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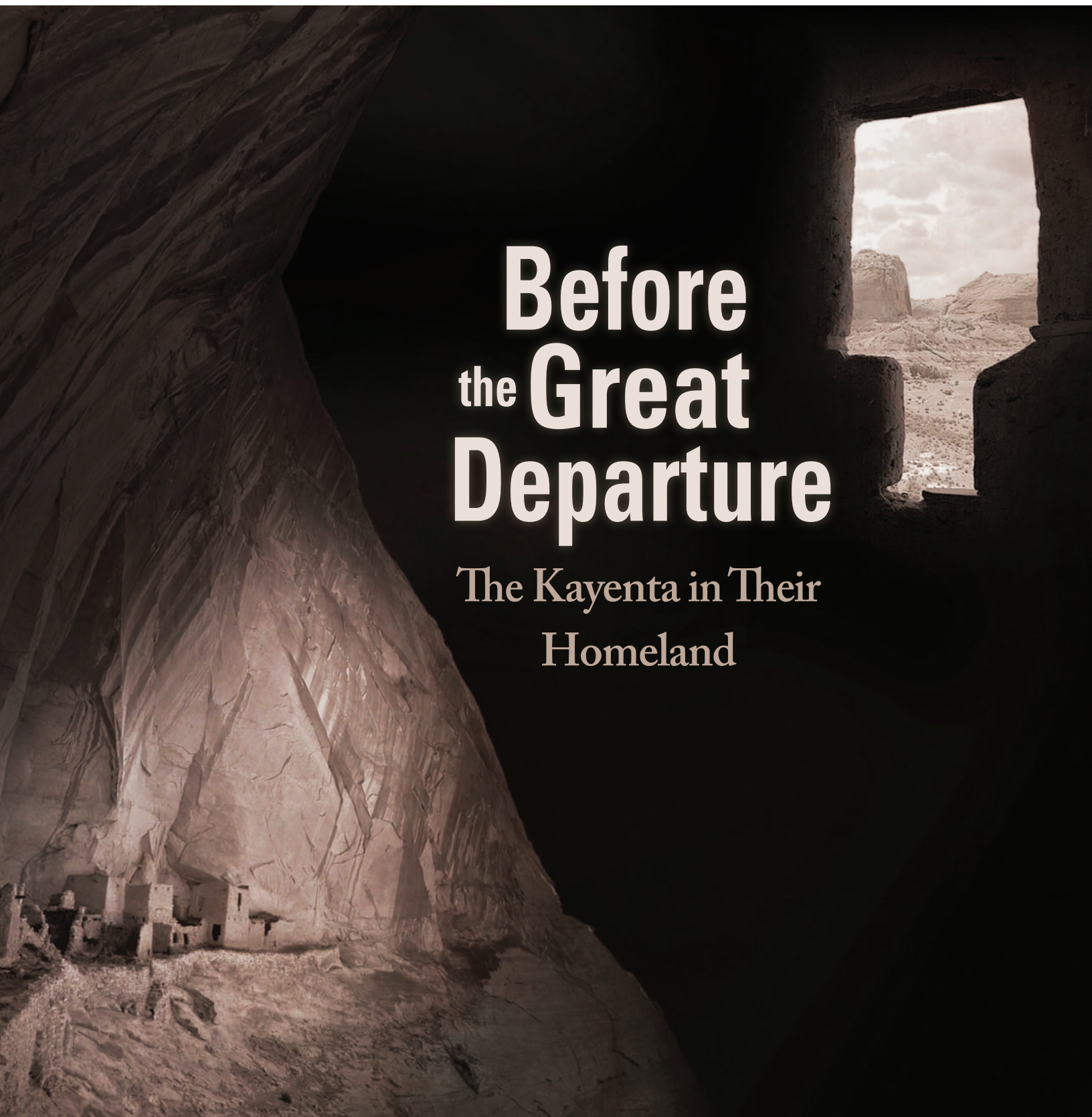
*magazine*

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VOLUME 27 | NUMBER 3

# Before the Great Departure

The Kayenta in Their  
Homeland





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Cover images: Looking out, looking back. Issue coeditor Jeff Dean notes, "This composition illustrates the dominance of the landscape over human presence in the Kayenta region." (Upper right) View through a T-shaped doorway at Inscription House (1966). Due to its fragility, Inscription House was closed to the public in 1968. Photographer unknown. (Lower left) Inscription House (1909). Photo: William Boone Douglass. Both images courtesy of the American Southwest Virtual Museum and the Navajo National Monument, National Park Service. Cover design: Kathleen Bader.



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# Before the Great Departure: The Kayenta in Their Homeland

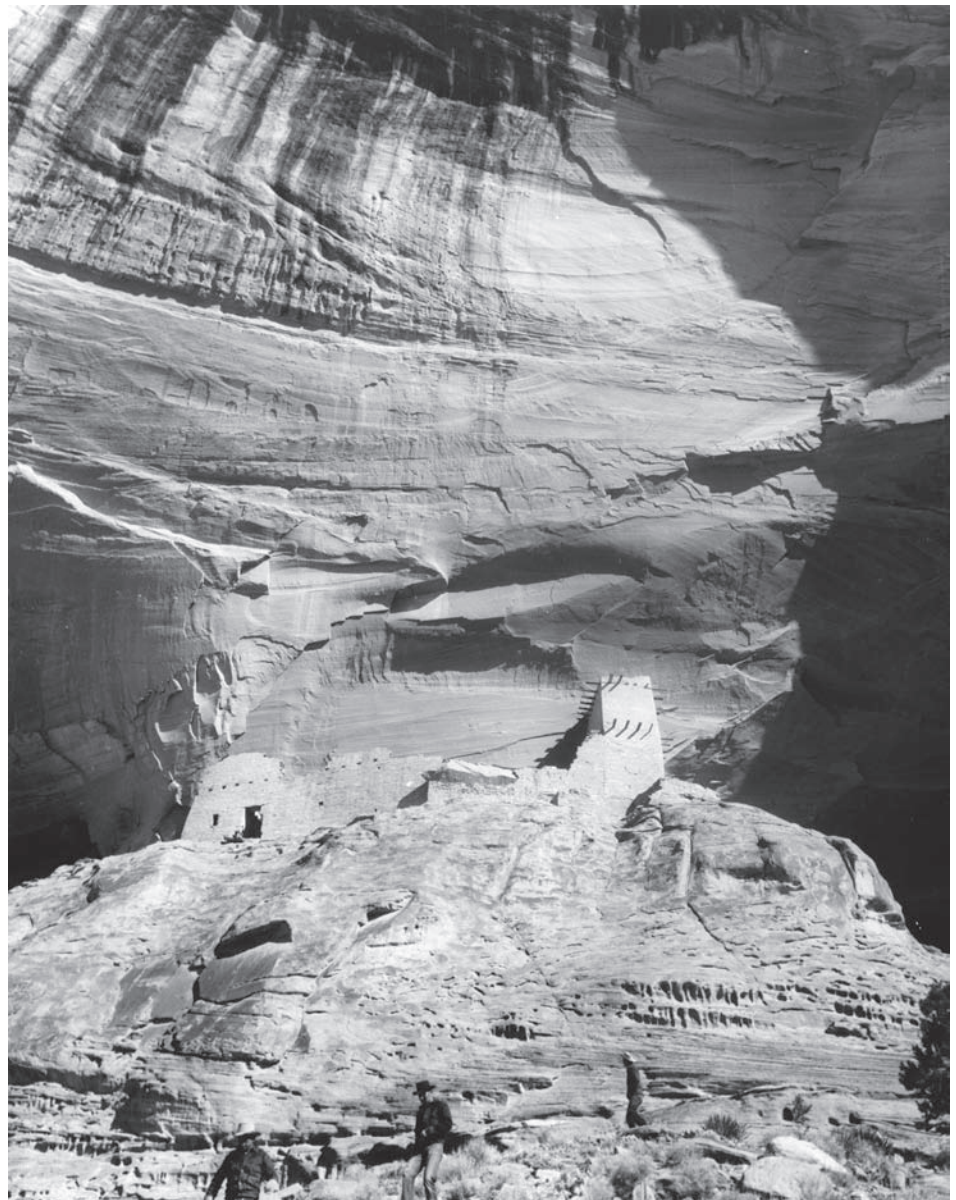
JEFFERY J. CLARK, ARCHAEOLOGY SOUTHWEST  
JEFFREY S. DEAN, UNIVERSITY OF ARIZONA LABORATORY OF TREE-RING RESEARCH

*An old African proverb states, “If you want to know the end, look at the beginning.”*

**Considering the two decades** Archaeology Southwest and its partners have spent studying the Salado phenomenon (A.D. 1275–1450) in the southern U.S. Southwest, we know quite a bit about “the end”—what happened to a group of northern immigrants known as the Kayenta after they left their homeland in the late 1200s (see *Archaeology Southwest Magazine* 22:4, 24:4, 26:3–4, and 27:2). But what preceded that chapter in their story?

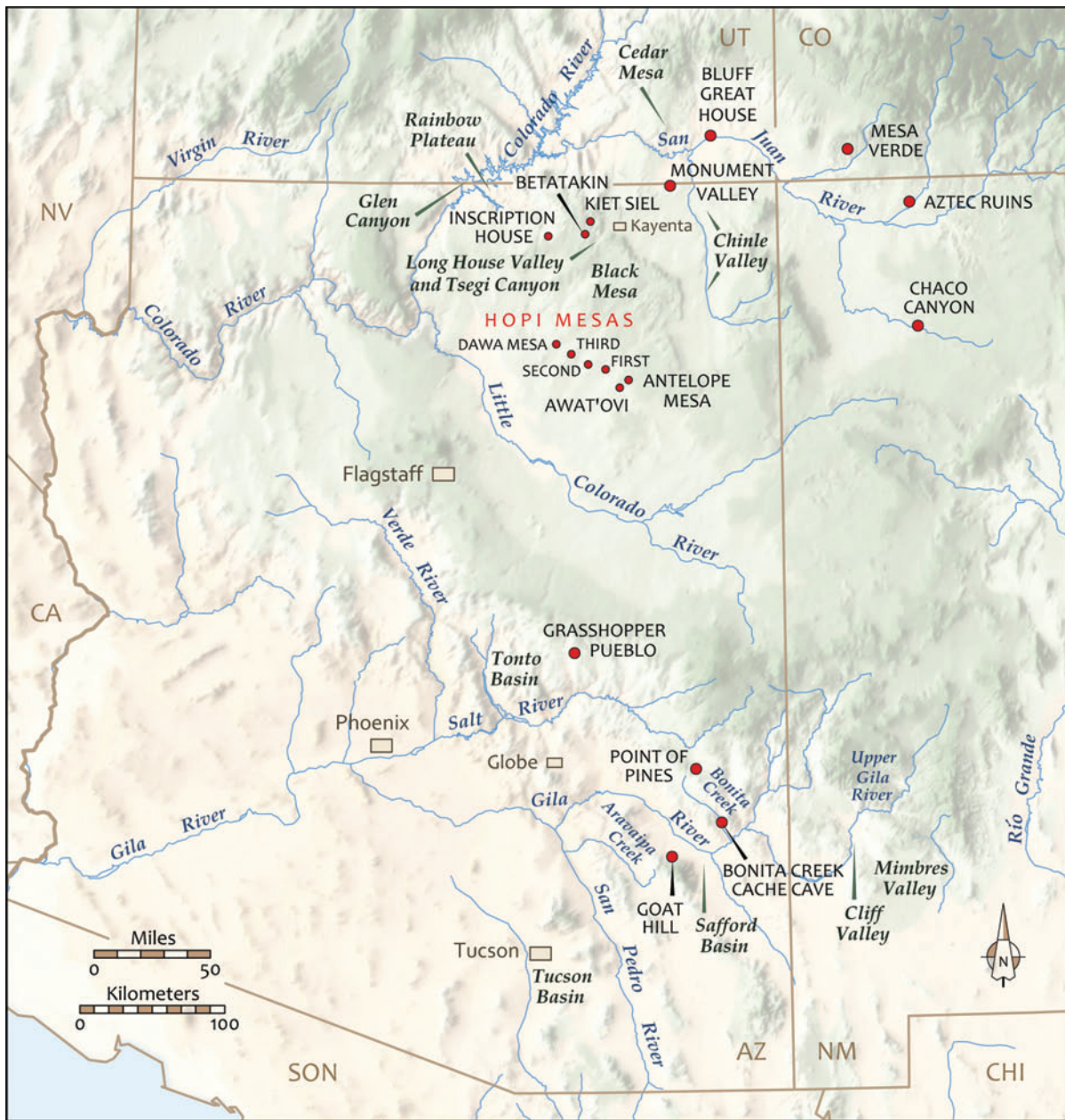
Contributors to this issue of *Archaeology Southwest Magazine* help us take a closer look at the Kayenta in the three centuries *before* their emigration. What insights into Kayenta history might help us understand Kayenta persistence?

We use the word “Kayenta” to denote a distinct archaeological pattern within the Ancestral Pueblo region, as well as the people who produced this pattern (see page 6). These people originally lived in the area that is now northeastern Arizona and southeastern Utah. After about A.D. 850, Kayenta began to emerge as something different from the eastern Ancestral Pueblo cultures associated with Mesa Verde and Chaco (see map on page 6). By the time people began leaving the Four Corners region a little more than four centuries later, Kayenta pottery (see pages 9–11), architecture, and settlement organization (see



*Perspective view toward central tower group, Mummy Cave, Arizona (HABS AZ-72-1). This cliff dwelling is within Canyon de Chelly National Monument (established 1931). At this settlement and at Poncho House, another cliff dwelling in the Chinle Valley, archaeologists have documented a mix of Kayenta and Mesa Verde architectural styles (see page 19). This photo was taken as part of the Historic American Buildings Survey (HABS). PHOTO: HABS; COURTESY OF THE LIBRARY OF CONGRESS*





Major places mentioned in this issue. MAP: CATHERINE GILMAN

pages 12–14) had become distinctive enough that archaeologists can recognize some of these traditions in the central and southern Southwest. This, in turn, enables us to reconstruct Kayenta migration.

The Kayenta were an influential and enduring group within a larger immigrant population that was not culturally uniform. Prolonged environmental deterioration and social upheaval led most northern peoples to leave the Four Corners region between 1250 and 1300. As some Kayenta groups moved south, they resettled in the Grasshopper area, Globe Highlands,

Point of Pines area, Safford Basin, San Pedro River valley, Upper Gila River region, and Cliff Valley (see map above). They may have reached the Tonto Basin, Tucson Basin, and southern Mimbres Valley, as well. Kayenta enclaves are often conspicuous among local settlements.

In the central and southern Southwest, close and prolonged interaction between local groups and people of Kayenta heritage ultimately produced the complicated archaeological pattern associated with Salado, which we find far beyond the immigrants' initial "landing zones." Although local groups, such as

those identified as Hohokam and Mogollon, contributed to this cultural mixing, the Kayenta newcomers and their descendants exerted much stronger influence than one might expect, given their likely status as an immigrant minority. Why this happened is an intriguing research question.

We begin with Barbara Mills' elucidation of what "Ancestral Pueblo" means (below), followed by Jeffrey Dean's overview of Ancestral Pueblo traditions across time and space (page 6). Andrew Christenson summarizes the long and distinguished history of Kayenta archaeology (pages 7–8). Patrick Lyons discusses Kayenta pottery traditions (pages 9–11), and Kelley Hays-Gilpin considers Kayenta iconography (pages 11–12). Jeffrey Dean then addresses architecture and settlement patterns (pages 12–14). These authors highlight the distinctive material traces of Kayenta, paying particular attention to features that persisted after emigration. Kimberly Spurr describes burial practices in the homeland (pages 15–16); the fact that we do not

see these same patterns after resettlement suggests that some Kayenta cultural and religious practices were lost or transformed along the way (page 22). Next, Charles Adams (pages 16–18) and Donna Glowacki (pages 18–19) consider relations between the Kayenta and some of their Pueblo neighbors immediately before, during, and after emigration. How much influence over Kayenta groups did populations in the Mesa Verde and Tusayan regions have, and how much influence did the Kayenta have over them? How did the Kayenta differ from neighboring groups at that time? Were relations friendly?

After Jeff Clark illustrates two caches that link the homeland to areas of resettlement (page 20), we return to the question that so engages us (pages 21–23): Why were Kayenta immigrants and their descendants such a persistent and powerful minority in the southern Southwest? Lewis Borck offers a social networks perspective on this question, and we find answers at the beginning, in the Kayenta homeland. ■

## The Multiple Meanings of Ancestral Pueblo

*Today, many archaeologists* working in the Southwest use the term "Ancestral Pueblo" to refer to the antecedents of modern Pueblos and to their material remains. Recent adoption of the term stems from Pueblo peoples' concerns regarding the term "Anasazi," which comes from the Navajo word "Anaasázi," commonly translated as "ancient enemy." In the late 1990s, during consultations with tribal representatives, Ancestral Pueblo was presented as an alternative. Archaeologists had already begun to use terms such as "ancient Pueblo peoples" instead of "Anasazi" before this, but Ancestral Pueblo (not Puebloan) has since been widely adopted.

The phrase "Ancestral Pueblo" is open to several interpretations, and part of its appeal may lie in its multiple meanings. "Ancestral" not only implies that the people who shared Pueblo traditions in the distant past are related to contemporary Pueblos, but also recognizes that the material remains of these ancient peoples are not necessarily restricted to the area formerly referred to as "Anasazi." In fact, use of the term highlights the magnitude of population movement and mixing in the past: as the Kayenta migrations show, even areas in southern Arizona may have Ancestral Pueblo connections.

Connections and identities are not limited to geographic areas; as archaeologists, we are continually challenged to better understand past relationships. The culture areas that archaeologists defined in earlier periods of southwestern archaeology—Anasazi, Mogollon, Hohokam—are categories based on constellations of traits that, we have learned, are not mutually exclusive. People, ideas, and materials flowed through these areas, creating complex histories that do not neatly fit into the tree-like evolutionary diagrams underlying the culture area approach. Instead, the complexity of the past is better suited to a braided-stream approach. Thus, the multiple meanings of the Ancestral Pueblo concept provide us with more than a simple replacement for "Anasazi." ■



*Ancestral Pueblo pictographs at Monarch Cave, a site on Utah's Comb Ridge, just northwest of Bluff. PHOTO: MATTHEW A. PEEPLES*

—Barbara J. Mills, *University of Arizona*



# Ancestral Pueblo across Time and Space

**Documented differences** among Ancestral Pueblo groups relate to pottery styles, architectural styles, settlement patterns, spatial separateness on the landscape, historical trajectories, or various combinations of these. Distinctions among Ancestral Pueblo traditions led archaeologists to formulate the Pecos Classification in 1927. This scheme divided Ancestral Pueblo culture into periods based on material changes through time.

In this issue, authors allude to “early Pueblo,” which includes agrarian pithouse communities (Basketmaker III, A.D. 500–800/850) and pueblo farming villages of considerable size and complexity (Pueblo I, 800/850–1000). For the most part, authors in this issue focus on the Pueblo II (1000–1150) and III (1150–1300) eras, when Chaco reached its zenith (circa 1100), Mesa Verde boomed (circa 1150–1300), people established very large settlements and cliff dwellings, and communities intensified agricultural production. Pueblo IV (1300–1600) begins after emigration from the Four Corners, carries through a time when people were living in a few very large pueblos, and ends not long after Athabaskan peoples and Europeans arrived in the Southwest. Pueblo V continues to the present day.

Archaeologists refer to patterns and traditions in the Kayenta region in the decades leading up to the final exodus as the Tsegi (say-ghee) phase (1250–1300). Some of the most important evidence for understanding Kayenta, as discussed in this issue, dates to this time. ■

—Jeffrey S. Dean



The names archaeologists have given to patterns within the Ancestral Pueblo tradition are usually tied to geography. For example, Virgin Branch is named after Utah's Virgin River; Kayenta after a historic trading post in northern Arizona; Tusayan (two-say-yon) after the Spanish name for the Hopi region; Cibola (see-bow-la) after the Spanish name for the Zuni region; Mesa Verde after the eponymous mesa in southwestern Colorado; Chaco after Chaco Canyon in northwestern New Mexico; and so on. In this issue, we distinguish Kayenta from eastern Ancestral Pueblo (specifically, Mesa Verde and Chaco) and from Tusayan. MAP: CATHERINE GILMAN

# A Short History of Kayenta Archaeology

ANDREW L. CHRISTENSON  
ARCHAEOLOGICAL CONSULTANT

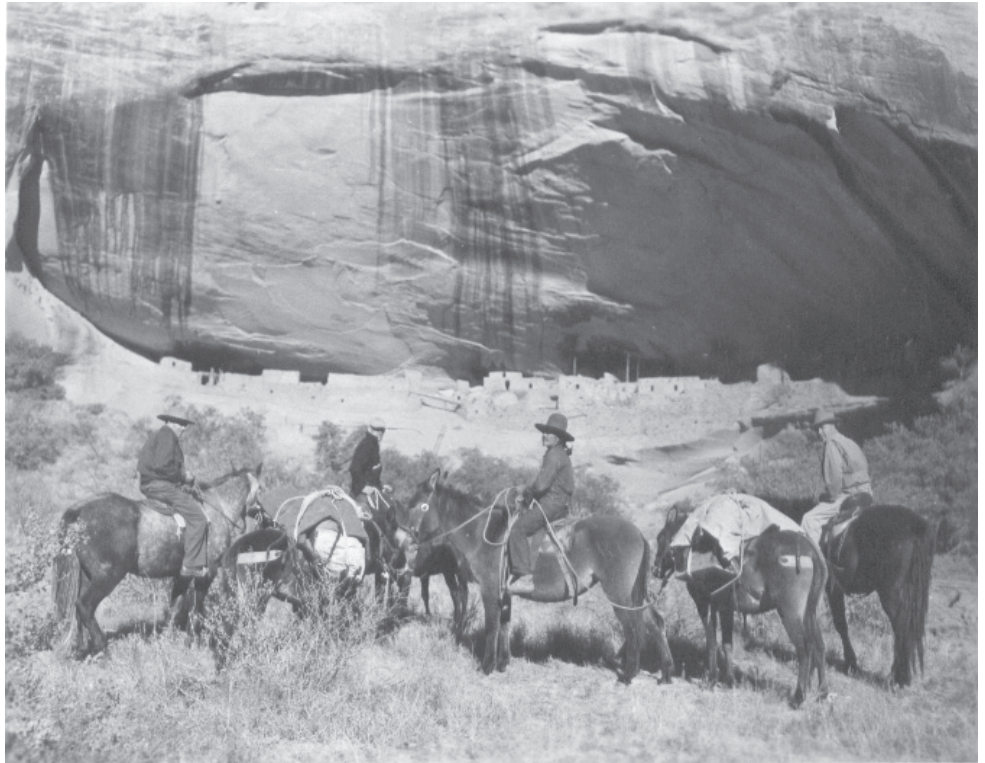
*Interest in the Hopi* and their ancestors first brought scholars to the areas once inhabited by the archaeologically defined Tusayan and Kayenta groups. In the 1890s, anthropologist Jesse Walter Fewkes pursued the connection between Hopi traditions and archaeological remains in the region, and rancher and explorer Richard Wetherill found cliff dwellings in Tsegi Canyon (see map on page 4). Within a decade, archaeologists were flocking to the region.

Byron Cummings worked in the area from 1908 to 1930, joined by archaeology students from the University of Utah and the University of Arizona. Following Cummings' example, A. V. Kidder sought to define the local pottery and establish a cultural sequence. By 1920, Kidder and Samuel Guernsey had discerned a four-part sequence (Pueblo I–IV) that contributed to the Pecos Classification (1927), a means of describing changes in Ancestral Pueblo culture through time (see page 6).

The Kayenta area proved crucial for completing the tree-ring chronology sought by the National Geographic Society Beam Expeditions of the 1920s. Lyndon Hargrave used knowledge gained on these expeditions to define many northern pottery types, and Southwest archaeologists retain those typological distinctions today. Completion of the tree-ring chronology also resulted in documentation of a period of reduced ring width that reflected significantly decreased rainfall in the area. This "Great Drought" began in 1276 and lasted until 1299.

Two large-scale projects occurred in the 1930s: the Rainbow Bridge–Monument Valley Expedition to Tsegi Canyon and vicinity, and the Peabody Museum's Awatovi Expedition to Antelope Mesa (see pages 16–17). Both projects significantly contributed to our knowledge of the Kayenta, as discussed in this issue.

Beginning in the late 1950s, the need for salvage archaeology prompted a number of projects in the region. The Glen Canyon Project recovered information before construction of Glen Canyon Dam. From 1967 to 1987, the Black Mesa



*The Pueblo Ecology Study group at Kiet Siel in 1949. From left to right: Milton Wetherill, Dale King, Pipeline Begishie, and Walter Taylor. Taylor sought to study the Great Drought and its effect upon Kayenta populations. PHOTO: COURTESY OF ANDREW L. CHRISTENSON*

Archaeological Project (BMAP) was conducted in a little-known area north of the Hopi Mesas where Peabody Western Coal Company was extracting coal (see map on page 4). Extensive interdisciplinary research conducted by BMAP continues to inform subsequent investigations.

Into the 1960s, the early twentieth-century excavations in Tsegi Canyon's cliff dwellings remained unpublished, except Neil Judd's early work at Betatakin, and many archaeologists assumed that these sites held little research potential. Dendrochronologists at the University of Arizona's Laboratory of Tree-Ring Research (LTRR) were more optimistic, however,





and in 1962, LTRR's Jeffrey Dean (coeditor of this issue) traveled to Tsegi Canyon, where he took cores from preserved beams in rooms at Betatakin and Kiet Siel, two villages within a few miles of each other (see map on page 17). Through these samples, Dean was able to document the year-by-year growth and decline of these large cliff dwellings.

The Long House Valley Project (1968–1985), a joint investigation of the Museum of Northern Arizona and the LTRR, pioneered the use of computer modeling to explore relationships between ecology and population growth and collapse in the region.

Combining paleoenvironmental and archaeological data, the Artificial Anasazi Project (1994–2003) examined Kayenta settlement change with computerized, agent-based simulation models. Researchers found that environmental deterioration might account for up to 75 percent of the population decline in Long House Valley after 1290, suggesting that social factors might account for the rest. Also following on work in Long House Valley is Jonathan Haas' study of late thirteenth-century settlement patterns and warfare.

It has been quite difficult for archaeologists who are working in the Kayenta area to understand and address the complex reasons why people entirely left a region that could have supported at least a small population, even during the worst of times (see pages 21–23). Archaeologist Patrick Lyons has looked to Hopi oral tradition to try to understand the departure, bringing Kayenta research back to its late nineteenth-century roots. □

*Jeffrey Dean's and Keith Anderson's work at Kiet Siel (top) and Betatakin (bottom) showed that these neighboring villages had different histories. Established in 1245, Kiet Siel was a diverse community, with residents moving in and out and individual households adding or abandoning rooms over time. Betatakin, however, was what we think of today as a "planned community," established in 1268 and inhabited—and ultimately deserted—by the community that founded it. After 1268, each settlement's residents must have interacted with those of the other, yet pottery production and building practices in each community remained distinctive. Differences between the villages signify a social flexibility that helps explain Kayenta persistence beyond the homeland (see pages 21–23). PHOTOS: KIET SIEL (2006), COURTESY OF THE NATIONAL PARK SERVICE AND THE AMERICAN SOUTHWEST VIRTUAL MUSEUM; BETATAKIN (2010), BY MICHAEL TERLEP, COURTESY OF THE PHOTOGRAPHER AND THE AMERICAN SOUTHWEST VIRTUAL MUSEUM*



# Pottery Traditions in and beyond the Homeland

PATRICK D. LYONS

ARIZONA STATE MUSEUM AND ARCHAEOLOGY SOUTHWEST

*In 1250*, three technologically and stylistically distinct Kayenta pottery traditions were thriving. Archaeologists refer to these as Tusayan Gray Ware, Tusayan White Ware, and Tsegi Orange Ware. People typically used Tusayan Gray Ware vessels for cooking and storage, and Tusayan White Ware and Tsegi Orange Ware for processing, serving, transporting, and storing food and liquids.

Pottery was produced at many settlements in the central Kayenta region and at sites on Black Mesa, to the south (see map on page 17). Evidence includes shaped-sherd scrapers, pigments, pigment-stained ground stone tools, polishing stones, and the distinctive perforated ceramic plates

that potters used as base molds and turntables (see page 11). Archaeologists have also found unfired vessels and caches of clay, tempering materials, and tempered but unfired clay. (Potters add temper to their clays to make them more workable and to help prevent vessels from cracking during drying and firing.) Some Kayenta women were buried with pottery-making tools and raw materials.

Potters produced vessels of all three wares using the coil-and-scrape technique, though in the case of Tusayan Gray Ware pots with corrugated exterior surfaces, only the interior surfaces were scraped during the shaping and wall-thinning process. To make most Tusayan White Ware and Tusayan Gray Ware vessels, potters gathered clays from outcrops on and just north of Black Mesa (see map on page 17). Most Tsegi Orange Ware was produced using clays available to the north and west of Black Mesa. Tusayan Gray Ware pots and the majority of Tusayan White Ware vessels bear sand temper, whereas crushed white ware potsherds or a mixture of sherds and sand or crushed rock were used to temper Tsegi Orange Ware. Some Tusayan White Ware exhibits volcanic ash temper, and a small minority of vessels have crushed sherd temper.

Researchers have documented significant exchange of Tusayan White Ware and Tsegi

*Kayenta potters made vessels of many different forms. Among these, jars, bowls, and ladles are most common. Most Tusayan Gray Ware and Tusayan White Ware vessels are jars (top left) and most Tsegi Orange Ware vessels are bowls (second left). On most late Tusayan White Ware and Tsegi Orange Ware bowls, potters appended a single, horizontal loop handle to the outside of the vessel, just below the rim (see second left). The characteristic late Kayenta ladle (third left) is a small bowl with a hollow, tubular handle. The handle is attached to a conical projection on the side of the bowl through a method now known as the "rivet" technique. Some ladle handles took the form of miniature cradle effigies (bottom left), usually with tiny human figurines inside. (Note that the cradle handle pictured is from a Winslow Orange Ware ladle.) Other distinct forms include colanders (bottom right), which are seed jars with groups of holes punched through their bottoms before firing, and perforated plates (see page 11). For pottery types, catalog numbers, and provenience information, visit [www.archaeologysouthwest.org/asm27-3](http://www.archaeologysouthwest.org/asm27-3). PHOTOS: PATRICK D. LYONS (LEFT 1-3, BELOW RIGHT) AND RICHARD W. LORD (BELOW LEFT); COURTESY OF THE ARIZONA STATE MUSEUM, UNIVERSITY OF ARIZONA.*



*Tusayan Gray Ware pots have plain, corrugated (as pictured), or partially corrugated exterior surfaces. For catalog number and provenience information, visit [www.archaeologysouthwest.org/asw27-3](http://www.archaeologysouthwest.org/asw27-3). PHOTO: PATRICK D. LYONS, COURTESY OF THE ARIZONA STATE MUSEUM, UNIVERSITY OF ARIZONA*





Potters decorated Tusayan White Ware pottery with black paint that was made from boiled-down plants, such as beeweed or tansy mustard, and occasionally enhanced with iron or manganese. Although some Tsegi Orange Ware pottery is unpainted, it was more common for potters to use black, black and red, or black, red, and white paints to decorate these vessels. The black paint on Tsegi Orange Ware vessels is rich in manganese, and the other pigments are clays with abundant iron (red) or no iron (white). When painting these vessels, potters drew from repertoires of distinctive layouts and motifs. During the 1200s, characteristic layouts included radial (top left), meridional (top center), and Y-frame (top right) schemes. The type of radial layout pictured here is offset quartered. Meridional configurations are also called “orange peel” layouts, and Y-frame arrangements are also called “diaper” layouts. Common motifs of the period included the “Dogoszhi meander” (middle left), corbel-and-hatch filler (lower left), and cross-hatching. The Dogoszhi meander often takes the form of the Kayenta bird wing pictured here. Corbelling consists of stepped rectangles (lower left). For pottery types, catalog numbers, and provenience information, visit [www.archaeologysouthwest.org/asm27-3](http://www.archaeologysouthwest.org/asm27-3). PHOTOS: PATRICK D. LYONS; COURTESY OF THE ARIZONA STATE MUSEUM, UNIVERSITY OF ARIZONA.

Orange Ware within the Kayenta region. By 1250, these wares accounted for roughly similar proportions of the pottery collections at most sites. Kayenta vessels also found their way, in large numbers, to neighboring groups, especially those in the Little Colorado and Verde River valleys. Archaeologists have documented very little nonlocal pottery in the Kayenta region, however—mainly Jeddito Orange Ware, made on the Hopi Mesas (see pages 16–18), and Mesa Verde ceramics, produced in southwestern Colorado (see pages 18–19).

At the time that people would have been preparing to leave the Kayenta region, most of their painted pottery would have been what we call Tusayan Black-

on-white, Kayenta Black-on-white, Tusayan Polychrome, Kayenta Polychrome, and Kiet Siel Polychrome. As Kayenta potters dispersed to other parts of the Southwest, they brought their technological and stylistic traditions with them (see *Archaeology Southwest Magazine* 26:3–4).

At Point of Pines (see map on page 4), one of the first distant communities the newcomers

joined, immigrant potters made Kayenta-style orange ware using local clays and tempers. We refer to this group of pottery types as the Maverick Mountain Series. Archaeologists have documented the same phenomenon in the San Pedro and Aravaipa valleys, the Safford and Tucson basins, and the Upper Gila River valley (see map on page 4). Furthermore, the known distribution of perforated plates indicates that immigrant potters and their descendants were present at settlements across the central and southern Southwest (see page 21).

## Food for Thought...

There are other links between the Kayenta and Salado pottery traditions. Potters used iron-poor, white-firing clays, sand temper, and black organic paint to produce Tusayan White Ware and Salado polychrome vessels, and they used iron-rich, red-firing clays to produce Tsegi Orange Ware, Maverick Mountain Series, and Salado polychrome vessels. Furthermore, very large bowls are common to late Tsegi Orange Ware and late Salado polychrome pottery.

Archaeologist Barbara Mills hypothesizes that people used late Tsegi Orange Ware polychrome bowls in community feasts, because they feature bold exterior decorations and are much larger than contemporaneous Tusayan White Ware bowls. Large, late Salado polychrome bowls were probably also used in feasts.

Kayenta and Tusayan motifs became increasingly common on Salado polychrome vessels over time, lending support to the idea that dispersed groups of immigrant potters maintained aspects of northern identity and a network linking themselves to potters in a broadly conceived northern homeland.

Kayenta pottery technology and decorative style had impacts far beyond continued production of types developed in the homeland, however. Potters in east-central Arizona—both local inhabitants and Kayenta immigrants—combined the radial (especially offset quartered) layouts, bold treatment, and motifs characteristic of Tusayan White Ware and Tsegi Orange Ware with the stylistic canons of Cibola White Ware and White Mountain Red Ware to produce Pinedale Style. This is the style exhibited by most early Salado polychrome (Roosevelt Red Ware) bowls, some of which feature the horizontal loop handle Kayenta potters had affixed to decorated bowls in the homeland. These same layouts and motifs comprise the foundation of Jeddito Style, which became dominant on the pottery of the Hopi Mesas, and the late Salado polychrome types. Finally, strong associations between locally produced perforated plates, locally made Maverick Mountain Series pottery, and locally made Salado polychrome pottery indicate that production of the latter remained closely tied to people of northern heritage. ■



*This perforated plate attests to the presence of a potter of Kayenta heritage in the northern San Pedro River valley of southeastern Arizona.*  
PHOTO: JANINE HERNBRODE

## Kayenta Iconography: Earth and Sky, Women's and Men's Work, Corn and Water

KELLEY HAYS-GILPIN  
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*As ceramic analyst* for the Navajo Nation Archaeology Department's N16 Navajo Mountain Road Project in the 1990s, I wanted to explore whether orange and white pottery had different functions and meanings in Pueblo III times (1150–1300). To do so, I compared Kayenta painted pottery designs to textiles, coiled baskets, plaited baskets, and rock art.

I found that designs on the Flagstaff and Tusayan Black-on-white (Tusayan White Ware) pottery resemble contemporaneous loom-woven cotton textile patterns known from the Kayenta area and the Verde River valley. In contrast,

*This Kayenta bowl has an unusually divided design field, half Flagstaff Black-on-white style (Tusayan White Ware), which emulates a cotton textile, and half Tusayan Polychrome (Tsegi Orange Ware), which resembles a plaited basket design. Archaeologists recovered the bowl during the Rainbow Bridge–Monument Valley Expedition (see page 7). Artists incorporated the bowl into the logo for the 2008 Pecos Conference, using it as a symbol of the spirit of collaboration and cooperation that has characterized this annual gathering of archaeologists since 1927 (see page 6). IMAGE: VICTOR LESHYK AND DAN BOONE, COURTESY OF THE IDEALAB, NORTHERN ARIZONA UNIVERSITY*





most Tusayan and Kayenta Polychrome (Tsegi Orange Ware) designs resemble those on plaited baskets. What might baskets, textiles, and pottery have meant to their makers and users?

Tusayan White Ware jars come in a variety of shapes and sizes, but the most frequent and elaborate vessels are large jars, well suited to storing water. Kayenta men probably did some loom weaving in kivas, as they do today, and as attested by Pueblo III kiva floors with loom anchor holes. Cloud and sky beings are usually masculine in Pueblo cosmology. Cotton is white, and stands for clouds in Pueblo ritual today.

Tsegi Orange Ware pottery decoration suggests connections with the earth. Pueblo people today associate red and orange colors with the earth, a natural symbol derived from their color-

ful landscape. Pueblo III kiva murals that may refer to landscapes or horizons show the earth as red and the sky as white. The earth is typically feminine in Pueblo cosmology. Sand and maize, materials that were probably sifted in plaited baskets, are also feminine in Pueblo worldview.

Perhaps a series of related symbolic dichotomies about earth and sky, women's and men's work, corn and water pervaded the Kayenta ceramic tradition, at least from the late 1100s through the 1200s. If such a web of associations enabled pottery vessels to stand for key concepts in Pueblo thought—such as the relationship that must pertain between rain and earth before crops will grow for the survival of humankind—then Kayenta families must have treasured both kinds of vessels in their homes. ■

## Architecture and Settlement in the Homeland

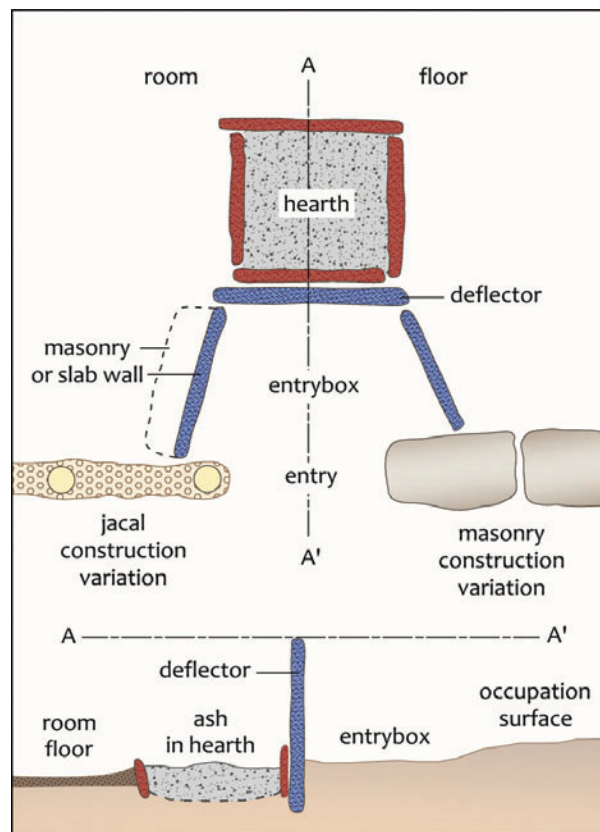
JEFFREY S. DEAN  
UNIVERSITY OF ARIZONA LABORATORY OF TREE-RING RESEARCH

*"The country exerts a charm which the authors confess their inability to describe."*

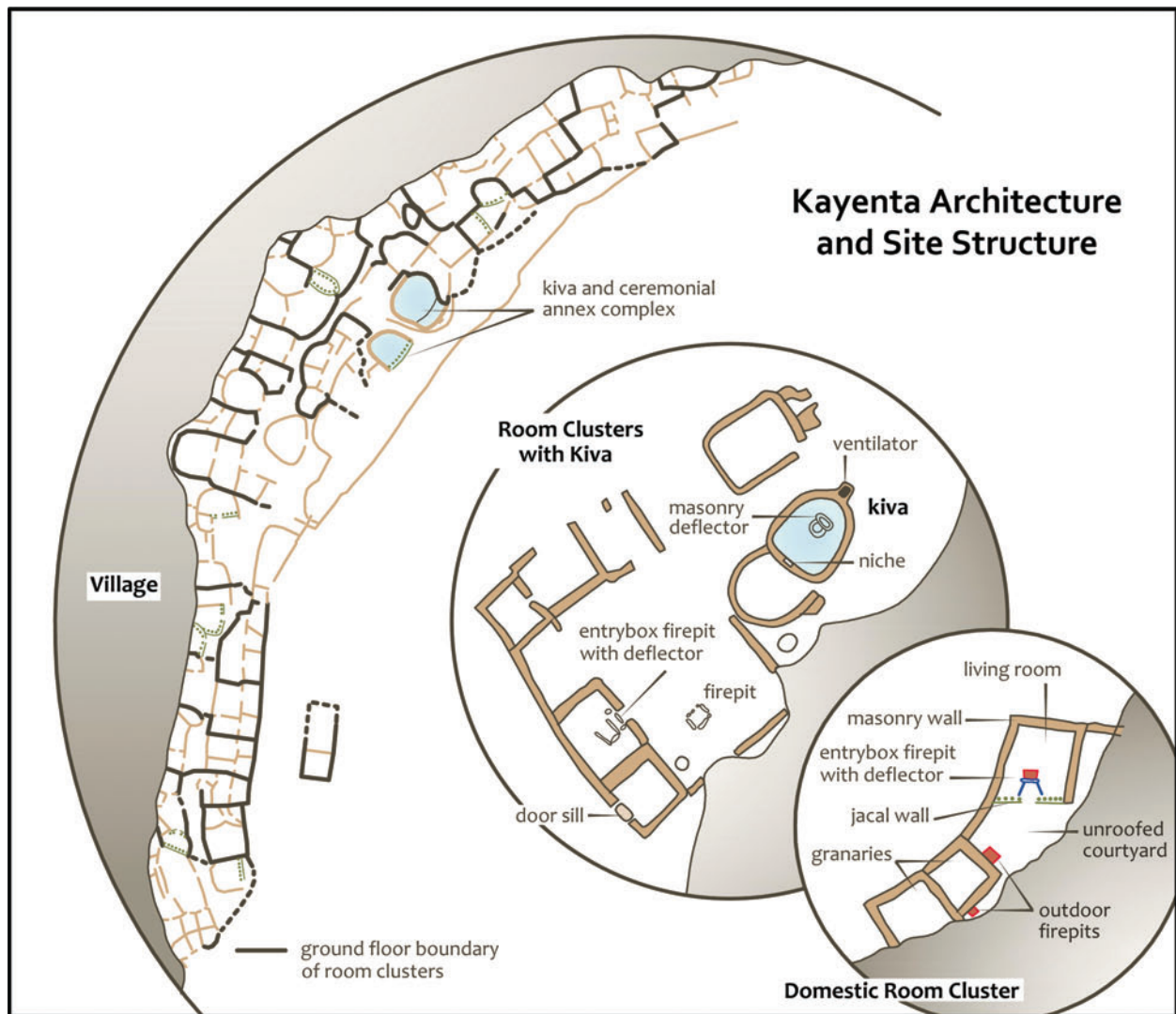
—Samuel James Guernsey and Alfred Vincent Kidder, *Basket-maker Caves of Northeastern Arizona* (1921)

*Although Tsegi phase* (1250–1300) Kayenta architecture falls solidly within the Pueblo architectural tradition, it does include distinctive construction techniques, architectural features, room types, and religious structures. For example, in addition to a variety of stone masonry styles, we see an abundance of jacal construction—adobe-plastered vertical poles—especially in living rooms. Moreover, people organized basic components of settlement, such as room clusters or hamlets, into larger units, such as villages or communities, in distinctive ways. These variations signify social arrangements that were simpler and more flexible than those of their neighbors at Mesa Verde and Chaco Canyon.

Characteristic features enable us to recognize five kinds of domestic structure in Kayenta settlements: living rooms, unroofed courtyards, granaries, storage rooms, and mealing (corn-grinding) rooms. Lying between the doorway and interior fire pit of a Kayenta living room is a feature known as an entrybox (see illustration beside). This consists of a masonry or vertical stone-slab deflector that is connected to the doorjambs by one or two masonry or slab-wing walls, or a raised floor platform, or both.



*A typical Kayenta entrybox. Archaeologists have not found entryboxes dating before 1275 outside of the Kayenta-Tusayan areas. Thus, when we find these domestic features at post-emigration settlements in the central and southern Southwest, we can infer that Kayenta immigrants lived there. This is especially true when we find other Kayenta markers (see page 21). GRAPHIC: CATHERINE GILMAN, ADAPTED FROM A FIGURE PUBLISHED BY ALEXANDER J. LINDSAY (1969)*



*The basic Kayenta household included a living room, granary, and courtyard. Villages comprise multiple households and some shared spaces. Significantly, Kayenta kivas and ceremonial annexes are associated with whole villages rather than with individual room clusters within villages. Except for a few occurrences dating to a much earlier time (A.D. 550–850), “great” kivas are absent from Kayenta settlements. This departure from Mesa Verde and Chaco patterns implies further differences in social organization, with an intermediate level between household and village apparently absent. GRAPHIC: CATHERINE GILMAN, ADAPTED FROM FIGURES PREVIOUSLY PUBLISHED BY JEFFREY S. DEAN*

Likewise, granaries exhibit a door-closure system that is rare elsewhere: grooved stone sills, jambs, and lintels accommodate a stone-slab door held in place by a stick, its ends secured in loops set into the jambs. Mealing rooms generally lack roofs and front walls, and they contain a number of graded metates in adjoining slab-lined bins.

Courtyards, living rooms, granaries, and storerooms occur together in room clusters that likely reflect one or two nuclear-family households, the basic units of Kayenta social organization. Mealing rooms are situated such that they were

almost certainly communal facilities serving multiple households.

Villages comprise several room clusters, with formal public plazas and streets present at some settlements. What we do not see architecturally represented at Kayenta villages are the intermediate levels of social organization common to Mesa Verde and Chaco, represented by multihousehold kiva-courtyard units and the division of settlements into two distinct parts.

Kayenta religious architecture is extremely varied. Archaeologists have documented circular and rectangular kivas that



sat above and below ground level, as well as some that were pseudosubterranean, with double exterior walls with dirt packed between them. Kayenta kivas have plastered floors and walls, flat roofs, and some version of the typical linear arrangement of kiva floor features: ventilator–deflector–firepit–sipapu. A ventilator funnels outside air into a kiva, and a sipapu is a small hole or indentation in the floor. Among modern Pueblos, the sipapu symbolizes the place of human emergence from the underworld. Not all kivas have sipapus, however, and, at Kayenta settlements on the Rainbow Plateau (see map on page 17), a circular ground stone slab set into the floor sometimes occupies the sipapu's traditional spot. Occasional kiva features include benches, southern recesses, geometric wall murals, pilasters, loom anchors, and rectangular floor pits that were probably foot drums. In contrast to Mesa Verde (and some Chaco) kivas, cribbed roofs built with interlocking logs—like early American log cabins—are absent even when eastern-style pilasters are present.

Some Kayenta kivas have another structure abutting them. These “ceremonial annexes” are U-shaped aboveground structures. They have straight jacal-front walls and kiva-like features, including circular firepits, slab-paved floors, and loom anchors.

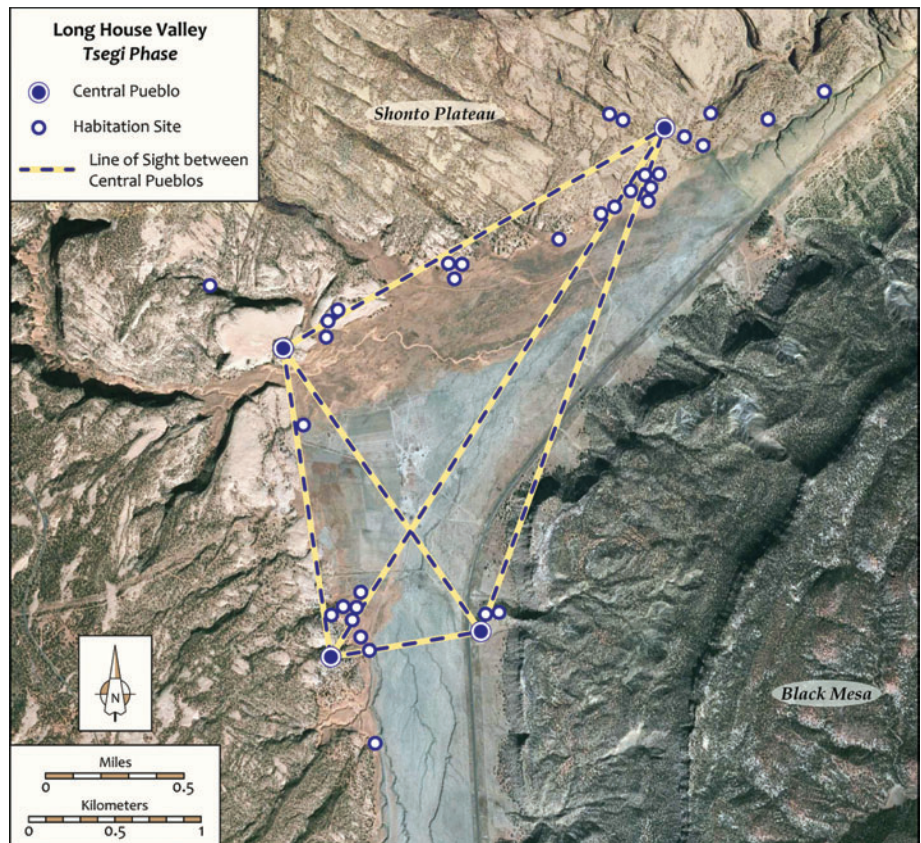
Ceremonial annexes do not appear in other areas, and their exact functions remain unknown.

Tsegi phase site attributes and spatial patterning reflect a five-tiered settlement organization. The omnipresent *household* (1) occurs singly or in *hamlets and villages* (2) that range from a few to hundreds of rooms. Ordinary settlements are grouped around *central pueblos* (3) to form *clusters* (4) that were probably discrete communities. Central pueblos typically have specific attributes that attest to their organizational role: they sit on an eminence visible from the other sites in their cluster; they have a “spinal” room block that was made of distinctive double-faced masonry and that fronted on a communal plaza; and they have a communal water source, such as a reservoir. Settlement clusters linked by line-of-sight relationships between their central pueblos define *multicenter networks* (5) separated from one another by sparsely inhabited areas (see figure above). These networks vary in size, from single valleys to complexes comprising several mesas and valleys. Rather than serving a defensive function, these networks probably held social and religious importance.

Architectural construction and settlement dynamics in the Kayenta homeland testify to a vibrant and flexible social life capable of adapting to a variety of environmental and social conditions and changes. Built upon the ability to organize nuclear-family households in several different ways, this social flexibility probably allowed Kayenta villages to form, disband, and regroup with relative ease. Together with what must have been strong kinship bonds and customs, this adaptability helps explain the persistence of aspects of Kayenta culture long after the departure from the Four Corners (see pages 21–23). ■

*“The scenic grandeur of the region is unsurpassed. In it occur a great variety of colorful canyons, broad mesa tops, deserts, mountains, fantastically eroded buttes, and rushing streams.”*

—Ralph L. Beals, George W. Brainerd, and Watson Smith, *Archaeological Studies in Northeast Arizona* (1945)



*Tsegi phase settlement in Long House Valley reflects a five-tiered organization. Villages grouped around central pueblos to form clusters. Settlement clusters were linked to one another by lines of sight. Long House Valley was one of the last inhabited places in the Kayenta homeland.*  
MAP: CATHERINE GILMAN, BASED ON DATA PROVIDED BY JEFFREY S. DEAN

# Mortuary Practices in the Homeland

KIMBERLY SPURR  
PAST PEOPLES CONSULTING, LLC

*Since long before Kayenta emigration*, people throughout the Four Corners region had buried their dead, a practice known as inhumation. The deceased were almost never cremated. Although some variation is present, the mortuary traditions of the Kayenta, Tusayan, Mesa Verde, and Chaco areas (see map on page 6) are remarkably consistent through time and across a

found inhumations of this period in open settlements, where they typically occur in deep outdoor storage pits reused as burial chambers.

In this era, people could be buried alone (a single inhumation) or in a pit containing other burials (multiple inhumations). Most multiple burials bear evidence that more than one

individual was placed in the same pit at the same time, but some were reopened to bury additional individuals. There is very little evidence of remains being deliberately disarticulated or disinterred and reburied (secondary inhumation) in the Kayenta region at any time, though burials were sometimes unintentionally disturbed while a settlement was still inhabited.

Dry cave and alcove locations preserved not only the layers of fine textiles used to wrap the deceased before placing them within slab-lined cists, but also the baskets, textiles, clothing, tools, and jewelry interred with them. Burial goods from early open-site inhumations are often restricted to a few stone items, but this is probably because interred perishable items did not survive the elements.

After the advent of larger, more permanent villages (after about A.D. 500, and continuing through 1300), the region's residents usually buried their dead in middens, the trash heaps beyond their dwellings. Sometimes, villagers buried the dead in abandoned rooms or pit structures, or within unused storage pits outside

of structures. Although archaeologists have excavated only a few Kayenta cliff dwellings dating to the late 1200s (the Tsegi phase), we know of midden burials from at least two large, late sites, and archaeologists have documented a few burials inside rooms at late settlements.

Villagers typically positioned the dead in tightly flexed to semi-flexed postures on their right or left sides, with their heads



*Artist's visualization of villagers preparing offerings for a burial in the Kayenta homeland. Mortuary practices are a significant component of cultural identity, serving to bind people together through the shared tasks of transitioning one of their own from life to death and the afterlife. Archaeologists have long recognized variability in mortuary practices among cultures, and much early investigation focused on the contents and forms of burials as a way to define cultures. IMAGE: ROBERT B. CIACCIO*

vast region. This consistency reflects the shared cultural values and practices of these agricultural villagers (see page 5).

The best-known burials in the Kayenta region are from the era before people began living in permanent settlements (prior to about A.D. 500), and these inhumations occurred in caves and alcoves. At that time, people often used such spaces for burials rather than as dwellings. Archaeologists have also



oriented in an arc between northeast and southeast. Multiple inhumations are rare after about A.D. 700, perhaps reflecting changes in social or kin networks.

From about A.D. 900 into the Tsegi phase, the most common mortuary offerings were ceramic vessels, and at least one bowl and one jar or pitcher accompanied most Kayenta burials (conversely, during the Tsegi phase, the number of offerings included with a burial varied greatly, from many to none). This may represent the placement of food and water with the deceased, a well-documented practice among the historic Hopi

and Zuni. Analyses of organic residues found in some vessels support this inference.

Other typical mortuary offerings found with Kayenta burials include stone tools and ornaments of stone or shell. At one Kayenta site, two women—presumably potters—were buried with pottery-making kits that included clay, temper, scrapers, and base molds. Textiles, baskets, and body wrapping are common among burials known from sheltered contexts, suggesting that similar items accompanied burials in open settings, where they have not been preserved. ■

## Relations with Neighbors to the South: Tusayan

E. CHARLES ADAMS  
ARIZONA STATE MUSEUM

*Just south of the Kayenta homeland* lies the Tusayan region. For at least 1,400 years, the region's inhabitants have settled primarily on the Hopi Mesas (First, Second, and Third Mesas) at the center of Tusayan. Much of what we know about Tusayan derives from the Peabody Museum's Awatovi Expedition of the 1930s, directed by J. O. Brew, and from archaeological surveys undertaken over the past few decades. The Expedition recorded 300 sites on Antelope Mesa and excavated twenty-one sites dating between A.D. 600 and 1700. Archaeological surveys have focused on the Hopi Mesas, Antelope Mesa, and Dawa Mesa. Surveys associated with mitigation projects have followed modern roadways.

Like other early Pueblo groups (circa A.D. 600–800), residents of the Tusayan and Kayenta regions grew maize, lived in pit-houses, and built abundant storage pits and cists (slab-lined pits). The Kayenta and Tusayan regions began to diverge after A.D. 800 (in the Pueblo I period, 800–1000), as people in Tusayan began to establish numerous, often extremely large, settlements on each of the mesas near springs and extensive dune fields, which villagers probably farmed. An example is San'ovi, a site with eleven discrete

mounds surrounding a possible dance plaza. Several such sites have multiple linear sets of cists or room blocks reminiscent of much larger and more complex contemporaneous settlements in southwestern Colorado and southeastern Utah. Settlement size, settlement complexity, and overall population were much greater in the Tusayan region than in the Kayenta area.

The Tusayan region continued to support a large population through the Pueblo II period (1000–1150), and the database of the Hopi Cultural Preservation Office (HCPO) contains more sites dating to this time than to any other period. People lived in smaller settlements dispersed across Tusayan, primarily on and around the Hopi Mesas and in the Hopi Buttes. Villagers located their settlements near water sources that provided diverse farming options. As with Kayenta, Tusayan seems to have been outside the Chacoan system: there are no great houses or roads in the region (see page 19).

During this same period, pottery styles began to diverge throughout the Tusayan region, and the Winslow pottery

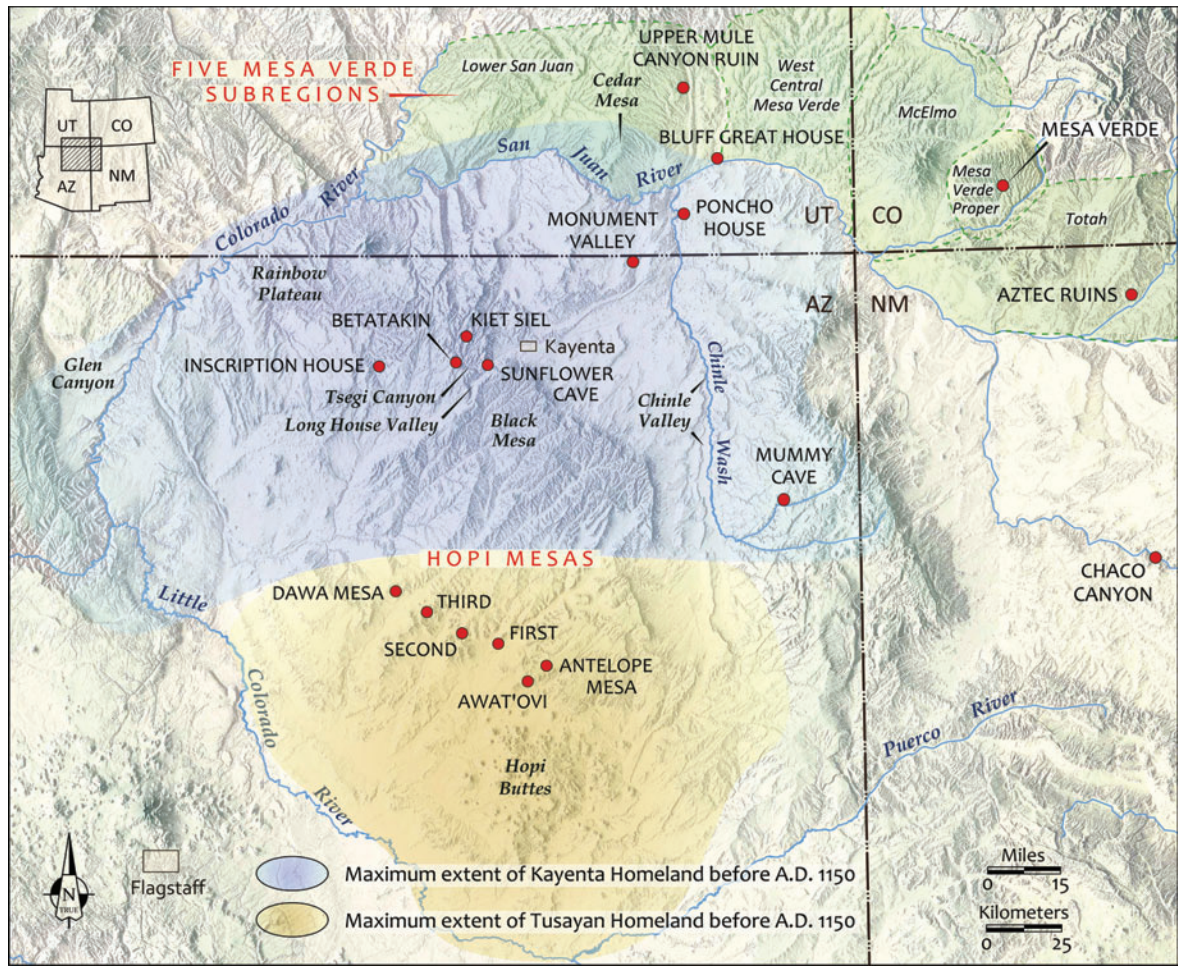


*Tusayan Black-on-white effigy jar made on or near the Hopi Mesas, A.D. 1150–1325 (vessel no. C-7335). PHOTO: HELGA TEIWES, COURTESY OF THE ARIZONA STATE MUSEUM, UNIVERSITY OF ARIZONA*

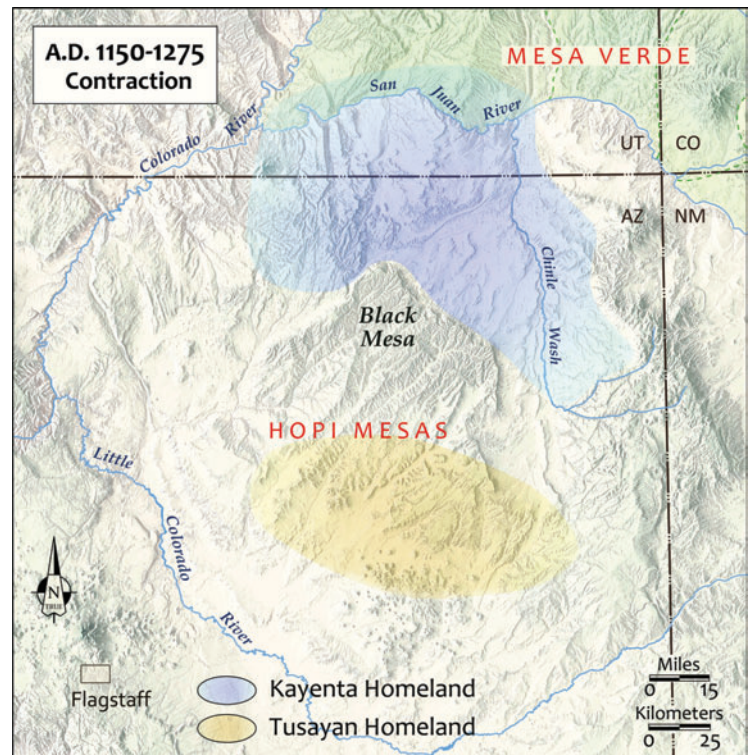


tradition emerged in the Hopi Buttes around A.D. 1000. Tusayan potters mimicked Kayenta decorations on white wares, but their execution of these designs was less precise. Tusayan communities also imported Kayenta-made Tsegi Orange Ware pottery (see pages 9–11), and it seems that people living in the Kayenta region exported other goods and ideas to the Tusayan region.

The two areas continued to diverge between 1150 and 1300 (Pueblo III). After 1150, Kayenta groups withdrew from outlying areas of settlement, such as Black Mesa (see maps at right), and consolidated in the core of their homeland. This contraction physically separated them from other Ancestral Pueblo groups, including Tusayan. As before, the size and number of sites is substantially greater in Tusayan than in Kayenta, but settlement growth and concentration of people into a few large communities occurred in both regions. Archaeologists have documented forty large sites in the Tusayan region, on Antelope, First, Second, and Third Mesas. Seventeen villages totaling 1,600 rooms date between 1200 and 1250, and thirty-nine villages totaling 4,600 rooms date from 1250 to 1300. These dramatic increases in the number and size of settlements in Tusayan are probably due, in part, to the final stages of emigration from Kayenta after 1290.



*The Kayenta homeland through time. (Top) This map shows major settlements and regions of interest discussed in this issue, A.D. 1000 to 1275. The shaded areas indicate approximate territorial extents prior to 1150. (Right) After 1150, Kayenta groups withdrew from outlying areas of settlement and consolidated in the core of their homeland. This contraction physically separated them from other Ancestral Pueblo groups, yet social and economic relationships continued, however altered. MAPS: CATHERINE GILMAN*





The abundant quantities of Tsegi Orange Ware found at large Tusayan settlements suggest continued exchange with Kayenta communities and signify the persistence of strong and enduring ties between the two regions. It is worth noting that new and distinctive traditions in white ware and orange ware emerged in Tusayan after 1250.

It makes sense that some groups from Kayenta resettled in the large, stable villages of Tusayan, where arable land and other resources were comparatively abundant, and where people from Kayenta had abiding social and cultural connections.

Archaeological evidence of this immigration is supported by Hopi oral traditions that identify specific clans who came from the Kayenta region, and by the ceremonies these clans contributed to the Hopi ceremonial calendar.

*Acknowledgments: Much archaeological survey in the Tusayan area has occurred under the auspices of the Hopi Cultural Preservation Office (HCPO), directed by Leigh Kuwanwisiwma. I would like to thank Wesley Bernardini for sharing summaries of HCPO survey data that informed this article. □*

## Relations with Neighbors to the East: Mesa Verde

DONNA M. GLOWACKI  
UNIVERSITY OF NOTRE DAME

During the 1000s and early 1100s, the social and cultural boundaries of the Kayenta changed as their population grew and spread northward. This increased their contact with other Ancestral Pueblo groups in neighboring regions, including those associated with an archaeological tradition known as Mesa Verde (see maps on page 17).

Intermixing between Kayenta and other populations is most evident in the distributions of pottery types and in the ways those distributions changed through time. Using these indicators, we can infer that Kayenta–Mesa Verde interactions peaked in the eleventh and twelfth centuries, because archaeologists have found Kayenta pottery (see pages 9–11) in great quantities in areas where people who made and used Mesa Verde pottery lived.

We tend to interpret this trend as evidence of Kayenta groups moving into new areas along the western edge of the Mesa Verde region. Obviously, people can exchange pots without relocating themselves, so the increased frequency of Kayenta pottery could also be due to increased trade or, in rare instances, the copying of Kayenta pottery technology or designs by Mesa

Verde potters. Considerable amounts of Kayenta-tradition pottery ended up in western Mesa Verde, at places such as the Bluff Great House in southeastern Utah, and Kayenta pottery was also transported as far east as Aztec Ruins and Chaco Canyon

in northwestern New Mexico (see maps on pages 4 and 17).

By contrast, those living in eleventh- and twelfth-century Kayenta communities do not seem to have imported much Mesa Verde pottery—only a small amount of Mesa Verde pottery dating to the 1000s and early 1100s has been found west of Cedar Mesa (see map on page 4). Furthermore, we never see a blend of Kayenta and Mesa Verde design traditions on pottery—though some have argued that such a blend

may be seen in Tusayan pottery traditions. Although there appear to have been regular interactions between the households and communities of the Mesa Verde and northern Kayenta regions, these populations seem to have maintained social and cultural distance.

As Kayenta groups began consolidating in their core homeland after 1150 (see pages 16–17), they left the western margins



*A typical Mesa Verde Black-on-white bowl, A.D. 1180–1290 (Catalog No. A2034.66). PHOTO: RICHARD M. WICKER, COURTESY OF THE IMAGE ARCHIVES, DENVER MUSEUM OF NATURE & SCIENCE*



*A hiking trip led by archaeologist Jonathan Till (orange coat) and others visited the Upper Mule Canyon Ruin in 2011. This is one of the many tower sites in the Mesa Verde region. In the late 1200s, people built similar towers in the Kayenta region. PHOTO: SARAH E. PAYNE, COURTESY OF THE CROW CANYON ARCHAEOLOGICAL CENTER*

of the Mesa Verde region. This demographic change correlates strongly with a severe drought documented by tree-ring studies. Hardships due to the drought had social consequences across the region, including violent conflicts in the Mesa Verde area, which may have prompted Kayenta groups living in neighboring settlements to leave. Interaction and exchange must have continued, though, because archaeologists have found Kayenta pottery at many late-period (thirteenth-century) villages in central Mesa Verde (see map on page 17).

Significant changes in Mesa Verde village organization and architectural experimentation followed the adversities of

the mid-1100s. People left small, dispersed settlements and relocated to large, densely populated pueblos. As population grew and became more concentrated in these villages, new rituals and other religious changes developed in eastern Mesa Verde, but not, apparently, in western Mesa Verde. Consequently, those people who were living in western Mesa Verde changed in different ways, in part because they were situated between two culturally distinct groups—Kayenta and eastern Mesa Verde.

Although population in western Mesa Verde began to decline in the mid-1200s, as people moved east, south, and west, Kayenta-Mesa Verde relations continued. In the late 1200s (the Tsegi phase), major settlement changes in the Kayenta region include the formation of large central pueblos and the construction

of towers and cliff dwellings similar to those found in the Mesa Verde region (see pages 12–14). The masonry style and door closure system documented in a pair of rooms at Kiet Siel (see map on page 17) resemble Mesa Verde examples, and we see a mixing of the two architectural traditions at Poncho House and Mummy Cave (see map on page 17). Furthermore, and in contrast to previous centuries, the most abundant imported pottery in the Kayenta area in the late thirteenth century originated in Mesa Verde. Perhaps long-standing relationships between the two populations led some Mesa Verde groups to move into the Kayenta homeland. □

## *Food for Thought...*

In the eleventh and early twelfth centuries, Chaco Canyon was a major center wielding significant influence over several areas of the northern Southwest—but not over Kayenta (or Tusayan). There is almost no evidence of Chaco-style architecture in the Kayenta region. There were no great house communities—a hallmark of Chacoan society—in the northern Kayenta region, but archaeologists have documented several possible great houses with both Kayenta and Chaco-influenced pottery on the southeastern margin of Black Mesa (see map on page 17). This intriguing pattern suggests that the northern and southern Kayenta may have had different relationships with their influential eastern neighbors.




# Flower Power

JEFFERY J. CLARK  
ARCHAEOLOGY SOUTHWEST

*Two caches of extraordinary objects* link the Kayenta heartland to Kayenta migration routes and areas of resettlement.

In 1915, a team from Harvard's Peabody Museum recovered an incredible collection of perishable items from a concealed rock shelter immediately north of Tsegi Canyon (see map on page 17). Among the objects found there were clothing, sandals, baskets, matting, ropes, digging sticks, spear-throwers, seed beaters, arrows, cradles, an atlatl, and an incised wooden cup. The most spectacular find, however, was the Sunflower Cache, discovered near one of several late thirteenth-century rooms in the cave. Someone, or perhaps a group of people, had dug a pit and lined it with bark. They had removed the base of a large corrugated jar, placed the jar in the pit, put the cache into the inverted jar, and covered the pit with stone slabs.

In 1957, Safford resident S. R. Claridge discovered a roughly contemporaneous cache with striking parallels on the talus slope below a cave along Bonita Creek (see map on page 4). This cache contained five composite perforated flowers or flower clusters on strings, eighteen flower hubs without petals, eight cones, sixty-five miniature perforated baskets (possibly representing flowers) on two strings, a possible bird pendant, three thin composite terrace tablitas or altar adornments, and cotton cloth. All of these items were found near fragments of a large Maverick Mountain Polychrome jar and a small, undecorated bowl, both of which had been smashed by a recent ceiling collapse in the cave that had also removed the section of the floor containing the cache pit. It is likely that the cache had been placed in the jar and covered with the inverted bowl.

Although the two caches were more than 250 miles apart, it seems that closely related groups created them. Bonita Creek would have been a likely corridor between Point of Pines and the Safford Basin—two known destination areas for Kayenta immigrants. Visit [www.archaeologysouthwest.org/asw27-3](http://www.archaeologysouthwest.org/asw27-3) to learn more about the Sunflower and Bonita Creek Caches. 



*TOP: The Sunflower Cache comprises twenty-six composite wooden flowers, two leather flowers, twenty-five wooden cones, and a wooden bird—all painted. There is evidence that some of the flowers were meant to be part of ritual costumes or masks. The wooden cones appear to have been strung. The sanded cottonwood bird is almost ten inches tall, with holes for a beak, and possibly feet, made of another material. It may represent a scarlet macaw. See [www.archaeologysouthwest.org/asw27-3](http://www.archaeologysouthwest.org/asw27-3) for information about the plate reproduced here.*

*BOTTOM: The makers of the Bonita Creek Cache flowers (right) used agave plant parts—probably a substitute for wood, and echoing the substitution of local materials for creating Kayenta pottery outside of the homeland. Some items were painted and some, such as the eight cones (pictured at left), were not, and paint colors differed a bit from those in the Sunflower Cache. It seems that some items were deposited before they were finished.*

PHOTOS: FLOWERS, JANNELLE WEAKLEY; CONES, E. B. SAYLES; BOTH COURTESY OF THE ARIZONA STATE MUSEUM, UNIVERSITY OF ARIZONA

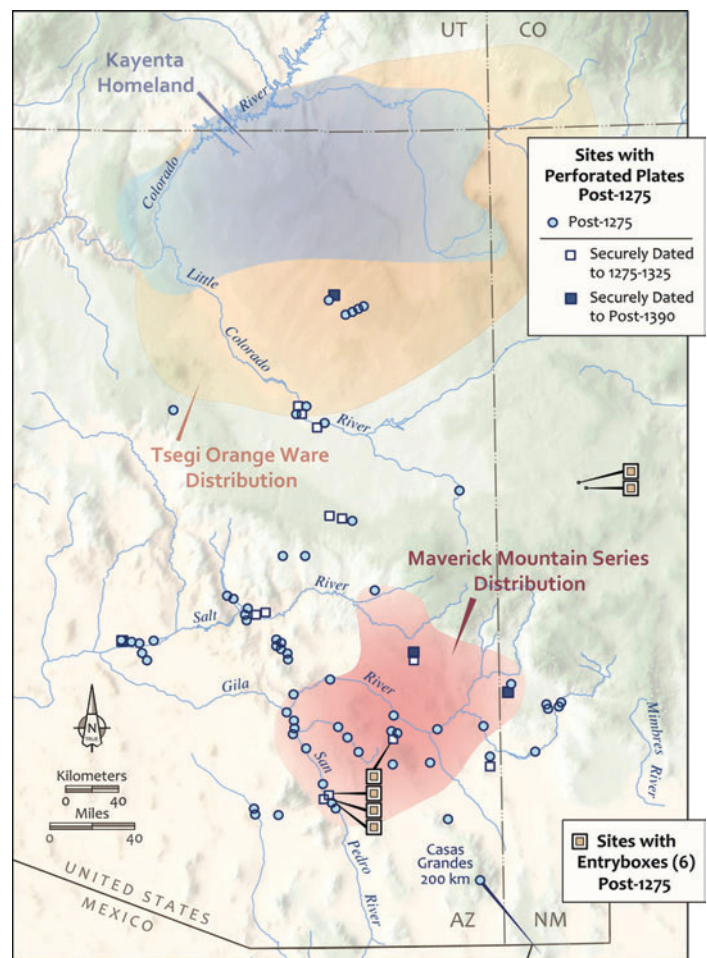
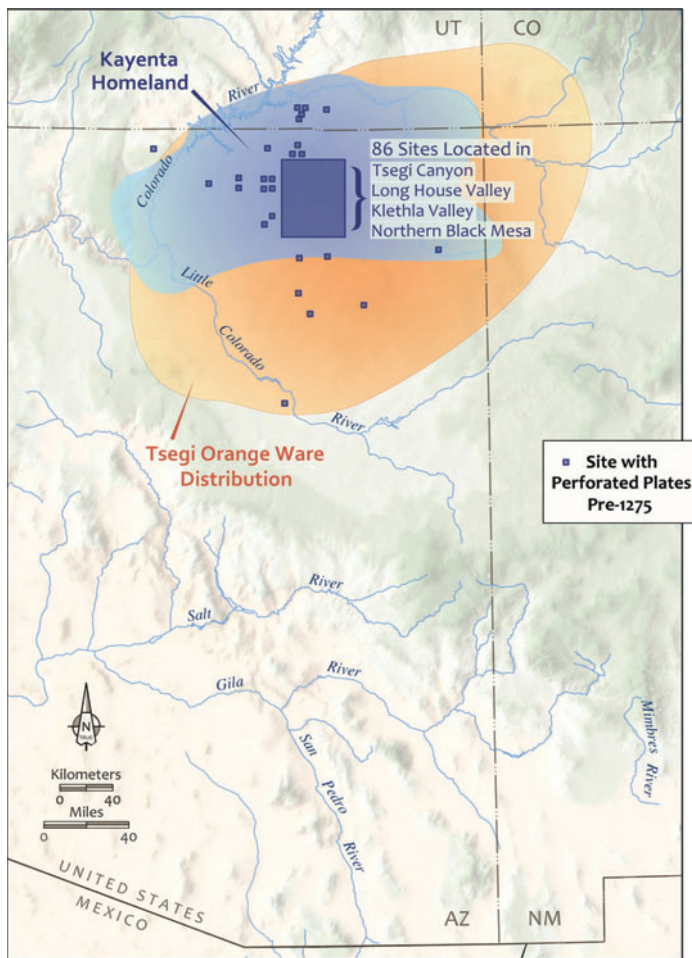
# Understanding the Kayenta, from Beginning to End

JEFFREY S. DEAN, UNIVERSITY OF ARIZONA LABORATORY OF TREE-RING RESEARCH  
JEFFERY J. CLARK, ARCHAEOLOGY SOUTHWEST

*Like their neighbors to the east*, Kayenta people joined a great exodus from the Four Corners region. Kayenta emigration culminated in the late 1280s, a bit behind the other groups, but the effect was the same: by 1300, the region was essentially depopulated. Of the many questions this massive population movement raises, three are of surpassing interest: What caused the emigra-

tion? Where did people go? What impact did the immigrants have wherever they resettled?

Kayenta emigration was pushed and pulled. A powerful push came from the severe environmental deterioration that had begun around 1250. Over time, the homeland's capacity to support farming diminished. Several factors reinforced one



Some of the distinctive patterns and traditions discussed in this issue help archaeologists trace Kayenta emigrants into distant areas. Various combinations of diagnostic attributes—entryboxes, kivas and kiva features, village layouts, and locally produced perforated plates and Maverick Mountain Series pottery—identify Kayenta enclaves among established groups south of the Four Corners. These maps show the distributions of “Kayenta markers” before and after 1275. (The distribution of entryboxes before 1275 is not shown on the left; it roughly corresponds to the boundaries of the Kayenta and Tusayan homelands [see page 17]. Similarly, the distribution of perforated plates in the Kayenta homeland is not shown on the right, but these were certainly present up until the final exodus.) The Tsegi Orange Ware distribution shows where these vessels are commonly found. The Maverick Mountain Series distribution on the right shows the area in which sites have substantial amounts of this pottery (specifically, 20 percent or more of the decorated pottery recovered from each site). MAPS: CATHERINE GILMAN, PATRICK D. LYONS, JEFFREY S. DEAN, AND JEFFERY J. CLARK



another to produce the greatest subsistence crisis in more than 1,000 years. Critical events include the onset of arroyo cutting (beginning in the 1250s) and alluvial groundwater depletion, the diminished rainfall of the Great Drought (beginning in 1276), and a change in the seasonal distribution of annual precipitation.

These factors altered a situation in which farming was controlled by a relatively stable factor, high alluvial groundwater levels, to one in which crop production depended on a deficient and highly variable control, precipitation. These circumstances forced much of the Kayenta population to seek better circumstances elsewhere. Pull factors—including better farming conditions, long-standing contacts with other groups, and the desire to maintain existing social relationships—gave a southward momentum and direction to the exodus.

We find evidence of Kayenta immigrants in the Hopi Mesas, middle Little Colorado River valley, Point of Pines area, Grasshopper area, Safford Basin, Tonto Basin, and middle San Pedro River valley, as well as in areas of western New Mexico. We have particularly strong evidence of such incursions at Point

of Pines, where immigrants settled in existing pueblos; in the Safford Basin, where Kayenta people established several sizable villages; and in the San Pedro valley, where the northerners settled in depopulated areas near established local settlements. The farther south these groups travelled, the more their material culture stood out; by the time they reached the valleys of southern Arizona, the Kayenta were probably perceived as distant foreigners. Archaeological traces of Kayenta heritage finally fade away around 1400, except in the Hopi area (and possibly in the Zuni area), where some people of distant Kayenta heritage still reside.

These considerations raise another important question: Why are archaeologists able to track the movements of Kayenta groups over large spans of time and space, whereas—with a few exceptions—the trails and traces of other northern emigrants rapidly fade with increasing distance from their homelands? Part of the answer probably lies in the striking degree of social flexibility shown by Kayenta peoples throughout their history. Although they never exhibited the degree of social complexity of their Mesa Verde and Chacoan contemporaries, their less

## The Kayenta before and after Migration: A Southwest Social Networks Perspective

*Why did the Kayenta* leave the north, and how did they change the nature of social relationships wherever they arrived?

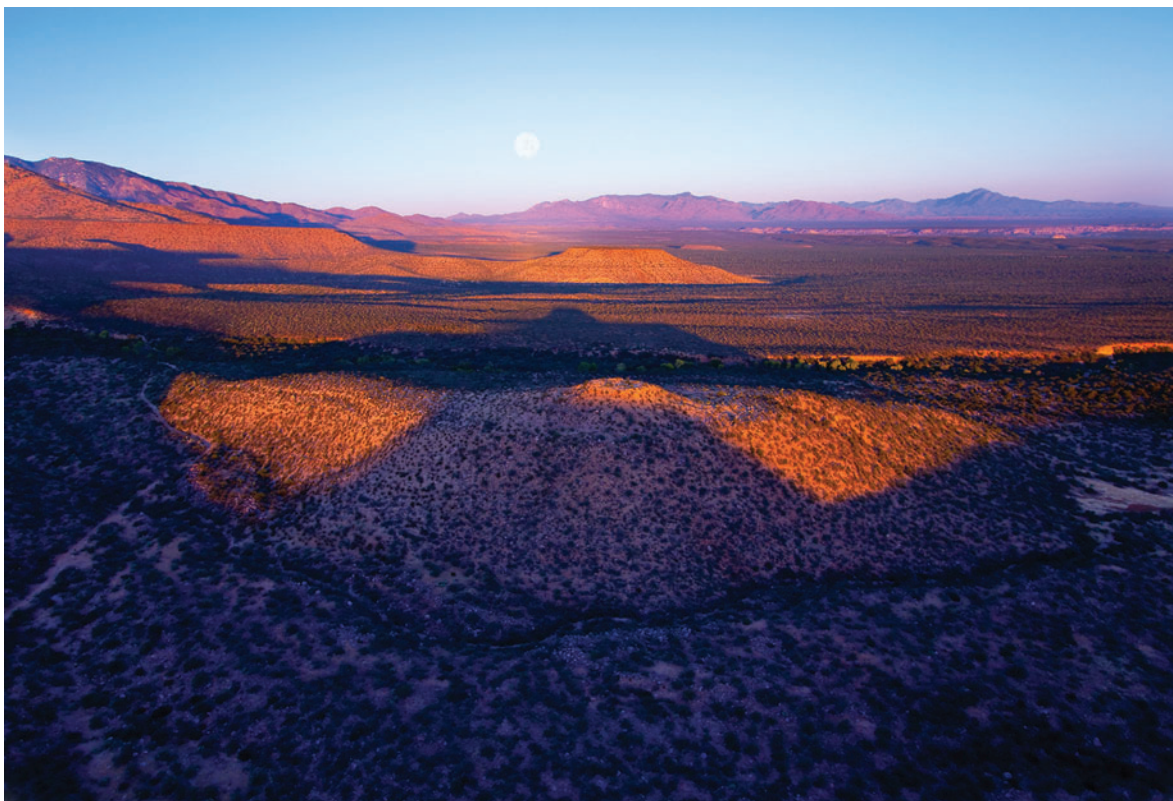
Through analyses undertaken as part of the Southwest Social Networks project (*Archaeology Southwest Magazine* 27:2), we know that the shape of the Kayenta social network differed from those of the two groups—Hopi and Zuni—that remained on the Colorado Plateau after the Great Drought. People in the Hopi (Tusayan) region drew upon numerous external ties to allow them to survive in place. People in the Zuni (Cibola) region responded by turning inward, forming small settlements that enabled them to exploit a variety of resources.

The Kayenta did not structurally reorganize to accommodate the environmental crisis—at least initially. They remained aggregated and internally focused with a relatively weak external support network. When environmental and social conditions had substantially deteriorated, they emigrated, following some of their long-distance connections to perennial river valleys south of Kayenta.

Then, something interesting happened: the Kayenta restructured how they interacted among themselves and how they interacted with other groups. Widely dispersed in small enclaves, they essentially inverted their former social organization, creating long-distance ties among these enclaves throughout the entire southern Southwest, as well as short-distance ties with local groups in the areas where they resettled.

This intricate web of connections and group interactions, spanning cultural and environmental boundaries, was probably a major impetus for the widespread Salado phenomenon, which arguably had a strong ideological component focused on inclusion. Beyond the homeland, the Kayenta seem to have balanced an internal drive for separation and an external drive for inclusiveness. This inclusivity may have been a product of Kayenta innovation: it seems that the Kayenta were intent on maintaining their identity, while also getting along with local groups by spreading the tenets of an inclusive ideology. ■

—Lewis Borck, *University of Arizona and Archaeology Southwest*



Located in the Safford Basin of southeastern Arizona, the Goat Hill site is just one of several places where Kayenta immigrants resettled and left distinct material evidence of their presence. PHOTO: HENRY D. WALLACE

the journey, however, and many architectural traditions, including entry-boxes and kivas, were short-lived upon resettlement. Obsidian exchange, Salado polychrome pottery production (including use of perforated plates), and Salado iconography provide evidence of continued contact among dispersed Kayenta people and their descendants for at least a century after emigration (see *Archaeology Southwest Magazine* 26:3–4). Historical examples of groups maintaining a strong identity and sense of commu-

elaborate organization and remarkable ability to organize, dissolve, and reconfigure communities in different ways endowed them with the flexibility necessary to adapt to a wide array of social and environmental challenges and opportunities. This flexibility was vital to the persistence of Kayenta traditions after exodus from the homeland, allowing Kayenta peoples to meet the logistical and social challenges of traversing vast distances on foot while also enabling them to reconstitute aspects of their society wherever they resettled.

Although flexibility and adaptability were important to Kayenta persistence during and after emigration, these same qualities could have led to rapid assimilation into the communities where the Kayenta resettled. (Indeed, assimilation would have been the most adaptive option under the circumstances, especially in the insular Hohokam irrigation communities of southern Arizona.)

Coupled with this flexibility, therefore, must have been a strong sense of identity, allowing aspects of Kayenta life to persist, albeit transformed, outside of the homeland. We see this persistence in the presence of utilitarian and ceremonial Kayenta material culture that can be used to identify enclaves more than 200 miles from the homeland. Burial practices did not survive

nity while dispersed in exile include the Jews, Armenians, and Irish.

We can only conjecture as to how and when this strong identity developed, yet we do see evidence of it in the Kayenta homeland. This is especially true after 1150, when Kayenta groups withdrew from northern Black Mesa, which physically separated them from Tusayan, and from the western margins of Mesa Verde, which physically separated them from eastern Pueblo populations. Although inhabitants of neighboring areas copied and acquired a considerable amount of Kayenta decorated pottery (presumably laden with religious and cultural symbols), inhabitants of the Kayenta region imported very little decorated pottery, and they did not emulate foreign styles. Moreover, Chacoan influence—so pervasive elsewhere in the Ancestral Pueblo world—made little headway in the Kayenta region.

This one-way flow suggests that Kayenta people resisted outside ideologies even as they widely shared their own ideas on decorated pottery. We believe that this same pattern holds after migration, giving us insight into how this immigrant group had such a major impact on local populations, as evidenced by the Salado phenomenon. ■





# back sight

In 2006, the American Anthropological Association rightfully bestowed the prestigious Alfred Vincent Kidder Award for Eminence in the Field of American Archaeology to Jeffrey Dean, coeditor of this issue. Jeff is not only the consensus expert on Kayenta archaeology, but also a Preservation Archaeology pioneer. His dissertation research, undertaken fifty years ago, remains an outstanding example of how minimally invasive methods can lead to profound insights about the past.

As Andrew Christenson explains (see pages 7–8), turn-of-the-century archaeologists and explorers identified and excavated many Kayenta sites, but rarely reported on their findings. In 1962, Jeff Dean worked with Bryant Bannister, head of the Laboratory of Tree-Ring Research at that time, to develop a research plan that sought to advance the power and utility of tree-ring studies in the Southwest.

Jeff's research focused on the Tsegi Canyon region, where several sites built into rock overhangs still had standing walls and intact roofs. It was an ideal setting for employing low-impact information-gathering methods. For three summer field seasons (1962–1964), a total of eight months, Jeff carefully cored available beams and other architectural wood in two very large sites—Betatakin and Kiet Siel—and at several smaller sites. His painstaking field methods involved site mapping, coring as much accessible wood as possible, and recording detailed information about the context and condition of each sample.

These ultra-low-impact field methods yielded some of the highest-quality information ever recovered by archaeologists. For example, Jeff was able to document that an entire village relocated to the sheltered setting of Betatakin in a carefully planned process. It began with wood stockpiling between 1269 and 1272 and subsequent use of that wood for a major period of room construction between 1275 and 1277. He was also able to combine architectural and dating information to identify individual households at the site. Further synthesis established detailed population histories for Betatakin and Kiet Siel.

Although the archaeological record is not renewable, it is *expandable*. Through creative new methods, technology, and theory, archaeologists can obtain more and different information from fieldwork or—even better—from existing collections. Whether through tree rings or computer simulations, Jeff Dean has been an innovator in the use of low-impact methods throughout his career. His intellectual leadership as a Preservation Archaeologist continues to inspire. □



Preservation Archaeology pioneer Jeff Dean examines a sample in the field. PHOTO: RANDY BALICE

## 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.

William H. Doelle

