New Mexico, people bearing various goods and nodules of a glassy black rock traversed a vast area, visiting kin, forming alliances, and exchanging much more than the stone itself. Archaeology Southwest's examination of this Mule Creek obsidian is yielding insights into social and economic networks in the time of Salado.

Archaeologists have traditionally examined pottery to understand these kinds of connections (see pages 13–19), and obsidian exchange is proving to be another powerful line of evidence. X-ray fluorescence spectroscopy (XRF) (see *Archaeology Southwest Magazine* 26:2) allows us to geochemically source obsidian to the volcanic eruption that formed it, meaning we can say with certainty that an obsidian artifact derived from this volcano or that riverbed.

We know people widely traded Mule Creek obsidian in the centuries just before the Spaniards arrived. We see that its use increased in the A.D. 1300s, when populations throughout the southern Southwest were shifting. Today, we can also say that people transported Mule Creek obsidian as far north as the Zuni region and as far south as Deming, New Mexico. It travelled west to Tucson and to the edge of the Phoenix Basin, as well as east to the Rio Grande.

Our work in Mule Creek has aimed, in part, to understand who lived nearest the geologic source of this obsidian in the 1300s and early 1400s. That community would have been in the best position to circulate the material. We paired study of the source with examination of existing collections from across the Southwest.



Map of sites from which obsidian samples were submitted for XRF sourcing analysis. Percentages reflect the proportion of Mule Creek obsidian in these samples. Note that the distribution of Mule Creek obsidian is comparable to the area in which Salado polychrome pottery comprises more than half of the decorated pottery found at sites of the period (see map on page 15). MAP: CATHERINE GILMAN

Left: Obsidian erodes from a hillside at the Mule Creek source. Nodules gathered from this ancient volcanic dome were traded across the Southwest. The sandy material is perlite, hydrated obsidian that can no longer serve as tool stone. Below: Close-up of glassy black marakenites, the geologic term for such nodules (also popularly known as Apache tears). PHOTOS: ROBERT M. JONES

Data demonstrate where Mule Creek obsidian ended up, who moved it, and why they did so, as well as changes in these patterns. Our investigations show that Kayenta immigrants arrived in Mule Creek in the late 1200s, when northerners appeared across the southern Southwest. Shared heritage surely facilitated exchange among these immigrants and their descendants throughout the region. Settlements inhabited after migration were much more likely to use Mule Creek obsidian, regardless of proximity to the source. However, sites where immigrants almost certainly lived were more likely to have Mule Creek obsidian than sites without markers of their presence.

Some of these sites were immigrant enclaves, such as Davis Ranch and Reeve Ruin (see map on page 4), while others were places where people had joined existing communities, such as University Indian Ruin on Tucson's northeast side. Correlation between markers of northern immigrants and Mule Creek obsidian is relatively strong: for example, in a sample of thirty-eight settlements with Maverick Mountain Series pottery (see pages 13–14), only six lack Mule Creek obsidian.

If visiting others of similar her itage and traveling among enclaves provided one means of spreading Mule Creek obsidian, then Salado ideology (see page 20) probably provided another. Mule Creek communities composed of people of diverse heritage made and used Salado polychromes (see page 19). Places where people used this distinctive pottery are significantly more likely to yield Mule Creek obsidian than those where residents did not. Although the correlation is not as strong as that between immigrants and Mule Creek obsidian, it is much more widespread; that is, Salado polychrome's extensive distribution is comparable to that of Mule Creek obsidian (notable exceptions being the Phoenix Basin and lower Verde Valley, where archaeologists have not found Mule Creek obsidian at fourteenth-century settlements).

Expansion of Salado ideology may well have included ties to Salado communities in Mule Creek—and, by extension, access to Mule Creek obsidian. What this means in social terms is probably complex, and different from valley to valley. As our work moves forward, obsidian data will continue to inform our interpretations.

Maverick Mountain Series and Salado Polychrome Origins

PATRICK D. LYONS
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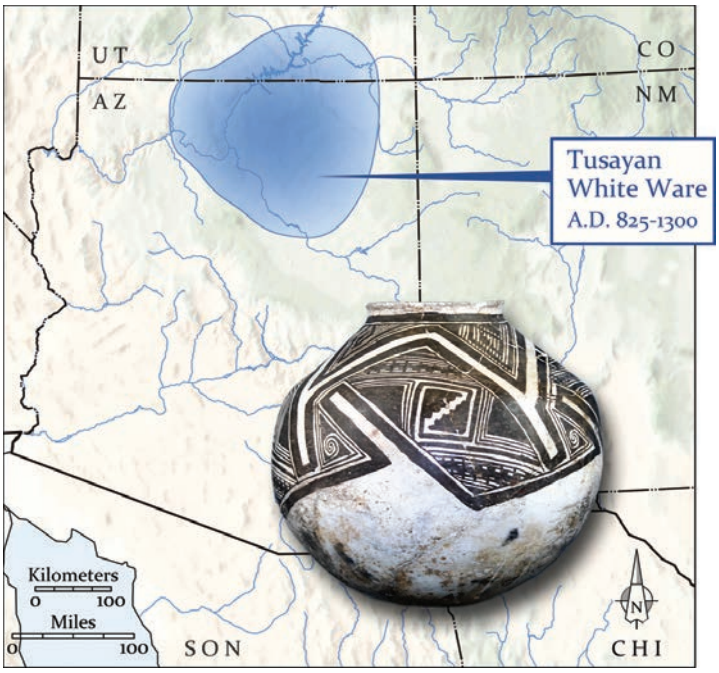
Many lines of evidence—including continuity in key aspects of technology and decoration—strongly suggest that Kayenta immigrants developed Salado polychrome pottery. Its "forebears" were Tsegi Orange Ware and Tusayan White Ware, produced in northeastern Arizona and southeastern Utah, and its "cousin" (figuratively speaking, of course) was the Maverick Mountain Series, produced in southeastern Arizona and southwestern New Mexico by northern immigrants and their descendants.

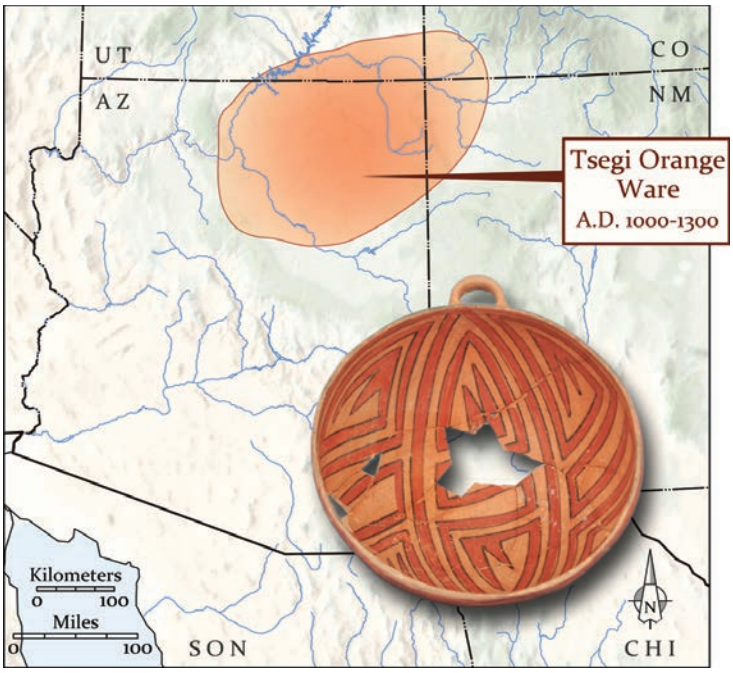
The Maverick Mountain Series of pottery types derives its name from the Maverick Mountain phase (A.D. 1265–1300) Kayenta enclave at Point of Pines, a pueblo in the mountains of east-central Arizona. Salado polychrome pottery is known more formally as Roosevelt Red Ware, a moniker coined in the 1930s. This name derived from the Roosevelt Lake area, which, at the time, seemed to be the ware's production center. As the widespread production of the polychrome types became more apparent, and as archaeologists recognized possibly related types that did not fit the original definition of the ware, some researchers proposed the substitute term Salado polychrome. This group includes non-polychrome types, however, such as Pinto Black-on-red and Cliff White-on-red.

The connections among the Maverick Mountain Series, the Salado polychromes, and the two northern wares became evident at Point of Pines. There, archaeologists found

Distinctive design layouts and motifs link Tusayan White Ware and Tsegi Orange Ware to each other and to the Maverick Mountain Series and the Salado polychromes. These examples show a motif known as the "Kayenta bird wing," shown here in this caption. Right: Partially reconstructible Kiet Siel Polychrome (Tsegi Orange Ware) jar from the floor of the D-shaped kiva at Point of Pines Pueblo. Bottom left: Partially burned Maverick Mountain Polychrome bowl, with rectilinear version of the bird wing. Bottom middle: Gila Polychrome (Salado polychrome) bowl. Bottom right: Cliff Polychrome (Salado polychrome) bowl (also pictured on the cover of this issue). For catalog numbers and provenience information, visit www.archaeologysouthwest.org/asw26-3-4.

PHOTOS: RIGHT, BOTTOM LEFT, AND BOTTOM MIDDLE: PATRICK D. LYONS, COURTESY OF THE ARIZONA STATE MUSEUM, UNIV OF ARIZONA; BOTTOM RIGHT: MATHEW A. DEVITT, COURTESY OF EASTERN ARIZONA COLLEGE





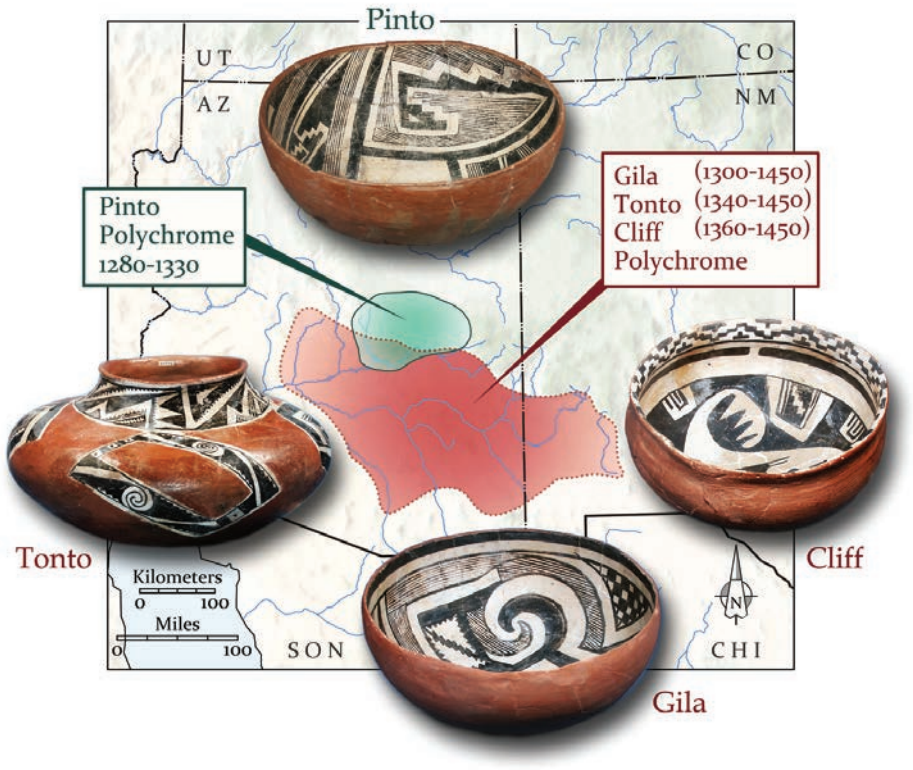
Maps showing examples and distributions of Tusayan White Ware, Tsegi Orange Ware, and the Maverick Mountain Series. The top two maps show where each ware is commonly found. The Maverick Mountain Series map shows the area in which sites of the time period have substantial amounts of this pottery; that is, more than 20 percent of the decorated pottery found at these sites is Maverick Mountain Series. For catalog numbers and provenience information, visit www.archaeologysouthwest.org/asw26-3-4. IMAGES: TUSAYAN WHITE WARE AND TSEGI ORANGE WARE VESSELS BY PATRICK D. LYONS, COURTESY OF THE ARIZONA STATE MUSEUM, UNIV OF ARIZONA; MAVERICK MOUNTAIN SERIES JAR BY MATHEW A. DEVITT, COURTESY OF EASTERN ARIZONA COLLEGE; MAPS: CATHERINE GILMAN

some of the earliest, most securely dated specimens of Maverick Mountain Series and Salado polychrome types in association with Kayenta pottery-making tools known as perforated plates, other kinds of pottery that had been made in the Kayenta region, and a northern-style D-shaped kiva. The Maverick Mountain Series and Salado polychrome pottery quickly spread far beyond Arizona's mountains, and local potters produced both groups of types at settlements throughout the southern Southwest. (Salado polychrome pottery has a much broader distribution, however.)

Although there are clear stylistic and technological differences between Tusayan White Ware and Tsegi Orange Ware, the antecedent traditions, potters produced vessels of both wares using the coil-and-scrape technique. Late in the Kayenta sequence, the distinctive layouts and motifs painted on both wares are often very similar. Potters also added a single horizontal loop handle to the exterior of most Tusayan White Ware and Tsegi Orange Ware bowls, just below the rim.

Maverick Mountain Series types represent immigrant potters reproducing the Kayenta orange ware tradition, using the clays and tempers they encountered in the southern Southwest. Most of these vessels exhibit many of the basic elements of Tsegi Orange Ware technology and style. They are tempered exclusively with sand, however, rather than with the traditional mix of crushed whiteware sherds and sand.

Salado polychrome pottery represents a blend of Tsegi Orange Ware and Tusayan White Ware technology and decoration. Except for some late types, Salado polychrome bowls are



Map showing the earliest Salado type, Pinto Polychrome, and the most common and enduring Salado types, Gila, Tonto, and Cliff Polychrome. The distribution shown for Pinto Polychrome reflects the area in which it comprises a substantial portion of the decorated pottery (20 percent or more) for that time period. The distribution of the other three types shows where they comprise more than half of the decorated pottery found at sites of that general time range. For catalog numbers and provenience information, visit www.archaeologysouthwest.org/asw26-3-4. IMAGES: MATHEW A. DEVITT, COURTESY OF EASTERN ARIZONA COLLEGE AND THE ARIZONA STATE MUSEUM, UNIV OF ARIZONA; MAP: CATHERINE GILMAN

red on the outside (Tsegi Orange Ware) and white on the inside (Tusayan White Ware). The great majority of Salado polychrome vessels bear organic paint, as does Tusayan White Ware. Archaeologist Patricia Crown noted that this innovative combination of colors and materials entailed an unusual firing regime: potters had to fire vessels between 600° C and 700° C, in a neutral-to-reducing (oxygen-poor) atmosphere, and for a short amount of time. Significant changes to these conditions would result in the organic paint burning out or the red, iron-rich slip turning black. Like late Tsegi Orange Ware, Tusayan White Ware, and the Maverick Mountain Series types, Salado polychrome pottery production appears to have involved the use of perforated plates as base molds and potters' turntables (see image at left and page 6).

Perforated plate from the northern San Pedro Valley, Arizona. PHOTO: JANINE HERNBRODE

Characteristic Kayenta design layouts appear on most early Salado polychrome bowls, which sometimes also bear horizontal loop handles. Kayenta and Tusayan motifs became increasingly common on Salado polychrome pottery over time, lending support to the idea that groups of Kayenta immigrant potters dispersed across the southern Southwest not only retained aspects of northern identity, but also maintained a network linking themselves to other potters in a broadly conceived northern homeland.

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For an expanded essay on these relationships and an image gallery of the pottery types discussed, visit www.archaeologysouthwest.org/asw26-3-4.

Food for Thought...

Archaeologists use standardized terms to classify Southwestern pottery. This allows us to "speak the same language" when making comparisons. One of the broadest classifications is ***ware***. Each ware name has two parts: the first indicates where archaeologists first identified it (although this is not always the place where the ware was most common), and the second describes the ware's color scheme or some aspect of technology. An example is *Tsegi Orange Ware* (pages 13–15). Wares represent technological traditions associated with groups of people in different places. A ***type*** is a subdivision of a ware, with a particular style or design configuration. An example is *Tusayan Polychrome*, a Tsegi Orange Ware type pictured opposite this page. Types reflect change through time. The term ***series***, as in *Maverick Mountain Series*, refers to a group of related types that represents a regional subset within a ware, or to a group of types that researchers have not yet placed within a ware.

Pottery, Heritage, and Ideology in the Greater Upper Gila Region, 1200–1450

DEBORAH L. HUNTLEY
ARCHAEOLOGY SOUTHWEST

Pottery from thirteenth-, fourteenth-, and fifteenth-century villages in the Upper Gila region reveals a complex social landscape. Through typological, compositional, stylistic, and technological analyses, we are exploring links among Kayenta communities in diaspora and evaluating integration within later coalescent communities. Our insights into community integration benefit from the refined typology and chronology of Salado polychrome developed by Patrick Lyons (see maps on pages 15 and 17).

Kayenta Migration and Salado Coalescence Are Traceable Across Space and Time

Typological analyses of pottery recovered through our work in Mule Creek point to larger-than-expected local populations in the 1200s and an influx of Kayenta-affiliated immigrants in the late 1200s. At the 3-Up site, concentrations of Maverick Mountain Series ceramics, a group of pottery types associated with Kayenta immigrants (see pages 13–15), indicate that these newcomers lived at the settlement, but apart from other residents. Compositional analyses show that immigrant potters used local clays and volcanic sand temper to make these vessels (see page 19). We also found a fragmentary perforated plate—a Kayenta pottery-making tool—on the floor of a probable fourteenth-century room at 3-Up. This room was part of a small settlement a short distance away from the main village.

At the nearby Fornholt site, we identified a population with very different connections. Ceramics found there include Cibola White Ware, White Mountain Red Ware, and early Zuni Glaze Ware types. We know these pots were not made locally because the potters had used Colorado Plateau clays and crushed

Examples of Salado types. Clockwise from top left: Gila Polychrome, Cliff Polychrome, Dinwiddie Polychrome, Cliff White-on-red, Nine Mile Polychrome, and Los Muertos Polychrome. Note the Kayenta bird wing motif on the exteriors of the Cliff White-on-red and Dinwiddie Polychrome bowls. All vessels are shown at the same scale except the Los Muertos Polychrome jar, which is shown at twice the size of the other vessels. For catalog numbers and provenience information, visit www.archaeologysouthwest.org/asw26-3-4.
PHOTOS: MATHEW A. DEVITT, COURTESY OF EASTERN ARIZONA COLLEGE

sherd temper. Instead, these vessels represent ties to groups living in Tularosa phase sites to the north and west (see pages 9–10). Although we also found some imported Cibola White Ware and White Mountain Red Ware at 3-Up, we did not find a single sherd of Maverick Mountain Series or Salado polychrome pottery at Fornholt.

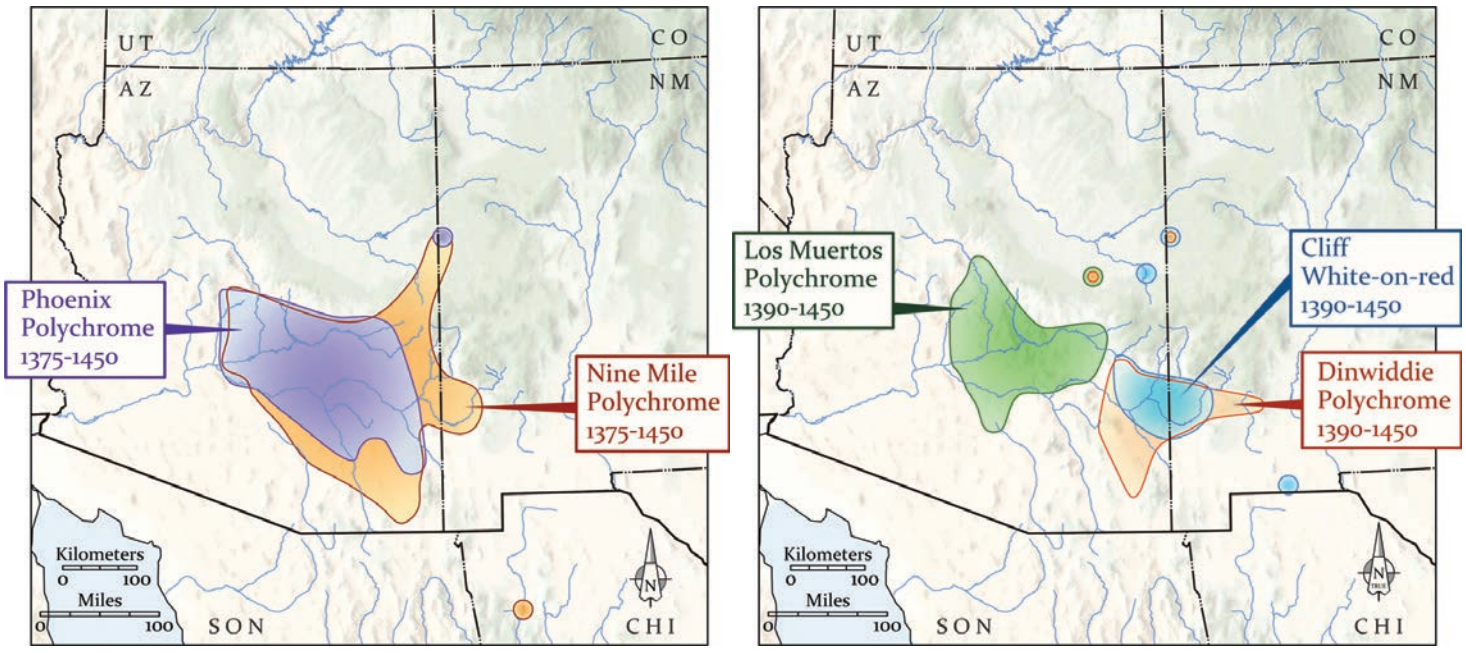
Moreover, ceramic evidence raises the possibility that people were living at Fornholt when Kayenta immigrants arrived at 3-Up—if so, residents of the two settlements would have seen smoke from each other's fires over the hill between them. We found a Cibola White Ware type known as Pinedale Black-on-white at Fornholt, and we found a Maverick Mountain Series type, Maverick Mountain Polychrome, at 3-Up. People were making these two culturally distinct pottery types at about the same time, between 1275 and 1325. Although we are not sure if, or how, the two communities interacted, we do know that Forholt's residents seem to have departed somewhat suddenly. Some rooms, including a maize- and bean-filled storage room, were burned at about the time villagers left, and perhaps even caused their abrupt departure (see page 9). People continued living at 3-Up through the 1300s, however, and it developed into a large Salado village.

We found perforated plates and concentrations of Maverick Mountain Series pottery in museum collections from villages in the Cliff and Redrock valleys (see map on page 4), confirming the presence of Kayenta immigrant enclaves at several thirteenth-century sites in the Upper Gila region. These enclaves formed the cores of large fourteenth-century Salado villages. In contrast, Salado sites along the upper Mimbres River and TJ Ruin farther north (see map on page 4) bear little evidence of thirteenth-century migrations. Maverick Mountain Series sherds are rare at these sites, and we did not find any perforated plates in existing collections.

Ceramics and settlement studies show that, just as the presence and size of Kayenta enclaves seems to have varied across the greater Upper Gila region, so too did later Salado settlement. At sites such as 3-Up and Ormand Village (see map on page 4), substantial Salado presence is evident after about 1375. In other areas, particularly the upper Mimbres Valley, Salado populations may have been much smaller. Salado migration from southeastern Arizona may have been less significant than we posited previously.

Local Production of Polychrome Pottery Is Widespread

Combined Neutron Activation Analysis and petrographic data (see page 19) demonstrate that potters in many parts of the greater Upper Gila region made Maverick Mountain Series pottery in the late 1200s and early 1300s and Salado polychromes in the 1300s and 1400s, using the same range of alluvial clays and sand tempers found in local utility wares. The presence of



When we look at pottery from Salado sites of the late 1300s and early 1400s, two patterns emerge. We find some late Salado types in substantial quantities at many Salado sites in the central and southern Southwest, but we find others only in specific areas. Those differential distributions seem to reflect an east-west divide that roughly corresponds with Mogollon and Hohokam areas as archaeologists have traditionally defined them. Certain aspects of these regionally distinct Salado types also reflect much earlier local traditions. This may imply an unraveling of the inclusive Salado ideology.
MAPS: CATHERINE GILMAN

locally made Maverick Mountain Series pottery in our study area suggests that immigrants maintained Kayenta cultural identity in their new homes, which accords with our expectations for a community in diaspora.

Salado polychromes appeared as new religious and social circumstances fueled demand for these vessels (see page 20). We know from previous research that potters were making them in many valleys of the southern Southwest, rather than in one or two major producing settlements. Likewise, our chemical and mineralogical analyses of Salado polychrome pottery from greater Upper Gila valleys show that people exchanged vessels within and among these valleys, though we are not yet able to assess the scale of such exchange. Comparative analysis of Salado polychrome vessels from the Safford Basin, the Sulphur Springs Valley, and the Globe area of southeastern Arizona also indicates local production within valleys and limited exchange between.

Red-slipped and smudged brown ware vessels, such as this Belford Red Smudged bowl (90-5-1) from the Dinwiddie site, reflect a blending of certain Mogollon surface treatments and Salado forms.
PHOTO: MATHEW A. DEVITT, COURTESY OF EASTERN ARIZONA COLLEGE

In the San Pedro River valley, villages or groups of villages where potters produced Salado polychromes always included at least one probable Kayenta enclave. Because 3-Up, Ormand Village, and the Dinwiddie site (see map on page 4) show clear evidence of immigrants, we propose that these immigrants or their descendants initiated regional Salado polychrome production at these three settlements. For upper Mimbres Valley sites and TJ Ruin, where Kayenta immigrants do not seem to have settled, we determined that potters at these sites probably did not make much, or any, of the Salado polychrome pottery found there. The Salado polychrome compositions in our samples from these sites do not match those of local utility wares (see page 19).

Stylistic Uniformity Reflects Integrative Ideology

Stylistic analysis of Salado polychromes speaks to the role these vessels played in coalescent community integration in the 1300s and 1400s. We recorded design elements and motifs for a sample of several hundred large Salado polychrome sherds, and then compared these with data for previously and newly recorded whole vessels from several sites in the Upper Gila region, the Mimbres Valley, and southeastern Arizona. We learned that potters did not have distinct local preferences for particular suites of icons. Such widespread stylistic uniformity suggests that potters working in different locations communicated closely and shared a repertoire of appropriate designs. This supports archaeologist Patricia Crown's idea that Salado polychrome pottery served to integrate diverse groups (see page 20).

We observed the most dramatic stylistic differences when we compared late Salado polychrome bowls from several sites in the Upper Gila and vicinity to those from southeastern Arizona (see maps on page 17). Although some Salado polychrome types of long duration occur over a broad area of the Southwest, certain late fourteenth- and early fifteenth-century Salado polychromes do not. For example, Dinwiddie Polychrome, a large bowl form with smudged interior, is relatively common in the Cliff Valley and Mule Creek. To date, archaeologists have not found this type in Arizona west of the Safford Basin, nor, to our knowledge, in the Mimbres Valley to the east. Los Muertos Polychrome, another late variety, appears in and around the Phoenix Basin, but not in the greater Upper Gila region. This substantiates previously observed patterns of regional stylistic variation in the late 1300s and early 1400s, and justifies the naming of these new types within the Salado polychrome family. Moreover, the breakdown of stylistic uniformity at the end of the Salado polychrome tradition implies fracturing of the inclusive ideology it symbolized, as well as a reassertion of local traditions.

Utility Ware Demonstrates Continuity and Change

Technological analysis of sherds from utility wares—the "everyday" storage and cooking pots—at Upper Gila sites highlights the influence of long-standing local Mogollon traditions on late precontact potters despite the presence of Kayenta immigrants and subsequent cultural integration. Locally made brown ware assemblages from Upper Gila sites have large proportions of corrugated jars, a continuation of surface treatments associated with Mogollon pottery. Many corrugated wares are red-slipped, an attribute of the early Mogollon ware known as San Francisco Red (550–950). Smudging of utility ware bowls and jars is also common. This local Mogollon attribute carries over to late Salado types common only in the Upper Gila, such as Dinwiddie Polychrome and Cliff White-on-red.

It is also worth noting that utility vessel forms of the 1300s mirror developments in Salado polychrome forms, particularly the wide-mouthed bowls or jars with flared or recurved rims that resemble Cliff Polychrome bowls. If Salado polychrome production remained largely in the hands of Kayenta descendants, then their influence over other potters probably extended into realms of technology and function.

Geologic Diversity and Ceramic Provenance in the Greater Upper Gila Region

DEBORAH L. HUNTLEY, ARCHAEOLOGY SOUTHWEST
MARY F. OWNBY, DESERT ARCHAEOLOGY, INC.

We examined pottery production in the greater Upper Gila region using Neutron Activation Analysis (NAA) and petrography (see *Archaeology Southwest Magazine* 26:2). These techniques provide complementary sources of information about where pottery might have been made, or its provenance. Our regions of interest are sufficiently geologically diverse for us to employ these methods successfully.

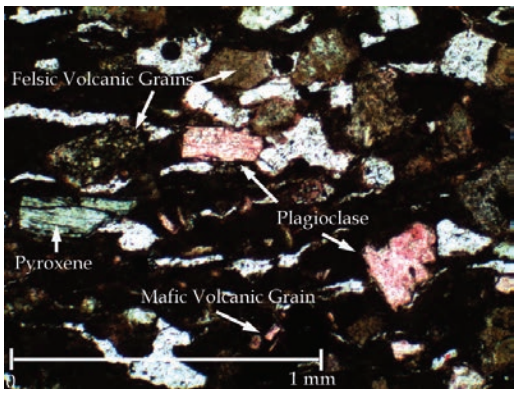
Deb Huntley collects clay samples along the banks of Mule Creek. These samples helped Huntley and Ownby establish which pottery found at Mule Creek-area sites had been made locally. PHOTO: SUZANNE L. ECKERT

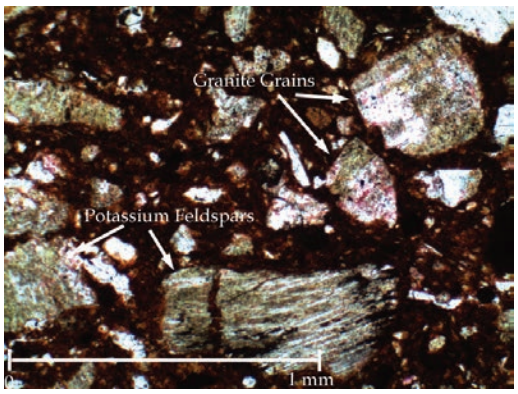
We acquired NAA data for nearly 500 Maverick Mountain Series, Salado polychrome, and utility ware sherds from southeastern Arizona and southwestern New Mexico. Statistical analysis of the NAA data highlighted several large chemical compositional groups, a number of smaller groups, and some compositional outliers.

We also used a binocular microscope to determine that all of the sampled sherds contained some variety of sand temper. Petrographic samples helped us refine the binocular temper identifications and evaluate our NAA groups. In most cases, petrographic samples assigned to the same NAA group were mineralogically similar, supporting our group assignments. Although we could not link chemical compositional groups to specific villages in every instance, we were able to recognize the unique compositional and mineralogical signatures of particular valleys.

Our study shows that the Mule Creek, Cliff, and possibly Redrock valleys were likely production locations for Maverick Mountain Series and Salado polychrome vessels. It seems that potters made polychrome pottery at several villages using similar materials, and that people sometimes traded this pottery within and among valleys. It is less likely that Mimbres Valley potters made Salado polychromes; such vessels found there may have come from the Cliff Valley or elsewhere.

Thin section images with characteristic inclusions labeled. Left: Cliff Polychrome from Dutch Ruin, showing fine volcanic sand common to polychrome vessels from along the Upper Gila River. Right: A brown ware from Dutch Ruin, showing coarse granitic-derived sand that is probably local to the site. Note the larger size of sand grains compared to those in the Cliff Polychrome. Coarse sand was typical for most locally produced utility wares. PHOTOS: MARY F. OWNBY





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For an expanded essay on this provenance study, visit www.archaeologysouthwest.org/asw26-3-4.

Salado Polychrome Style and Iconography

DEBORAH L. HUNTLEY, ARCHAEOLOGY SOUTHWEST
PATRICK D. LYONS, ARIZONA STATE MUSEUM AND ARCHAEOLOGY SOUTHWEST

The content and placement of painted decoration on Salado polychrome vessels provide clues to what these vessels communicated and how communities used them. Ethnohistorical evidence indicates that the Salado polychrome color scheme symbolically links earth (red) and sky (white). Smudging—the blackened and highly polished interior surface treatment of some later Salado polychrome types—reflects earlier Mogollon ceramic traditions (see page 18). Although smudging may or may not have been functional, it did create a distinctive visual effect that may have had symbolic significance.

In addition, Salado polychrome iconography clearly reflects Puebloan and Mesoamerican cosmology. Design elements and motifs represent snakes, including horned or feathered serpents, clouds, flowers, stars, and other entities related to rain, the sky, and fertility. Considering these motifs, archaeologist Patricia Crown proposed that Salado polychrome pottery represented a religious movement or shared ideology. She further suggested that this belief system, which incorporated elements of other religions, served to integrate diverse populations in the southern Southwest during the turbulent period between 1200 and 1500.

One way Salado polychromes might have brought people together was through use as serving vessels at community feasts. Increase in overall size and changes in vessel shape may signify this: Salado polychrome bowl sizes became much larger, on average, through time, and the latest examples have very wide openings with recurved rims. Such features enable easy access to the vessel's contents. It is worth noting that very large bowls were also part of the Tsegi Orange Ware tradition (see pages 13–15).

Changes in design content and the placement of painted decoration also suggest the use of late Salado polychrome bowls in village feasting. Archaeologist Barbara Mills linked shifts in exterior decoration to changes in the contexts where rituals occurred. These changes began in the 1200s and occurred throughout much of the Southwest. Potters of several traditions began to paint very large bowls with bold exterior decorations that could communicate messages across plazas and other sizable spaces. We believe this was also true of potters working in the large, late pueblos of the Upper Gila region where we find Salado polychromes. Like painted decoration on the exteriors of bowls, symbolically charged imagery located just below the rim on some late Salado polychrome bowl interiors would have been visible to feasting participants even when these vessels were full.

Horned or feathered serpent imagery on several Salado types, with additional examples of this design element at bottom. Note the highlighted heads with eyes and horns or feathers. For more information about these vessels, their catalog numbers, and provenience information, visit www.archaeologysouthwest.org/asw26-3-4. PHOTOS: SECOND-TO-LAST VESSEL: JANNELLE WEAKLY, COURTESY OF THE ARIZONA STATE MUSEUM, UNIV OF ARIZONA; ALL OTHERS: MATHEW A. DEVITT, COURTESY OF EASTERN ARIZONA COLLEGE. GRAPHIC DESIGN: KATHLEEN BADER

Perceiving the Pattern: Some Answers and New Directions

JEFFERY J. CLARK AND DEBORAH L. HUNTLEY
ARCHAEOLOGY SOUTHWEST

At first, because of earlier work by others, we were somewhat surprised to discover that Kayenta immigrants who resettled in the Upper Gila area during the late 1200s arrived in a landscape already inhabited by a substantial local population, and perhaps even other immigrants. Kayenta immigrants came to the Mule Creek area and the Cliff Valley, and it is likely that they moved to the Redrock Valley and the lower Mimbres Valley, as well. We have no evidence that Kayenta groups settled at sites we investigated in the upper Mimbres Valley.

Most Upper Gila—and perhaps lower Mimbres Valley—settlements with Kayenta enclaves developed into large Salado villages in the 1300s. Western Salado groups joined some of these villages in the late 1300s, when most people left what is now southeastern Arizona. This complicated social context resulted in a kind of cultural fusion. A comparable process was occurring to the west, in the Hohokam World.

At least one village in nearly every valley in our study area made Salado polychrome pottery. Although closely paralleling earlier Kayenta ceramic traditions, this pottery also featured horned or feathered serpents, birds, and rain clouds. These symbols held religious significance for immigrants and local groups, and it seems that people came together in sharing the new Salado beliefs expressed on these vessels. The highly dispersed production of this widely distributed pottery argues for the formation of multiple coalescent communities throughout the greater Upper Gila.

Students and staff of the Preservation Archaeology Field School shared recent findings with Upper Gila-area residents at a community open house on June 23, 2012. In 2013, students will undertake work at the Dinwiddie site, a Salado-era settlement near Cliff, New Mexico. PHOTO: LINDA J. PIERCE

Firmly establishing and characterizing the Kayenta-Salado connection requires further work. Nevertheless, available evidence suggests potters communicated through a network based on shared Kayenta heritage: uniform design styles show Kayenta antecedents, and Salado polychrome production often occurred in settlements that also had Kayenta enclaves. People maintained this network for at least a century after migration, and its existence probably explains, at least in part, why Kayenta immigrants and their descendants remained a potent minority in the region for such a long time. This network had many properties of a community in diaspora, including loss of homeland, population dispersal, selective maintenance of cultural traditions, and continued contact with immigrant descendants at former enclaves. Temporal and spatial trends in the distribution of Mule Creek obsidian further support this interpretation, particularly because of the probable late thirteenth-century Kayenta enclave at the 3-Up

site, which developed into the only known large fourteenth-century village near the Mule Creek obsidian source.

It appears that the network connecting people with Kayenta heritage, or the new ideology itself, began to break down at the end of the 1300s, when some kinds of Salado polychrome became regionally distinct. Some of the apparent stylistic differences may reflect the resurgence of earlier local traditions. This diversity is most apparent in differences between eastern and western Salado groups that roughly correspond to earlier Mogollon and Hohokam regional boundaries as archaeologists traditionally have defined them.

Our work in the Upper Gila will continue in the summer of 2013, with planned test excavations at the Dinwiddie site near Cliff, New Mexico. From 1966 to 1970, Jack and Vera Mills excavated thirty-two rooms in this Cliff phase (1300–1450) adobe pueblo, recovering thousands of pottery sherds and other artifacts, as well as several dozen whole ceramic vessels. These vessels are in the collections at Eastern Arizona College, but we have been unable to locate the sherds and other artifacts. Our newest group of Preservation Archaeology Field School students will assist us in collecting samples for comparison with contemporaneous sites in the Cliff Valley and greater Upper Gila region, and help us share our work and the Salado story with area residents.

Long-term Protection of the Places of the Past: Priority Cultural Resource Assessments and the Salado Preservation Initiative

ANDY LAURENZI
ARCHAEOLOGY SOUTHWEST

An early visit to assess sites in the Red Rock area of southwestern New Mexico. From left to right: archaeologists Jeff Clark and Steve Lekson and field representative Andy Laurenzi. PHOTO: WILLIAM H. DOELLE

Protecting the irreplaceable places of the past is a tenet of Preservation Archaeology. In the American Southwest and Mexican Northwest, these places span more than 12,000 years of human history, helping to tell the stories of those who came before us in this region. Working with diverse partners, including private landowners, we are promoting the establishment and management of an archaeological reserve network. This network aims at long-term conservation of places that will contribute to our collective understanding and appreciation of the past and help residents and visitors maintain deeply felt relationships with particular natural and built environments.

Deciding what to protect requires a comprehensive effort to identify, describe, and evaluate which places are important, locate them on the land, and determine how to protect them. We do this by systematically organizing information about the known precontact record of specific areas in the Southwest. By applying objective information and expert knowledge, we identify the highest-priority places to protect and the appropriate conservation strategies for

them. These priority assessments foster a holistic vision of how to successfully safeguard parts of our heritage for future generations.

To support our work in New Mexico's Upper Gila and Mimbres valleys, we conducted such an assessment. We relied on geodatabases made available through the New Mexico Heritage Preservation Division's Cultural Resources Information System and Arizona State University's Long-term Vulnerability and Transformation Project, as well as our own Coalescent Communities Database, which contains information about residential sites dating between A.D. 1200 and 1450. Combining spatial data ("geo") with detailed information about each site ("database") enabled us to graphically display information about sites throughout the planning area: the locations and sizes (that is, village room counts) of residential sites, the locations of rock art, and the locations of rockshelters and caves with cultural deposits.

In interviews and meetings, we used digital projections of spatial information to solicit the observations of archaeologists with extensive field experience in the planning areas. We focused on identifying areas with noteworthy concentrations of cultural remains. We asked experts to consider site significance, integrity, representativeness, and uniqueness, based on their direct knowledge of resource values and site conditions. We restricted discussion to sites dating from the Early Agricultural through Protohistoric periods (2100 B.C.–A.D. 1700).

To date, experts have identified forty-seven Priority Cultural Resource Areas in the Upper Gila and Mimbres valleys. We based designations on available information, however, and large portions of the planning area have not been surveyed. Accordingly, we view this as a dynamic process. We also recognize that tribal groups may consider many of the locations to be traditional cultural properties, but we did not consider such information in our assessment.

In a parallel effort, we recently launched the Salado Preservation Initiative. This more extensive project examines priority areas within a culturally defined area, rather than a geographic or municipal area. We are using information generated by the Upper Gila and Mimbres assessment and similar assessments of Pinal County and the San Pedro valley. Through a comparable process of data analysis and expert interviews, we have identified important late Classic period (A.D. 1275–1450) settlement clusters within the primary area of Salado polychrome pottery production and distribution (see map on page 15). Essential to the Salado Preservation Initiative is the newly developed Southwest Social Networks database, which expands the Coalescent Communities Database through the addition of site-level information about pottery, obsidian sourcing, and architectural features.

Participants in a recent priority planning workshop in Phoenix included (clockwise from left): Glen Rice (Rio Salado Archaeology), Kathy Henderson (Desert Archaeology, Inc.), Jeff Clark (Archaeology Southwest), Dave Wilcox (Museum of Northern Arizona), Matt Peeples (Archaeology Southwest), Bill Doelle (Archaeology Southwest), and Scott Wood (Tonto National Forest). PHOTO: ANDY LAURENZI

At present, we are marrying resource and landownership information from regional planning efforts and the Salado Preservation Initiative. Our goal is to obtain recent site condition information through field reconnaissance or the reports of agency personnel and area volunteers. Based on these updated data, we will identify a final list of priority areas, as well as key landowners within each area.

Current spatial understanding of each site's cultural remains, environmental context, and landownership interests, as well as threats to its preservation, will inform development of case-specific conservation strategies. Characteristics of the cultural remains and their locations may also determine a site's vulnerability. The land protection tools we might employ vary widely, from fee ownership to simple site registry and landowner education.

Because conservation opportunities are often serendipitous, it behooves us to have such a clear set of priorities. Partnerships across agencies and jurisdictions will ensure effective management of financial, staffing, and information resources as we build this network.

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back sight

The vast spatial scale of our research provides insight into how we practice Preservation Archaeology at Archaeology Southwest. The story of Kayenta migration, the development of Salado as an ideology that directly affected more than one-third of the American Southwest, and the regional variation within that expansive area are the overarching elements—the big-picture issues—driving our current investigation.

At the field school where we pursue some of the answers to our questions, however, excavation is limited in scale and, in most field seasons, focused on a single site. This sharp contrast between the magnitude of the guiding research themes and the minutiae of a student's daily toil presents a conceptual challenge.

Students and staff of our Preservation Archaeology Field School gather in the fire pit at our Mule Creek camp. PHOTO: LINDA J. PIERCE

Two of the most important qualities to ingrain in future archaeologists are patience and perseverance. Because archaeology builds gradually on previous and ongoing work, students and professionals alike must embrace these traits. The most effective way to teach the value of patience and perseverance is to demonstrate how they pay off in significant and satisfying results, as illustrated by the articles in this issue of *Archaeology Southwest Magazine*. We also show students how their seemingly small discoveries move directly into major, large-scale databases that help us refine and refocus a decades-long investigative process.

The Upper Gila research reported here returned to many earlier projects, and it expanded regional databases on ceramic and obsidian artifacts, in particular. This new information can now be compared with data from other study areas, including the Safford, Tonto, and Phoenix Basins, the Agua Fria/Perry Mesa area, and the San Pedro River valley, where our pioneering work took place.

When the Archaeology Southwest–University of Arizona School of Anthropology Field School reconvenes in the Upper Gila this summer, we will continue to practice patience and perseverance. Yet, each new season is not a return to a treadmill that never moves us forward—quite the opposite. Each new increment of fieldwork advances our understanding of the bigger picture in tangible and exciting ways. Showing our students, colleagues, partners, and supporters how our work opens new windows on the past is essential—and gratifying.

back sight (băk sīt) n. 1. a reading used by surveyors to check the accuracy of their work. 2. an opportunity to reflect on and evaluate Archaeology Southwest's mission.