



## T O N T O

## Upper Cliff Dwelling Construction Sequence

Tonto National Monument, established in 1907, protects several cliff dwelling sites and numerous smaller archeological sites scattered throughout the highlands and alluvial plains within the Tonto Basin, Arizona. The Upper Cliff Dwelling is the largest of these sites, and is accessible via a ranger-guided hike from the Visitor Center.

### Background

The Upper Cliff Dwelling consists of an approximately 40-room masonry and adobe pueblo built within a natural alcove above a side drainage of the Salt River called Cholla Canyon. Contained within the alcove is a small seep spring that was likely active (and therefore the primary draw) when the village was occupied. Like many of the other prehistoric sites now protected by the National Park Service (NPS), the Upper Cliff Dwelling was subject to looting and vandalism that destroyed much of the contextual information for the site before archeological investigations could be conducted within the village. Historic photographs, old excavation reports, and recent research, however, provide some indication of when and how the Upper Cliff Dwelling was constructed, and to some extent, by whom.

### When?

Construction of all the cliff dwellings within the Monument appears to have begun ca. A.D. 1300-1325. Ceramic artifacts found within the Upper Cliff Dwelling consist primarily of Gila and Tonto polychromes, suggesting a broad range of occupation between A.D. 1300 and A.D. 1450. Additional dates for the cliff dwelling come from tree-ring dating, but the results of this avenue of research have been extremely limited, with only three dates produced so far. The first date produced was A.D. 1346 (Haury 1938)—this sample was later re-analyzed and produced a date of A.D. 1290vv (“vv” means that the exterior rings of the sample are missing, and therefore, that this date is earlier than the actual cutting and use of the tree). A second date, produced only recently, came from a roof beam cut between the fall of A.D. 1342 and the spring of A.D. 1343 (Windes 2012). The final date, mistakenly ascribed to the Lower Cliff Dwelling, is a near-cutting date of A.D. 1303v (Windes 2012). Tree-ring dating, therefore, currently places the construction of the Upper Cliff Dwelling between sometime after A.D. 1290

## OVERVIEW



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The Upper Cliff Dwelling at Tonto National Monument, ca. 1939.

and the spring of A.D. 1343. Given that the latter date came from a room built before the Upper Cliff Dwelling was completed, however, construction likely lasted later than A.D. 1343, and perhaps as late as A.D. 1350, when most people had begun to move out of the Tonto cliff dwellings.

### How?

The prehistoric builders of the Upper Cliff Dwelling used a mixture of stone and adobe to build the village walls and wood elements for door lintels and roofs. Wood elements included sycamore, cottonwood, birch, pinyon, juniper, Douglas fir, ponderosa pine, willow, and chokecherry. Saguaro cactus ribs, bark, yucca, and reeds were also used as roofing material, and while these materials could have been acquired locally, the higher-elevation tree species (ponderosa pine, Douglas fir, birch, and possibly the juniper, as well) would have required substantial travel or exchange (Windes 2012).

Three primary factors influenced the construction of the village: alcove morphology, social relationships, and maintenance of routes from east to west and north to south. In constructing the Upper Cliff Dwelling, the prehistoric builders made use of the natural topography of the alcove, leaving it open in the rear in the area surrounding the seep spring, and augmenting the natural ledges (of which there are five) to create foundations and walls for the village rooms. Once core rooms were complete, additional rooms were added on,





Tonto Polychrome, a "Salado" pottery type found at Tonto National Monument.

so that in a period probably no longer than 30 years, the entire village had been built, lived in, and ultimately left.

## By Whom?

Tonto National Monument lies in the heart of Salado country. *Salado* is a term used to describe the prehistoric cultural group living in the Tonto Basin between A.D. 1250 and A.D. 1450, but also encompasses a particular group of artifacts, architectural styles, and a belief system symbolized by Salado iconography.

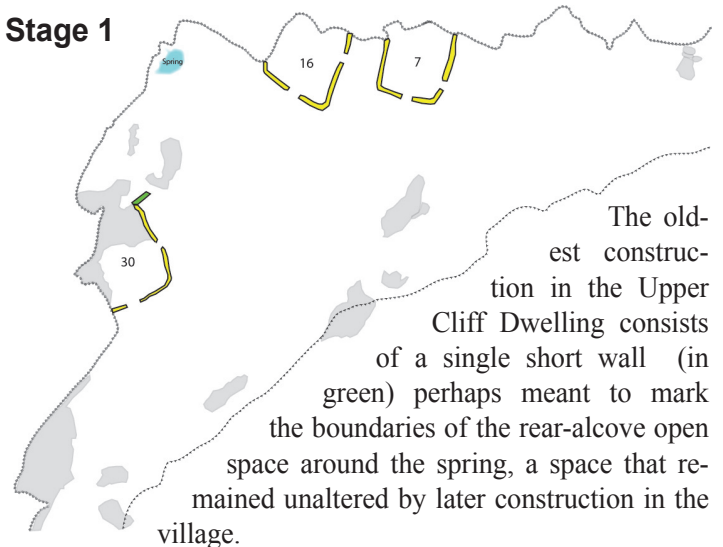
Beginning in the mid-1200s, people began to migrate into the Tonto Basin from the mountains surrounding the Basin, Mogollon areas to the east, Puebloan areas to the north and northeast, and possibly from the Hohokam regions to the west and southwest (Rice 1998). The people who built the Upper Cliff Dwelling were therefore most likely a multicultural and potentially multiethnic group participating in the Salado way of life, sharing ideas, iconography, materials, and architecture.

The Upper Cliff Dwelling also contains some architectural clues indicating "special" status. First, the alcove contains a spring that appears to have been an important feature overall. Second, the village had several very large rooms that may have served as communal space—perhaps as a gathering area for not only the residents of the cliff dwelling, but for others living elsewhere in the Tonto Basin. Finally, one of the rooms (Room 14) had a labyrinth pattern incised in the plaster inside the room—a similar pattern was found on a wall of the Great House at Casa Grande (which some suspect served as an astronomical observatory), some 50-60 miles to the southwest (Abel and Van Valkenburgh 1961).

## Construction Sequence

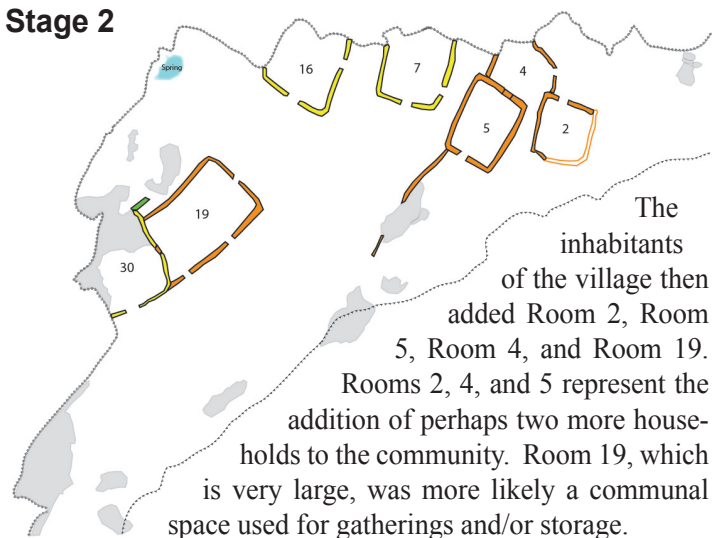
To determine the construction sequence for the Upper Cliff Dwelling, archeologists examined the abutments and joints in the walls, entryways (both open and sealed) between rooms, and special features such as retrofitted roof beam sockets. Household units within the village appear to have consisted of a single residential room, its rooftop work area, and surrounding open space. As rooms were added to the village, the open spaces were replaced with additional rooftop work areas, which also served as corridors allowing access to various parts of the village, including the spring and large community space in the back of the alcove.

### Stage 1



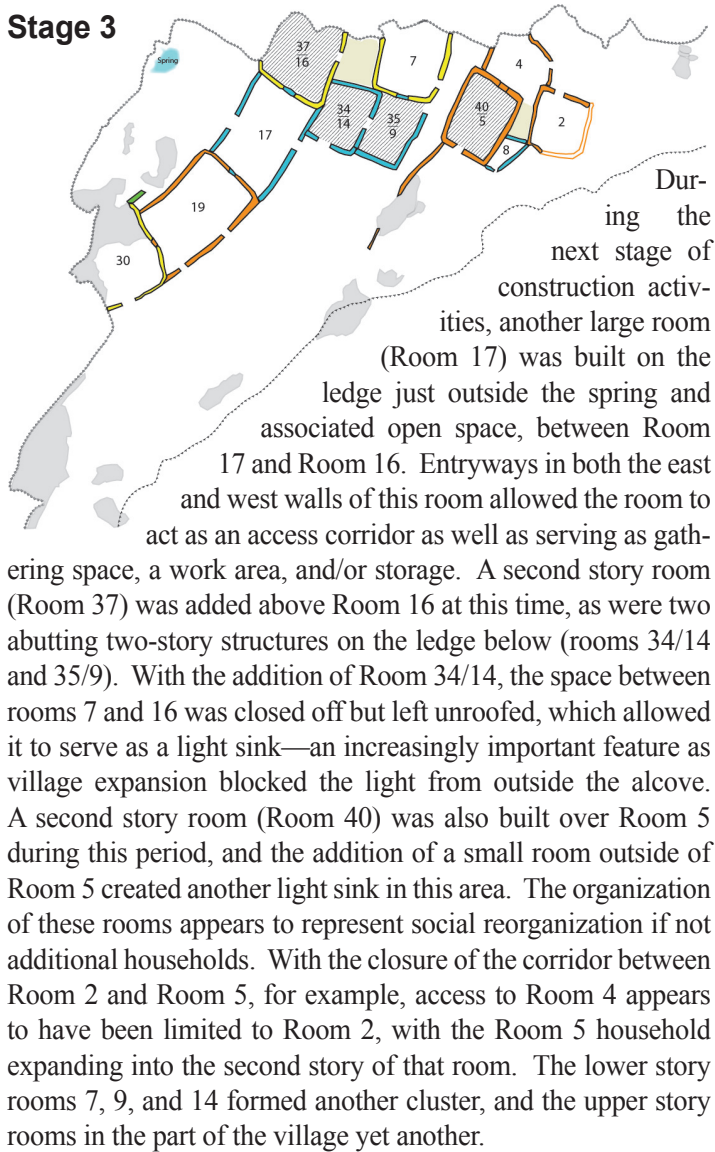
The first rooms built within the alcove were Room 7, Room 16, and Room 30. Because these rooms were separate rather than connected, each likely represents an individual household (estimated to be between four and seven people), so that the initial population in the village may have been in the range of 12 to 21 people.

### Stage 2





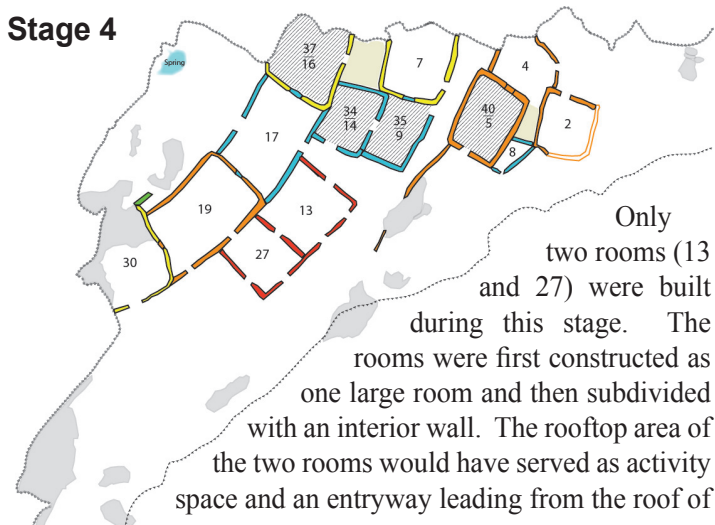
### Stage 3



During the next stage of construction activities, another large room (Room 17) was built on the ledge just outside the spring and associated open space, between Room 17 and Room 16. Entryways in both the east and west walls of this room allowed the room to act as an access corridor as well as serving as gathering space, a work area, and/or storage. A second story room (Room 37) was added above Room 16 at this time, as were two abutting two-story structures on the ledge below (rooms 34/14 and 35/9). With the addition of Room 34/14, the space between rooms 7 and 16 was closed off but left unroofed, which allowed it to serve as a light sink—an increasingly important feature as village expansion blocked the light from outside the alcove. A second story room (Room 40) was also built over Room 5 during this period, and the addition of a small room outside of Room 5 created another light sink in this area. The organization of these rooms appears to represent social reorganization if not additional households. With the closure of the corridor between Room 2 and Room 5, for example, access to Room 4 appears to have been limited to Room 2, with the Room 5 household expanding into the second story of that room. The lower story rooms 7, 9, and 14 formed another cluster, and the upper story rooms in the part of the village yet another.

A single tree-ring date recently acquired for Room 40 (the upper-story room over Room 9) suggests the wood used to build this section of the village was cut between the fall of A.D. 1342 and the spring of A.D. 1343 (Windes 2012).

### Stage 4

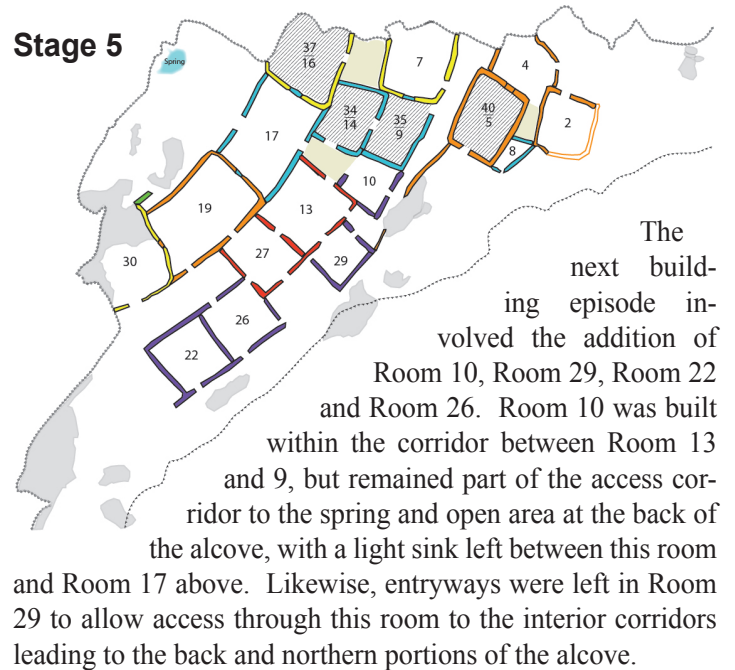


Only two rooms (13 and 27) were built during this stage. The rooms were first constructed as one large room and then subdivided with an interior wall. The rooftop area of the two rooms would have served as activity space and an entryway leading from the roof of

Room 27 allowed continued access to Room 19 on the ledge above.

Both Room 13 and Room 27 also served as a secondary core for later construction episodes.

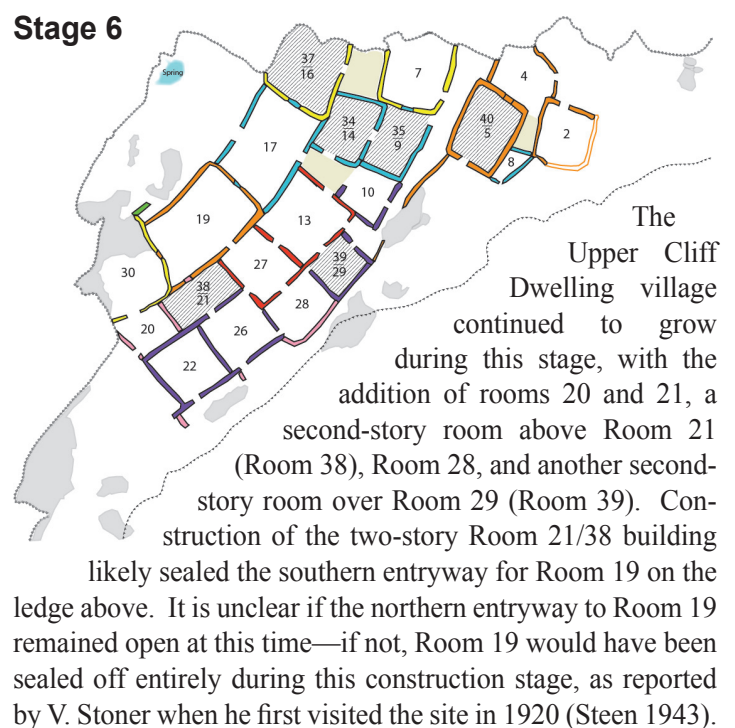
### Stage 5



The next building episode involved the addition of Room 10, Room 29, Room 22 and Room 26. Room 10 was built within the corridor between Room 13 and 9, but remained part of the access corridor to the spring and open area at the back of the alcove, with a light sink left between this room and Room 17 above. Likewise, entryways were left in Room 29 to allow access through this room to the interior corridors leading to the back and northern portions of the alcove.

Like rooms 13 and 27 before, Room 22 and Room 26 were created by first building one big room and then subdividing this with an interior wall. If both sets of rooms represent individual households, the village population at the end of this construction stage may have been around nine households, or 36 to 63 people.

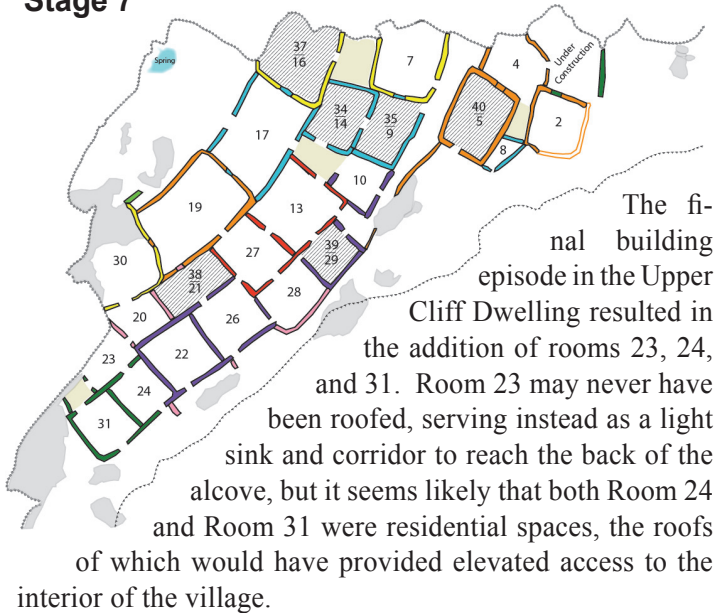
### Stage 6



The Upper Cliff Dwelling village continued to grow during this stage, with the addition of rooms 20 and 21, a second-story room above Room 21 (Room 38), Room 28, and another second-story room over Room 29 (Room 39). Construction of the two-story Room 21/38 building likely sealed the southern entryway for Room 19 on the ledge above. It is unclear if the northern entryway to Room 19 remained open at this time—if not, Room 19 would have been sealed off entirely during this construction stage, as reported by V. Stoner when he first visited the site in 1920 (Steen 1943).

The buildings added during this stage likely represent at least two more households, so that if all residential structures were in use at this time, perhaps 11 households, or 44 to 77 people, may have been in residence. Two “porches” were also added in front of Room 22 and Room 26—these, along with the rooftops, likely served as work space for the households living in those rooms.

### Stage 7



One additional “room” at the northeastern edge of the village may have been under construction at this time (Steen 1943). This space, whether a room or work area, contains little evidence for a formal floor and even less for roofing material. The wood specimen originally reported by Haury (1938) as dating to A.D. 1346 was found lying in this space. Had this date been accurate for activities within this room, then the final four stages of village construction would have taken only a matter of years—perhaps as few as three or four. Although this interpretation may still be valid, re-analysis of the wood sample indicates only that the tree itself died sometime after A.D. 1290; this sample, therefore, can no longer be used to date the construction sequence of this section of the village.

### Moving Out of the Upper Cliff Dwelling

The Upper Cliff Dwelling village likely had a population very similar to that of the Lower Cliff Dwelling in its final years of occupation, with perhaps as many as 15 households (60-105 people) living within the village in the late A.D. 1340s. The Upper village, however, with its two great rooms (17 and 19), appears to have been “special” in some way—perhaps as place for a much larger non-residential population to convene for social or ceremonial events.

For whatever reason—perhaps related conflict, population pressure, and/or environmental stress—the Upper Cliff Dwell-

ing residents ceased construction on the village and began to move out ca. the A.D. 1350s, and like the other Salado inhabitants of the Tonto Basin, had moved on entirely by A.D. 1450.

### Literature Cited

*Unless otherwise noted, the information included in this overview derived from the following report:*

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*Also cited in this overview are the following sources:*

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View of the Upper Cliff Dwelling.