

The Stones of Taliesin West: Frank Lloyd Wright and the Petroglyphs of Paradise Valley

AARON M. WRIGHT

Serenely enwrapped in a thorny cloak of cacti, creosote, and catclaw, Taliesin West (Figure 1) is an architectural tour de force humbly and inconspicuously crested on the rim of Paradise Valley, along the western fringe of the McDowell Mountains, in south-central Arizona. In 1938, acclaimed architect Frank Lloyd Wright began erecting Taliesin West to serve as his family's winter retreat as well as that of the Taliesin Fellowship, Mr. Wright's band of eager apprentices (Marty and Marty 1999). Established by Mr. Wright and his wife, Olgivanna, in 1932 at Taliesin, their estate in Wisconsin, the Taliesin Fellowship was the social institution through which Mr. Wright shared his architectural vision and experience with dozens of pupils at a time (Figure 2). After 1937, Mr. Wright and the Fellowship assumed a migratory existence as they split their time summering in the cooler climes of Taliesin and wintering amid the warmer and drier conditions of Taliesin West.



Figure 1. View of the original entrance to Taliesin West, with Boulder 1 atop Indian Rock Terrace above the swimming pool in center foreground. Behind Taliesin West, from left to right, are McDowell Peak, Thompson Peak, and Taliesin Peak. (Photo by Paul Vanderveen.)

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Figure 2. The Taliesin Fellowship gathered on the steps of Indian Rock Terrace below Boulder 1 in 1941. (Courtesy of the Frank Lloyd Wright Foundation Archives, the Museum of Modern Art, Avery Architectural & Fine Arts Library, and Columbia University, New York.)

At Taliesin West, Mr. Wright encouraged experimentation, often altering and adding to the architecture over the years—it was, after all, his “great experiment” (F. Wright 1943:455). Moreover, many of his latter architectural feats and those of his students were envisioned and put to paper in the drafting room at Taliesin West, lending to the place’s likeness as Mr. Wright’s “desert laboratory.” Now, nearly 61 years after his passing, Taliesin West is headquarters for the Frank Lloyd Wright Foundation, serves as a campus of the School of Architecture at Taliesin (formerly known as the Frank Lloyd Wright School of Architecture and an outgrowth of the Taliesin Fellowship), and is visited annually by over 125,000 tourists from across the globe.

Historians lionize Taliesin West as one of Mr. Wright’s masterpieces, a true hallmark of his architectural philosophy of organic architecture—the striving to establish and nurture balance amid the built and natural environments, and to harmonize the lifestyles engendered by each (F. Wright 1939). In his words:

A building should appear to grow easily from its site and be shaped to harmonize with its surroundings if Nature is manifest there, and if not try to make it as quiet, substantial and *organic* as She would have been were the opportunity Hers. [F. Wright 1908:156; emphasis added]

By organic architecture I mean an architecture that *develops* from within outward in harmony with the conditions of its being as distinguished from one that is *applied* from without. [Wright 1914:406; emphasis in original]

The National Park Service has formally recognized the significance of Wright's organic vision and accomplishment at Taliesin West, first by listing the buildings on the National Register of Historic Places in 1974 (Melot 1976) followed by their designation as a National Historic Landmark in 1982 (Charleton 1982). The City of Scottsdale followed suit by adding Taliesin West to its Historic Register in 2006 (City of Scottsdale Historic Preservation Office n.d.). And on July 7, 2019, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) added Taliesin West, along with seven of Mr. Wright's other works, to its World Heritage List (Messman 2019).

Among the many unique aspects of Taliesin West is the little-known fact that it is the only work of Frank Lloyd Wright's where he incorporated American Indian petroglyphs into the architectural design and residential experience. Although Taliesin West's renown owes to its historical association with Mr. Wright and the Taliesin Fellowship, the Frank Lloyd Wright Foundation contends the petroglyphs contribute to the property's significance (Harboe Architects 2015:124). Nevertheless, this older aspect of the property, not to mention its role in the larger narrative of one of the world's most revered modernist architects, remains untold. This impasse is compounded by the curious point that Mr. Wright, no stranger to putting pen to paper, was practically mum on the matter. The remainder of this essay, therefore, pulls together various and sundry threads of information—biographies and recorded interviews with Mr. Wright and his apprentices, historic photographs and plan drawings, results of an archaeological survey of the property, notes from a rock art recording class, geological surveys of the McDowell Mountains, and correspondences—to address the petroglyphs that now reside within and around a marvel of modernist architecture. The following is partitioned into three sections, with Part I providing a general discussion of the petroglyphs at Taliesin West. In Part II, the essay turns to a consideration of the petroglyphs' place within the larger, archaeological landscape in order to contextualize them within their original, pre-Wright cultural setting. The discussion concludes in Part III with an appraisal and critique of Mr. Wright's appropriation of objects and emblems of American Indian heritage.

PART I: FRANK LLOYD WRIGHT AND THE PETROGLYPHS AT TALIESIN WEST

It has yet to be determined when and how Frank Lloyd Wright first learned of the petroglyphs at the base of Taliesin Peak, an extension of the McDowell Mountains he called Maricopa Hill (F. Wright 1940:map). Whereas the glyphs are absent from the 1906 United States Geological Survey (USGS) map of this parcel (Figure 3, left), with the building of Taliesin West they became a regional point of interest, so much so they were denoted on the subsequent 1964 USGS map (Figure 3, right). Mr. Wright's footprint at Taliesin West began with a purchase of 160 acres (a quarter section) from Stephen D. Pool (an employee of the Arizona State Land Department) and a lease of another 160 acres of adjacent State Trust land, an arrangement facilitated by Pool. Although Mr. Wright had been corresponding with Pool prior to purchasing the parcel, and may have even visited it in the early spring of 1937, the transaction was not finalized until early 1938 (Levine 1996:258–259). Whether or not Mr. Wright knew of the petroglyphs before purchasing the property from Mr. Pool, they became readily apparent to the new landowner and his apprentices quite soon after arriving at their future winter home (Figures 4 and 5). The petroglyphs were likely discovered in 1938 during the initial clearing for construction (Harboe Architects 2015:15, 102, 346). Henceforth, their presence and location would become integral to the design of Taliesin West, with several petroglyph-adorned boulders actually harvested and repositioned into the campus's layout.

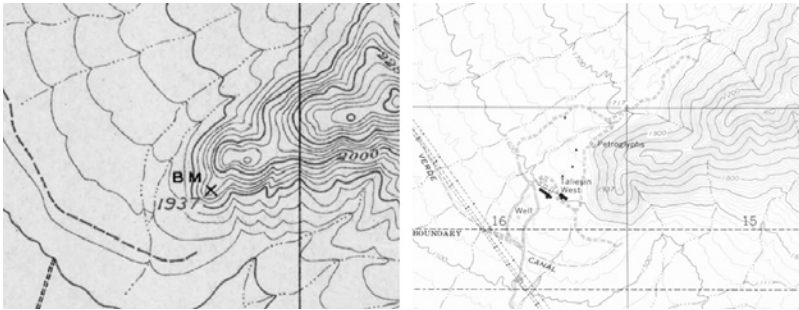


Figure 3. Taliesin Peak as depicted on United States Geological Survey (USGS) maps from 1906 (at left) and 1964 (at right). Though petroglyphs are denoted on this version of the 1964 Sawik Mountain 7.5 minute topographic map, they have been removed from versions after 1982. (Sources: Douglas et al. [1906]; USGS [1964].)



Figure 4. Petroglyph-adorned boulders at the base of Taliesin Peak, 1938 or 1939. View is to the south toward the base of Taliesin Peak, with Boulder 1 in the foreground and Boulder 2 in the background. (Courtesy of the Frank Lloyd Wright Foundation Archives, the Museum of Modern Art, Avery Architectural & Fine Arts Library, and Columbia University, New York.)



Figure 5. Petroglyph-adorned boulders at the base of Taliesin Peak, 1938 or 1939. View is to the east with Boulder 1 in the foreground and Boulders 4, 5, and 10 in the background. (Courtesy of the Frank Lloyd Wright Foundation Archives, the Museum of Modern Art, Avery Architectural & Fine Arts Library, and Columbia University, New York.)

As architectural historian Neil Levine (1996:263–269) explains, Mr. Wright’s desert works are site-conforming. Taliesin West’s angles of rotation or displacement were designed to mediate against the bold and barren landscape, yet contour the rocky, angular topography. Mr. Wright’s desert laboratory, however, went beyond this basic premise of organic architecture, in that some of the visual axes of the buildings and their layout were coordinated to distant landforms and other directional points of interest. The integration of the petroglyph boulders into Taliesin West’s design was part of this process of “orienting” (Figure 6). Believing the exact orientation of the petroglyphs was of principal importance to the original petroglyph artisans (Levine 1996:269), Mr. Wright had his apprentices take compass bearings prior to removing the petroglyph boulders (Peters 1990:12; Tafel 1979:196). Mr. Wright was concerned with replicating what he conceptualized to be the indigenous experience, as factual or romanticized as it may have been, so he felt it only right to have the harvested boulders repositioned into Taliesin West along their original orientations (Peters 1990:11). As early Taliesin Fellow Edgar Tafel recalled Mr. Wright airing, “When the Indians come back 2000 years from now to claim their land, they will note we had respect for [the boulders’] orientation” (Tafel 1979:196). In Levine’s (1996:273) opinion, Mr. Wright’s intent with the petroglyph boulders was to maintain their experiential agency by evoking their original influence over human movement through the space that became Taliesin West. How and where he



Figure 6. Boulders 2/3 orienting the campus. (Photo by Paul Vanderveen.)

relocated the boulders around the campus was choreographed as part of a larger spiral plan to the property. As with the buildings, the boulders were oriented along particular visual axes and directions that referenced elements of the surrounding landscape from different perspectives (Levine 1996:274–290).

Having replicated American Indian iconography in several earlier works—specifically the A. D. German Warehouse (1916–1921; Richland Center, Wisconsin), Frederick C. Bogk House (1916–1917; Milwaukee, Wisconsin), Aline Barnsdall Hollyhock House (1919–1921; Los Angeles, California), and the unbuilt A. M. Johnson Desert Compound and Shrine (1924–1925; Death Valley, California)—the appropriation of actual American Indian petroglyphs and their incorporation into Taliesen West’s layout were perhaps the realization of a vision Mr. Wright had been formulating since his visit to the pre-Columbian art and culture exhibit of the 1915 Panama-California Exposition in San Diego, California (Alofsin 1993:225). But with the petroglyphs at Taliesen West, Mr. Wright seized the opportunity to move beyond replication to outright cooptation of American Indian objects and symbols.

Mr. Wright’s intrigue with American Indian architecture, religion, and ritual materialized in other elements of Taliesen West. Notably, and secondary only to the pedestaled petroglyphs, is the “kiva” room, a rectangular, masonry, semi-subterranean room with a sunken fireplace that served first as a conference space and cinema for the Taliesen Fellowship and later as a library. It was their “desert playhouse,” Mr. Wright (1943:455) wrote, “A triumph of imagination by way of simple form and limited space in the heart of a great cubical masonry block.” This statement underscores the deliberate likeness of Taliesen West’s masonry of “desert rubble stone” (F. Wright 1948:88) to the various architectural styles of ancestral Pueblo cobble masonry. Mr. Wright was surely aware of the various styles of architectural banding once in vogue throughout the Puebloan world, and possibly even the core-and-veneer technique of Bonito-style architecture (Gladwin 1945) specific to the Chacoan florescence across northwest New Mexico, southeast Utah, and southwest Colorado. However, Mr. Wright opted for an architectural mode closest to the Sinagua style of loosely arranged boulders set in a cob mortar, epitomized by the more local standing ruins of Tuzigoot, Montezuma’s Castle, and Walnut Canyon National Monuments in central Arizona.

To complement the ancient American Indian aura built into Taliesen West, both literally and allegorically, Mr. Wright and his apprentices showcased broken pottery and groundstone artifacts found on the property. According to Wesley Peters (1990:8)—Mr. Wright’s first apprentice, chief draftsman, and son-in-law—these included three bushel baskets of pottery sherds he gathered, as well as two sets of either manos and metates or mortars and pestles he and fellow

Taliesin Fellow Jesse Claude (Cary) Caraway collected. The artifacts were discovered in the initial phases of Taliesin West's construction, and, as with the petroglyph boulders, Mr. Wright had them displayed in front of his office, but within a couple of years they were stolen.

History of Research

Though likely discovered by Mr. Wright's apprentices in 1938, the first concerted effort to document the petroglyphs at Taliesin West did not take place until 1990–1991, when participants in an avocational rock art recording class, sponsored by the Arizona Archaeological Society under the tutelage of Barbara Gronemann (2014), carried out a partial survey and recording.¹ The class invested nearly 100 person-hours into compiling sketches, photographs, and notes, in all documenting 64 petroglyphs on 28 panels, spanning 18 individual boulders.² Nine petroglyph-bearing boulders had been removed from their original provenance and incorporated in the Taliesin West campus in some fashion. An additional nine such boulders were found around the base of Taliesin Peak, which is where Mr. Wright quarried the stone he used in the buildings. In addition to the petroglyphs, the class reported a lithic scatter, a flaked-stone core, and a single Gila Plain Ware sherd, Salt Variety, in association with the petroglyphs. Based on context, style, and production technique, Gronemann (n.d.) concluded that most of the petroglyphs were of Hohokam origin.

The petroglyphs at Taliesin West were subsequently visited in June 1994 by William Breen Murray, a preeminent rock art researcher who taught at the University of Monterrey in Nuevo León, Mexico. Levine, who at that time was carrying out research for what would come to be his seminal work *The Architecture of Frank Lloyd Wright*, contacted Murray with questions about the petroglyphs, and Mr. Wright's use of them. From his visit, Murray concurred with many of Gronemann's assessments, principally that the petroglyphs are of Hohokam authorship. He went a bit further though, adding that the glyphs are elements of a small Hohokam hunting-and-gathering camp that was probably used seasonally in the course of gathering plants along the wash below Taliesin Peak (Murray 1994).

In 2007, and in legal compliance with the rezoning associated with Taliesin West's listing on Scottsdale's Historic Register, the Frank Lloyd Wright Foundation contracted WestLand Resources, Inc. (WRI), to carry out a Class III archaeological inventory of the property (Buckles 2008). Beyond the six obvious petroglyph boulders repositioned within Taliesin West, WRI personnel identified just three of the previously reported petroglyph boulders, all at the base of Taliesin Peak (Buckles 2008:32–34). This left nine boulders identified by Gronemann (n.d.)

unaccounted for.³ Nonetheless, the WRI survey added considerably to our knowledge of the archaeological context of the Taliesin West property, which is essential for understanding the petroglyphs. For one, the survey recognized that Taliesin Peak was an intensively quarried source of knappable toolstone. Moderately dense scatters of flaked stone in early stages of reduction were found at the base of Taliesin Peak, including around the petroglyph boulders and elsewhere. The flaked-stone core and lithic scatter noted by Gronemann (n.d.) are undoubtedly part of this broader context of toolstone quarrying and reduction. Buckles (2008) identified the toolstone outcropping at Taliesin Peak as varieties of black and gray rhyolite and gray and green quartzite.

In addition to the quarrying activities on and around Taliesin Peak, WRI personnel found temporally and functionally diagnostic artifacts. These included sherds of two pottery vessels immediately around the petroglyphs at the base of Taliesin Peak. One vessel was slipped red on both faces (presumably a bowl) while the other had plain surfaces, though both vessels had a brown paste and were tempered with non-micaceous sands. The plain ware sherd reported by Gronemann (n.d.) was found in this same general area and quite likely is a fragment of the plain ware vessel reported by Buckles (2008:32). The remains of three other vessels were found at varying distances up to 1 kilometer to the south and southwest of the petroglyphs: a plain ware with brown paste and micaceous sand temper (consistent with Gila Plain), another plain ware vessel with brown paste and mica



Figure 7. A 3/4-grooved groundstone axe found approximately one kilometer south of Taliesin Peak. (Courtesy of WestLand Resources, Inc.)

temper (consistent with Gila Plain), and a red-on-buff vessel with mica temper (consistent with Middle Gila Red-on-buff) (Buckles 2008:20–21). Slightly farther afield, to the south and southwest, they found a complete 3/4-grooved axe (Figure 7) and a broken projectile point (Figure 8), respectively.

In 2016, the Frank Lloyd Wright Foundation reached out with an interest in revisiting the archaeological assets on the grounds of Taliesin West. An update



Figure 8. A corner-notched Archaic projectile point found approximately 1.6 kilometers southwest of Taliesin Peak. (Courtesy of WestLand Resources, Inc.)

of their records regarding the petroglyphs was integral to implementing a new preservation master plan (Harboe Architects 2015), but the Foundation was equally interested in understanding more about the petroglyphs, and how they intersect with Frank Lloyd Wright and the beginnings of Taliesin West. I visited the property in early May of 2017 to carry out a two-day re-documentation project. The following section details the petroglyph boulders and what can be gleaned about their reuse by Mr. Wright and the Fellowship.

The Petroglyph Boulders within Taliesin West

The grounds of Taliesin West contain 18 petroglyph-bearing boulders, 9 within Taliesin West and another 9 at the base of Taliesin Peak (Figure 9). Although this is the same number of boulders reported by Gronemann (n.d.), our tallies differ in two regards. There was some uncertainty regarding the nature of the markings on one of the boulders at the base of Taliesin Peak inventoried by Gronemann's students (Boulder H, in Gronemann n.d.). Upon reanalysis, these were deemed to be the result of natural weathering processes, not petroglyphs, and were therefore eliminated from the inventory. However, while revisiting the other recorded boulders, a previously unidentified petroglyph-bearing boulder was found, thus bringing the total inventory to 18 once again. Descriptions of the nine boulders removed and integrated into the architectural layout of Taliesin West follow.

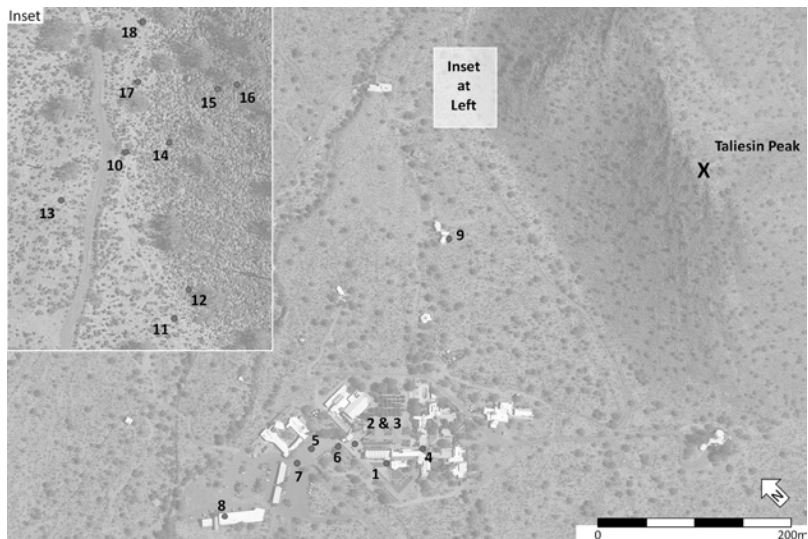


Figure 9. Distribution of petroglyph-bearing boulders in and around Taliesin West. (Image by the author.)

Boulder 1

Frank Lloyd Wright positioned this large, rounded boulder (Figure 10) at the original entrance to Taliesin West (Figure 1).⁴ Mr. Wright clearly held this particular megalith in special regard, as he pedestaled it atop a pyramidal base, above a triangular pool and out front of and in clear view from the drafting room and former dining room. Boulder 1's orientation to the campus's layout and landforms along the horizon was part of Mr. Wright's choreography for Taliesin West (Levine 1996:286–289). It is, in fact, one of two boulders set in place during the initial stages of construction, before many of the buildings were completed. Photographs taken in either 1938 or early 1939, just after Mr. Wright and his apprentices arrived on the scene, show this boulder in its original setting at the base of Taliesin Peak (Figures 3 and 4). Those photographs show that this boulder was originally situated slightly to the northwest of Boulder 10 in what is now a bladed road (Figure 9). Early plan drawings (e.g., Figure 11) and photographs (e.g., Levine 1996:Figures 254, 259, and 278; F. Wright 1940:12) reveal Boulder 1 had been moved and pedestaled in its current location by at least 1940, prior to completion of the pool over which it towers (F. Wright 1940:13).



Figure 10. Boulder 1. (Photo by Paul Vanderveen.)

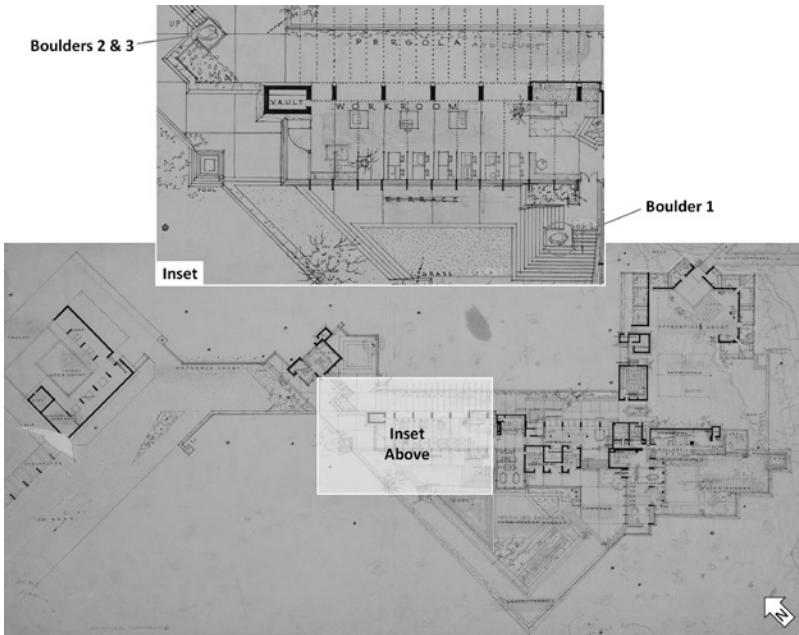


Figure 11. Unpublished plan drawing of “Arizona Compound” (Taliesin West) in late 1939 or early 1940. (Courtesy of the Frank Lloyd Wright Foundation Archives, the Museum of Modern Art, Avery Architectural & Fine Arts Library, and Columbia University, New York.)

The prominent soil line along the base of Boulder 1 indicates it was unearthed from its natural context, and a definite fissure through the stone is apparent. Desert varnish along the faces within the fissure indicates the boulder had split long before Mr. Wright and his apprentices excavated and ferried it to its present resting place. Figure 5 shows the boulder split in two while still at the base of Taliesin Peak. In order to set this stone atop the pedestal, what Mr. Wright called “Indian Rock Terrace” (Levine 1996:286), he had the two halves cemented together and the boulder’s base cemented to the pedestal. Given its colossal size, heavy machinery had to be used to transport and set this boulder in place.⁵ Ken Lockhart, one of Mr. Wright’s first apprentices, recalled using chains to move some boulders, to which he attributed the marring that can be seen on some boulders around the Taliesin West campus (personal conversation, cited in Gronemann n.d.). As remembered by Herb Fritz, another of Mr. Wright’s first Fellows:

At the base of MacDowell [sic] Mountains behind the camp were some Indian petroglyphs cut into several very tall boulders, probably four feet

high and fairly round. A Caterpillar tractor was on the construction site and a large stoneboat made of a sheet of steel. Mr. Wright had decided to use these petroglyphs as sculpture, so on a Sunday morning a group of us with Carey [Caraway] driving the tractor transported the rocks to camp. One [Boulders 2 and 3; see below] was placed near the entrance, by the vault and another [Boulder 1] on a pediment surrounded by stairs that led down to the pool. They are priceless treasures. [Fritz 1978:18]

Boulder 1 exhibits three faces, or panels. The panel visible in one of the late-1930s photographs (Figure 4), which now faces northwest, shows a bold “bull’s eye” with two rings, a set of concentric circles with two rings, a lone circle, a curvilinear scroll, two meandering lines, two areas of concentrated pecking (dint clusters), and at least two faintly pecked and indistinct designs (Figure 10, top right). Another panel, one that now faces northeast and was positioned to be seen from the drafting room, has a prominent pair of concentric circles with three rings, and several attached squiggly lines (“tails”) (Figure 10, bottom right).⁶ Two lizard-like figures, one of which appears to have several digitated extremities, are situated to the left and below the concentric circles. The panel also displays two faintly pecked bull’s eyes with one ring each, a circle, a split line, four dint clusters, a meandering line extending across the fissure, a “T” figure, and at least two indistinct designs. The third panel now faces southeast and was intended to be viewed from the former dining room and the stairway visitors ascended as they entered the main building (Figure 10, top left). The designs include a prominent waterbird motif and two lightly executed lizard-like forms. Other faint designs include a wavy line, a tailed circle, an inverted “U” figure, a scroll, an asterisk-like form, an “X” figure, six dint clusters, and two indistinct figures. This panel is visible in one of the early photographs (Figure 5). Nicks along the fissure in these two latter panels are the scars left from the chains used to hoist the two halves of Boulder 1 and install them atop the pedestal.

Boulders 2 and 3

Positioned to appear as one towering edifice, Boulders 2 and 3 (Figure 12) stand boldly upon a dais at the top of a stairway leading into Taliesin West’s pergola from the sunken entrance outside of Frank Lloyd Wright’s former office (Figure 6). Mr. Wright oriented the boulder pairing halfway between his office and the drafting room. Along with Boulder 1, this composite stone mass is depicted on the circa-1940 plan map (Figure 11) and in early photographs (e.g., F. Wright 1940:8, 10) and was set in its current place in the first stages of Taliesin

West's construction. Soil lines on both indicate each boulder was exhumed, and although each is smaller than Boulder 1, heavy machinery was needed to unearth and move these large stones. Nicks along the boulders' opposing margins reference the chains employed in the relocation procedure. As Levine (1996:280–281) points out, Mr. Wright oriented Boulders 2 and 3 so as to define the axial rotation of Taliesen West. Like Boulder 1, the location and orientation of this stone composite and the petroglyphs on it are instrumental to the choreography of Taliesen West. The designs seemingly direct visitors up a stairway and through the pergola, whereas the boulder itself references, and in a way mimics, distant landforms.



Figure 12. Boulders 2 and 3. (Photo by Paul Vanderveen.)

Boulders 2 and 3 are treated together here because, as Gronemann (n.d.) first observed, Mr. Wright actually had the two cemented together into a single block. And like Boulder 1, this block is cemented to its rubble stone pedestal. Though on first impression the two boulders appear to “fit together” quite naturally, contrasting soil lines and the presence of a complete desert varnish along the faces within the seam attest to each one's former individuality. Indeed, Boulder 2's original provenance at the base of Taliesen Peak and apart from Boulder 3 can be seen in the background of Figure 4. Apparently, and in contradiction to the commonly held notion that Mr. Wright maintained the boulders' original orientations (Levine 1996:273, 476n44, 477n61), Boulder 2 was reoriented when set in its current resting place. The boulder has clearly been shifted on its vertical axis, with the tilted “tailed bull's eye” petroglyph visible in Figure 4 now oriented horizontally on top of the boulder and out of view to passersby (Figure 12, right). It seems that Mr. Wright was selective in maintaining the boulders' orientations.

[Mr. Wright] started out to place those [petroglyph boulders] in some configuration very closely as they were oriented, facing. *Then later on he*

gave that up. But most of those big rocks were oriented more or less the way they were when they were in place. [Peters 1990:11; emphasis added]

In general I think those two big stones [Boulders 1 and 2/3] are not oriented exactly the way they were as to level, but they were generally level...Mr. Wright had us orient it. We did take a compass up there and roughly... But when they came down here Mr. Wright raised them up all kinds of ways to get, for instance, that big one down there and to a certain extent this one were lying down. This one, I guess was really down in the ground more. This was partially underground. This one out here was lying down very...you can see the dirt line on it. [Peters 1990:12]

[Mr. Wright] started out with the idea of orienting them the way the rocks lay there. Just because he felt it would be a natural thing to do, make a nice thing to do. But Mr. Wright *did not stick strictly to that* because he eventually regarded it as sculpture. [Peters 1990:13; emphasis added]

The long axis of Boulder 2, the slightly tilted side facing away from the view in Figure 4, is the face to which Boulder 3 is now affixed. The reorientation of Boulder 2, and its fusion to Boulder 3, begs the question as to whether or not there are additional, no-longer-visible petroglyphs on the seam-side faces of these two boulders. That issue aside, their visible faces present some interesting designs. Boulder 3 exhibits two panels, the most prominent of which faces northwest and portrays a lizard-like form with an outlined head, a pecked line, an “r”-shaped figure, and two dint clusters (Figure 12, center). The other panel above it, which is oriented similarly but at a different strike, bears another lizard-like figure with an outlined head as well as an abraded hourglass design. This latter figure is most likely an instance of graffito, though it is present in Gronemann’s (n.d.) photographs, indicating it pre-dates 1990.

Five of the visible faces of Boulder 2 exhibit petroglyphs. The face with the tailed bull’s eye figure, evident in the background of Figure 4, also exhibits a lightly executed line and a meandering line (Figure 12, right). Another face, which also lies horizontally and out of view to passersby but was originally on a tilted and visible strike, portrays a pair of zigzag lines and two possibly anthropomorphic or zoomorphic designs (Figure 12, right). However, the face that now catches the eye, and the one Mr. Wright clearly wanted to display, shows a very unique and complex design (Figure 12, center), the likes of which to my knowledge has not been found at other petroglyph sites in the region. Facing northwest, the design is so enigmatic that it has elicited disparate interpretations from onlookers. For instance, whereas Levine (1996:280) speculates it may pertain to hunting, LaVan Martineau (see below) read it as an

account of a nearby battle, with the “arrow” pointing to the hill where women and children took refuge. Above this motif is a lightly pecked and indistinct design, and to the left are two small panels, one of which depicts a sub-circular bull’s eye design with one ring (this design is visible at the far right of the boulder in Figure 4) and the other a lightly pecked “X” motif (Figure 12, left).

Boulder 4

Boulder 4 is located within a reflecting pool opposite the pergola from Boulders 2 and 3, along a walkway that sets a pair of bathrooms off from the kiva room (Figure 13). A walkway connecting Mr. Wright’s living quarters to the cinema passes over the south end of the pool, but not over Boulder 4. Unlike the three previously described boulders, Boulder 4 was not part of the initial layout of Taliesen West. The pool in which it sits was originally designed with an elongated hexagonal form (Figure 11). In the mid-1940s the pool was refashioned (Levine 1996:281), at which time Boulder 4 was placed in the corner of the pool, its shape mimicking the concrete basin’s profile (Figure 13). As with the others, Boulder 4 was moved and put in place with the aid of heavy machinery. This stone is actually the top portion of a larger boulder that remains at the base of Taliesin Peak, it too bearing numerous petroglyphs (see Boulder 10 below). Its original provenance, atop Boulder 10, is visible in the background of Figure 5.

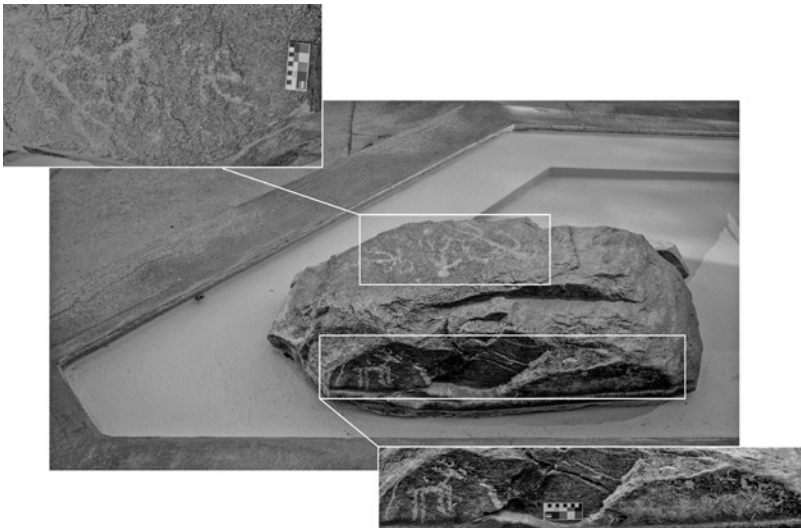


Figure 13. Boulder 4. (Photo by Paul Vanderveen.)

Boulder 4 exhibits petroglyphs on two of its faces. One face, which is oriented southwest toward the bathrooms, depicts a four-legged zoomorphic figure at one end and an indistinct figure at the other end (Figure 13, bottom). Splattered blue paint, an accumulation of calcium efflorescence (“limescale”) along and below the waterline, and dissolution of the desert varnish (presumably from chlorine in the pool) have obscured this latter petroglyph beyond recognition. This is the unfortunate though likely unforeseen toll seventy years of exposure to constant water in the reflecting pool has taken on this stone and the petroglyphs adorning it. The horizontal surface of this boulder is the other face bearing petroglyphs. Though the dissolution of desert varnish on this face has rendered the petroglyphs hard to see under certain lighting conditions, several figures are discernible, including a lizard-like form, two humanoid figures, one of which is depicted with an outlined head, and two dint clusters (Figure 13, top).

Boulder 5

Comprised of two pieces, seemingly halves of a single stone, Boulder 5 lies conspicuously atop the red-painted concrete slab known as Whitman Square, at the northern end of the entry court to Taliesin West, in front of the craft shops. The rope-cordoned block owes its moniker to the fourth stanza of transcendentalist poet Walt Whitman’s “Song of the Universal,” as Mr. Wright had a slightly reworded portion of it inscribed into the concrete (Figure 14). By doing so, Mr. Wright deliberately aligned the social and architectural experiments underway at Taliesin West with Whitmanian democracy, which can be summarily described as the quest and attainment of individuality and equality for all persons (Ford 1950). The profound influence of Whitman’s writings and concept of democracy on Frank Lloyd Wright’s vision and architecture is no secret (Roche 1988; Uechi 2013:123–150). Indeed, Mr. Wright’s (1939) *Organic Architecture: The Architecture of Democracy*, published the same year in which the construction of Taliesin West was in earnest, is an overt and unabashed invocation of Whitman’s philosophy.

Whitman Square was not part of the original design of Taliesin West. The specific date of its emplacement is unknown, though an aerial photograph by Herb McLaughlin shows the concrete slab in place as early as November 1949.⁷ From McLaughlin’s aerial photograph, it appears as though Boulder 5 was set in place at some point after Whitman Square was set, but a photograph reveals it was in place by 1952 (Frank Lloyd Wright Foundation 2017). Whitman Square was symbolically capped in 1953 with the raising of a stone needle above it (Figure 15).

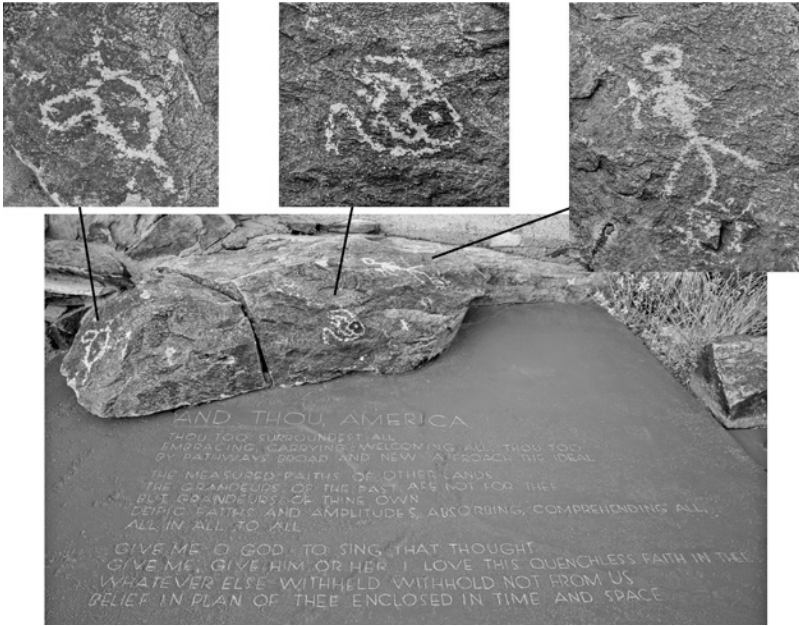


Figure 14. Boulder 5 within Whitman Square. (Photo by Paul Vanderveen.)



Figure 15. Frank Lloyd Wright watching his apprentices carry the stone needle to crown Whitman Square in 1953. (Photo courtesy of the Roger D'Astous fonds Canadian Centre for Architecture. Gift of Micheline D'Astous.)

Four petroglyphs adorn Boulder 5. One face, oriented to the southeast, bears a single abstract circular motif (Figure 14, top left). Variation within the amount of desert varnish that has re-formed over the glyph indicates the design is a composite of at least two production episodes. The original petroglyph and subsequent repecking were separated by a considerable amount of time, perhaps several centuries based on the contrasting hues. The second production episode has obfuscated the extent of initial pecking, ultimately transforming the original design into its current form. A similar phenomenon is witnessed on another, northeast-oriented face of Boulder 5 (Figure 14, top center). Here, a more darkly varnished bull's eye with two sinuous tails has been reconstructed into a more complex and active form. The motif's central dot was repecked, one of its original tails extended, and two tails were added. Again, the discordant hues are evidence of a prolonged hiatus between the original work and its transmutation. A third, horizontal face of Boulder 5 depicts an integrated scene (Figure 14, top right). The tail or phallus of a lizard-like form with an outlined head, akin to those on Boulders 3 and 4, transcends into one of the rays emanating from a bull's eye motif reminiscent of the sun.

Boulder 5's original provenance can be seen in the background of Figure 5. It is the tabular slab propped next to Boulders 4/10, with one of the petroglyphs (Figure 14, top left) barely visible at the far right side of the boulder in the early photograph. The presence of a thick coat of desert varnish along the faces within the seam indicates the two pieces of Boulder 5 had split long ago, prior to their transference to Whitman Square. Indeed, this fracture is barely discernible in Figure 5. Though smaller than the other boulders Mr. Wright reoriented around Taliesin West, nicks marring the margins of both pieces of Boulder 5 mark the grip of the chains needed for hauling and hoisting these stones in place.

Boulder 6

Although Mr. Wright revered the colossal, pedestaled boulders he incorporated into the original architectural design, the much smaller Boulder 6 has had the most recognized impact on the story of Taliesin West. As a welcoming gesture, Mr. Wright positioned Boulder 6 at the entrance to Taliesin West, just before visitors step down into the campus's slightly sunken domain out front of Mr. Wright's office and studio (Figure 16). From available information, it is unclear when exactly Mr. Wright had Boulder 6 placed in this inviting location, but it must have taken place in the early 1950s. The boulder is not present in another of McLaughlin's November 1949 aerial photographs, yet it is depicted in a plan

drawing of Taliesin West published in the February 1956 issue of *Arizona Highways* magazine (F. Wright 1956:14).⁸

Oblong in shape and with a bold soil line attesting to its manipulated disposition, Boulder 6 bears a single panel of petroglyphs arranged in a horizontally aligned sequence (Figure 16). Oriented nearly due west, the figures include, from left to right (or north to south), a lizard-like form with upturned limbs, a “double square spiral,” a sideways “Y”-like figure, a figure eight design (or connected circles), an area of amorphous pecking, a sideways anthropomorphic figure, and a four-legged zoomorphic form reminiscent of a canine species.



Figure 16. Boulder 6. (Photo by Paul Vanderveen.)

Mr. Wright was particularly fond of the double square spiral depicted on Boulder 6, which is undoubtedly why he placed this otherwise unassuming stone in the Entrance Court out front of his office. Mr. Wright understood this motif as a symbol for friendship, which was a core tenet of Whitmanian democracy and an appropriate parallel to the social experiment underway with the brotherhood Mr. Wright was establishing among the Taliesin Fellowship. Mr. Wright was so enamored by this geometric design, ubiquitous among American Indian iconography in the American Southwest and beyond, that he appropriated it as the “Whirling Arrow,” the official logo for Taliesin West (Figure 17). When exactly Mr. Wright adopted the Whirling Arrow is not clear, but it must have been at the very beginning of Taliesin West, or earlier. An early, unrealized plan shows the motif replicated in the layout of the Apprentice Court (Carlson 1940:map). Photographs from 1940 show large, vertical posts with Whirling Arrows at either side of the entrance (Figure 18; see also Levine

1996:Figure 264). These were removed in the 1940s (Levine 1996:279)—sometime during or before 1946 since they are absent in a photo published that year (Gordon 1946:188)—and seemingly replaced with Boulder 6 sometime between 1949 and 1956. Perhaps Mr. Wright felt Boulder 6, with its double square spiral petroglyph, was a more apt and effective sign for the gateway to democracy.

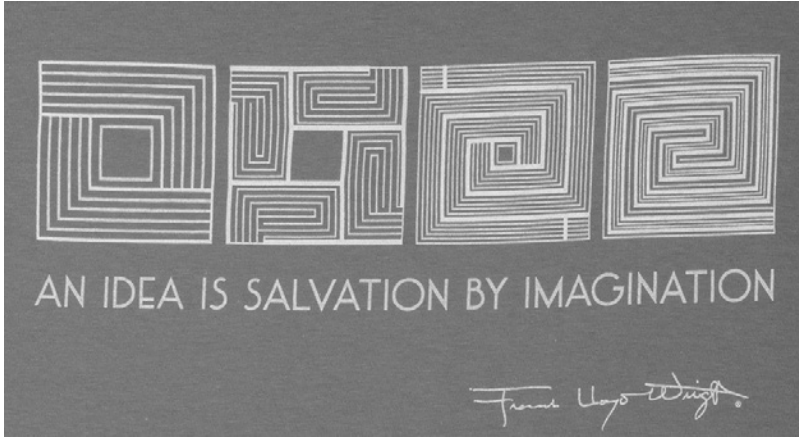


Figure 17. Whirling Arrow logos on a T-shirt design. (Courtesy of the Frank Lloyd Wright Foundation.)



Figure 18. Steel “Whirling Arrow” posts out front of Mr. Wright’s office in early 1940. (From Raymond Carlson, 1940, p. 5. Photograph courtesy of Arizona Highways magazine.)

It is not exactly clear how Mr. Wright came to the impression that the form of the double square spiral—the iconic Whirling Arrow—symbolized friendship, but it may very well have come from the rangers at Casa Grande Ruins National Monument in Coolidge, Arizona. According to Wesley Peters, on a visit to the monument in the early days of the Fellowship, they were shown the notorious labyrinth inscribed into the building's adobe walls (Figure 19).⁹



Figure 19. Reflectance transformation image of the labyrinth inscribed on the inner walls of Casa Grande. (Courtesy of Neil Dixon, Front Standard Photography.)

In fact, the same symbol we found here [on Boulder 6]—he went down to Casa Grande and we were looking around there and that double spiral effect was there. Mr. Wright at that time did not know what was meant to be, what it really meant.... Mr. Wright had seen a much bigger one up there in the walls of Casa Grande and he liked that interlocking spiral thing and that was a sign.... The ranger there showed you through the place and told you what they were. I am not sure what he mentioned about that. But when he saw that, Mr. Wright got the idea; I think he developed the idea of the Taliesin symbol from that. I think by the time we put this [Boulder 6] down here, that was some time before that. I do not think he ever attached that—placing that rock in the front thing there. Mr. Wright did that later. That was very late. [Peters 1990:9]

While the labyrinth, in form, is not the same as the double square spiral, they share a maze-like quality, and it is easy to imagine how one may be mistaken for the other upon cursory and casual inspection.¹⁰ Peters's recollection makes a strong case that Mr. Wright's inspiration for the Whirling Arrow originated with the Casa Grande labyrinth inscription. He also implicates the ranger as a possible source for Wright's interpretation of it.

Whether Mr. Wright learned of the brotherhood interpretation from a ranger at Casa Grande Ruins or from another source, the conjecture surely derives from Garrick Mallery (1893), whose exegesis on American Indian pictography has long been used as a sort of dictionary for petroglyphs and pictographs (see also Patterson 1992). Mallery obtained this interpretation of the double square spiral

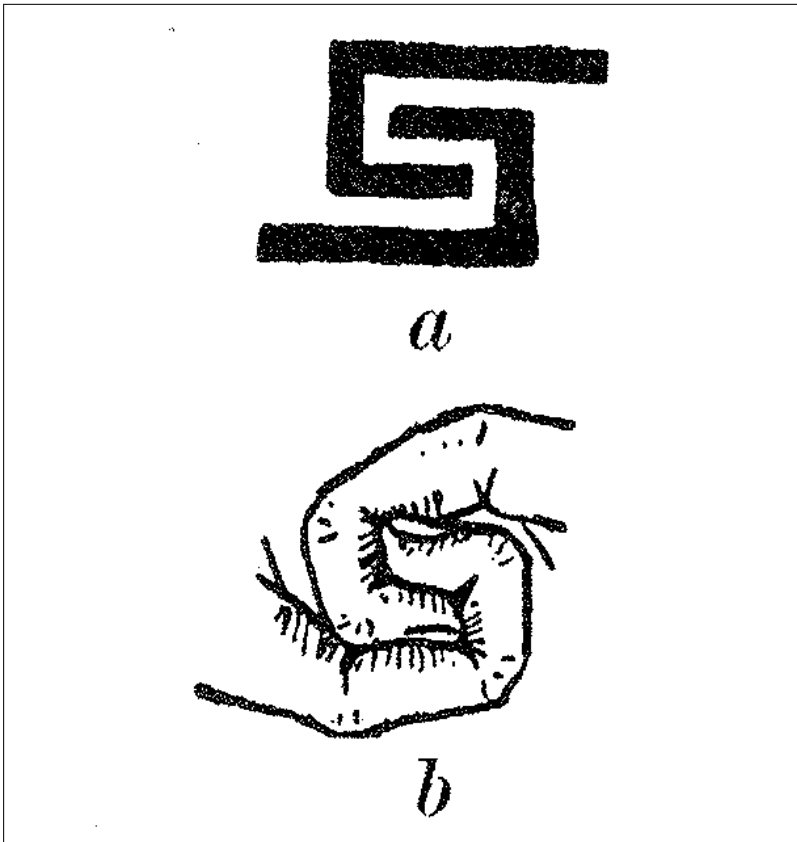


Figure 20. Garrick Mallery's illustration of the double square spiral, a Native American design adopted by Frank Lloyd Wright as the logo for Taliesin West. (From Garrick Mallery, 1893, Figure 1003.)

from Thomas Varker Keam, proprietor of a prominent late-nineteenth-century trading post situated close to the Hopi and Navajo homelands in northeastern Arizona (Bailey 1961). According to Keam, the Hopi regard the motif as a signification for water, and use it as a generic symbol for the Hopi people, as a brotherhood more so than a tribe. The latter is in reference to the motif's likeness to the interlocking forefingers, a social action of solidarity that was the apogee of a particular ceremonial dance (Figure 20).¹¹

At the close of the religious festivals the participants join in a parting dance called the "dance of the linked finger." They form a double line, and crossing their arms in front of them they lock the forefingers of either hand with those of their neighbors, in both lines, which are thus interlocked together, and then dance, still interlocked by this emblematic grip, singing their parting song. The meandering designs are emblems of this friendly dance. [Kear, in Mallery 1893:643]

Boulder 7

Found adjacent to the visitor parking lot, Boulder 7 inhabits a rather discrete area of Taliesin West (Figure 21). Like Boulder 6, this curbside stone is a late addition to the campus's layout, though the actual date of its emplacement is



Figure 21. Boulder 7. (Photo by Paul Vanderveen.)

also a lingering mystery. The boulder exhibits petroglyphs on two faces. Gazing across one, the eyes are met by a sub-rounded bull's eye image, with a zone of amorphous pecking situated to the side of it (Figure 21, top right). The other face, located closer to the ground, bears three parallel zigzag lines (Figure 21, center). When compared with the photographs from Gronemann's (n.d.) study, it is apparent that Boulder 7 has been moved since 1990. The abrasions and pockmarks on the face with the zigzag lines, also new since the previous study, are vestiges of a rather violent episode of relocation.

With a purplish brown complexion, the hue of Boulder 7 differs from that of the other petroglyph-adorned stones at Taliesin West, both those in the campus and those still occupying the hillside. Indeed, this boulder is composed of rhyolite, a silica-rich volcanic rock, which is not found in the immediate vicinity of Taliesin West. When asked whether the petroglyph boulders at Taliesin West were from the same general area, Wesley Peters remarked:

Yes, except a few were picked up. I remember once we picked some up along the road...near where the Ocotillo camp was [in Chandler, Arizona]. Brought several big ones but I do not know where they are. Maybe they are among some of the others here. [Peters 1990:8]

Boulder 7 is assuredly one of the boulders brought to Taliesin West from somewhere farther afield. Peters's recollection on this matter is quite revelatory, in that he recalls more than one petroglyph boulder having been brought in—"a few"... "several big ones."

Boulder 8

Boulder 8 is a small stone with five single-ring bull's eyes pecked into one face (Figure 22). The issue of provenance is raised again with regard to Boulder 8. Given its portable nature, this stone is currently housed in the archives room at Taliesin West. When found by Gronemann (n.d.) in 1999, it was positioned adjacent to the students' basketball court, northwest of the archives room. That, however, was not its original location. When discovered, the boulder was resting atop the ground's surface, but the lack of desert varnish on one side indicated it had been either slightly buried or nestled among other boulders in the past. It had clearly been moved from its original though unknown setting and placed near the basketball court. According to Gronemann (n.d.), staff then relocated the boulder nearer the



Figure 22. Boulder 8. (Photo by the author.)

archives room so it could be monitored, but after several years it was brought into the archives for safekeeping (Indira Berndtson, personal communication, 2017).

Boulder 9

Another small, portable stone, Boulder 9 is situated amid other desert curios in the yard of former Taliesen Fellow Ken Lockhart, which is on the property of Taliesen West and just east of the campus (Figure 9). Tabular in form, the boulder exhibits one equally small petroglyph of a meandering line (Figure 23). Lockhart shared with Gronemann (n.d.) that it had been given to him by one of the architecture students who found it in the area, possibly from Taliesen Peak. The provenance, however, is not certain.



Figure 23. Boulder 9. (Photo by Paul Vanderveen.)

The Petroglyph Boulders below Taliesin Peak

Although nine petroglyph-adorned boulders have found their way into Taliesin West and its accompanying buildings, nine additional ones remain clustered at the base of Taliesin Peak (Figure 9). These are described as follows.

Boulder 10

The largest and most intensively utilized petroglyph-bearing boulder to have not been relocated to the Taliesin West campus is Boulder 10 (Figure 24), although it is quite obvious that Mr. Wright and his apprentices attempted to do so. The exposed soil line, chips and nicks along the margins, and an adjacent gouge in the ground attest to how this megalith had been uprooted from its original setting. The boulder is also missing its crown (visible in the background of Figure 5), which is now Boulder 4 in the reflecting pool opposite the kiva room at Taliesin West (Figure 13). It is not clear if Boulder 10's orientation

today, after its upheaval, mirrors its original placement, but it most likely does not. Two of the boulder's faces exhibit petroglyphs. One, which now faces to the southwest, shows two dint clusters, a faint circle, and a rectilinear maze-like motif (Figure 24, top).

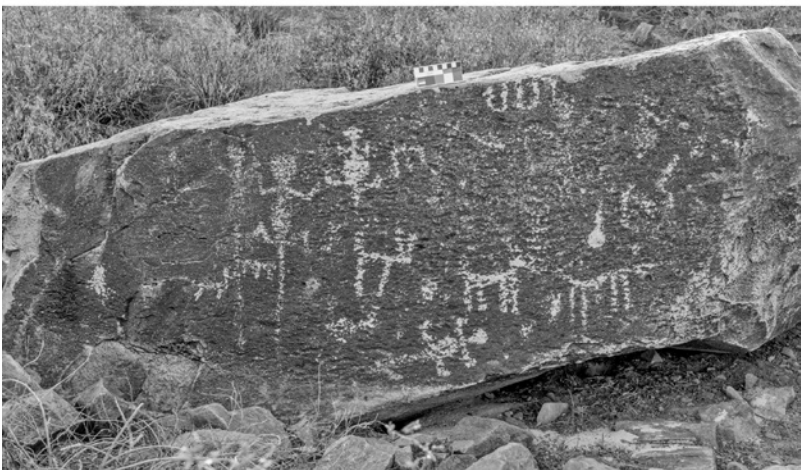


Figure 24. Boulder 10. (Photo by Paul Vanderveen.)

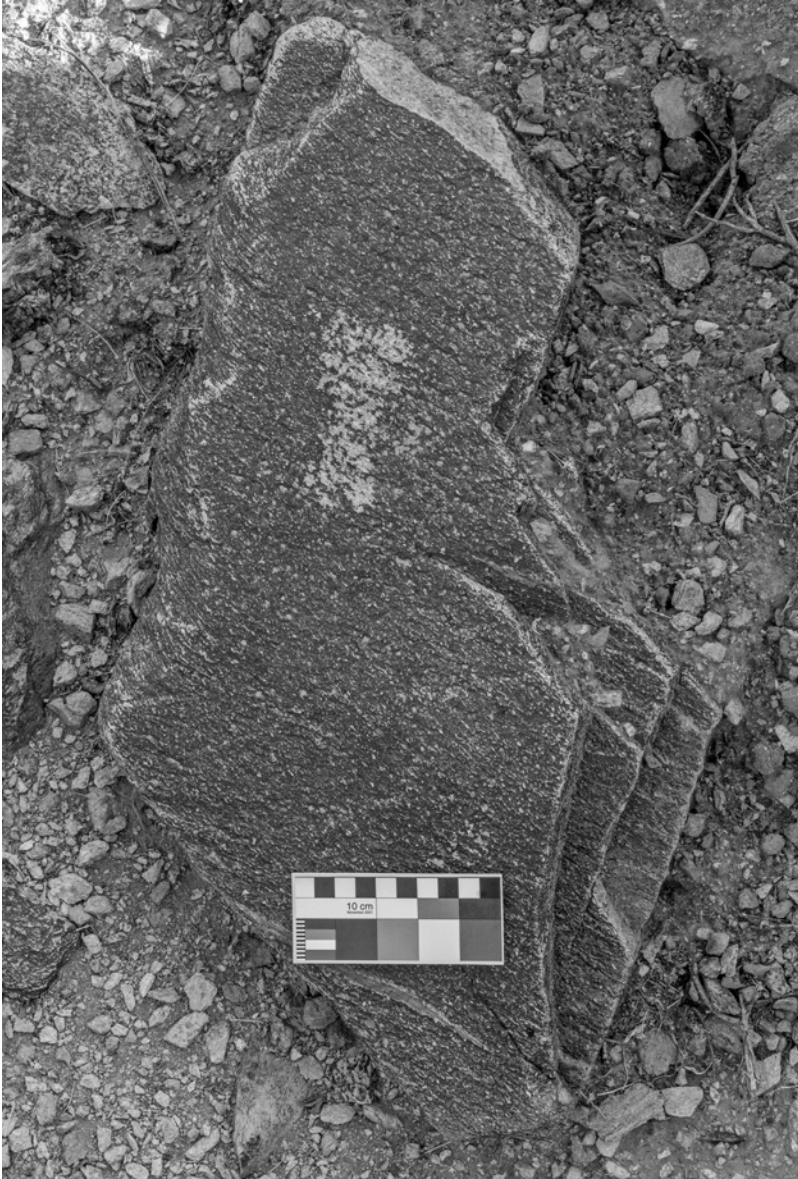


Figure 25. Boulder 11. (Photo by Paul Vanderveen.)

The petroglyphs on Boulder 10's other face are considerably more numerous (Figure 24, bottom). Facing northwest and noticeable from an adjacent access road, the designs include, from left to right, a dint cluster; two quadrapedal

forms (deer or dogs?) below three lizard-like figures; an arc with a central dot; three more quadrupedal forms interspersed by two dint clusters; another lizard-like form at bottom; a tailed circle, two dint clusters, and a bent line above the quadrupeds; a sinuous line at top; and five faint and unrecognizable designs distributed throughout. This panel effectively shows the variability within the petroglyphs at Taliesen West, not just with the motifs but also with the intensity of execution and degree of repatination.

Boulder 11

Boulder 11 is a relatively small stone with a single, inconspicuous petroglyph pecked into its horizontal surface (Figure 25). Somewhat “hourglass” in form and reminiscent of a footprint, the petroglyph is not readily visible unless standing directly above it. This boulder was not found in Gronemann’s (n.d.) prior inventory.

Boulder 12

Boulder 12 (Figure 26) exhibits a single west-facing “hourglass” petroglyph nearly identical to the one on Boulder 11. The likeness of these two petroglyphs



Figure 26. Boulder 12. (Photo by Paul Vanderveen.)

and their close proximity to one another (Figure 9) suggest some sort of deliberate association, perhaps authorship by the same individual. This example differs from the other, however, in that it is oriented vertically and is therefore noticeable from a slight distance.

Boulder 13

Boulder 13 is another small stone with petroglyphs on its horizontal face (Figure 27). The designs consist of a simple line and an adjacent human-like form. Like the petroglyph on Boulder 11, those on this boulder are not readily apparent to passersby due to its supine orientation.

Boulder 14

Slightly upslope from the base of Taliesin Peak lies Boulder 14 (Figure 28). The petroglyphs are on the stone's horizontal face and are not observable from any vantage point other than being next to them on the hillside. There are three discrete petroglyphs: an antlered quadruped figure (deer or elk?), a bull's eye with six "rays" extending from it, and an area of amorphous pecking below the bull's eye.¹²

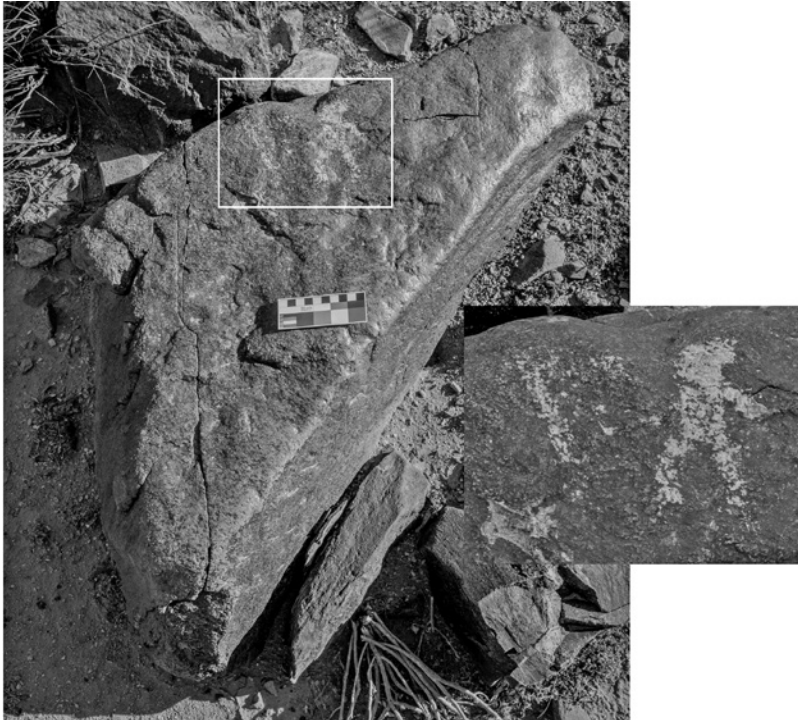


Figure 27. Boulder 13. (Photo by Paul Vanderveen.)



Figure 28. Boulder 14. (Photo by Paul Vanderveen.)

Boulder 15

Boulder 15 presents another set of petroglyphs on a stone's horizontal surface, although this boulder is situated farther upslope than the previous ones described (Figure 29). The petroglyphs consist of two rather small figures of a line and a geometric motif that may be a stylized rendition of a dog, coyote, or other zoomorphic form.



Figure 29. Boulder 15. (Photo by Paul Vanderveen.)

Boulder 16

Located farthest upslope of all the petroglyph-adorned boulders, Boulder 16 presents the only clear case of a historic petroglyph that can be attributed to the Taliesin Fellowship (Figure 30). The image—an unusual and complex geometric pattern—bears telltale signs of historic manufacture. For one, the degree of repatination is almost nil, suggesting very recent creation. The image is quite unique, and far different than other petroglyphs in and around the Phoenix area. The most obvious clue, however, is how it was manufactured. The incredibly fine, controlled, and uniform pecking, which appears to cut through the protective outer coat of desert varnish, is a hallmark of indirect percussion with a metal punch.



Figure 30. Boulder 16. (Photo by Paul Vanderveen.)

Gronemann (n.d.), who characterized the image on Boulder 16 as a “sun design” and “outer space petroglyph,” also concluded it was “too complicated for Hohokam execution” and thus a “modern day petroglyph.” Indeed, this may be the experimental petroglyph Ken Lockhart and others have attributed to Wesley Peters in the late 1930s (see note 12); however, according to Dr. Joseph Rorke (2006), Mr. Wright’s personal physician and longtime editor of the Fellowship’s *Whirling Arrow* newsletter, the design was made by Allan Gelbin, a Taliesin Fellow from 1949 to 1953. In either case, it owes its origination to the hands of a Taliesin Fellow. What the image portrays, however, is left to one’s imagination. As Levine sees it:

...an extraordinary and apparently unique image of what looks like a solar calendar, or at least some form of astronomical calculation. Pecked strokes, dots, and circles appear to define the orbit of the sun, while the cardinal points, represented by pinwheeling lines ending in open or solid squares, seem to function in a site-specific way, relating the directions to actual topographical features. Experts have tended to regard the petroglyph as modern, rather than prehistoric, though not without some hesitation. If modern, it can only be assumed that it was done by one of the Fellowship or, if not, by a very gifted artist. [Levine 1996:478nn.81]

Boulder 17

Returning to the base of Taliesin Peak, Boulder 17 is a large stone with a single, faint petroglyph on its north-facing axis (Figure 31). The image, so lightly pecked that it is barely noticeable and only so under certain lighting and angles of view, is of a single-ring bull's eye with seven rays extending outward from it. This petroglyph may have gone unnoticed by Mr. Wright and his apprentices.

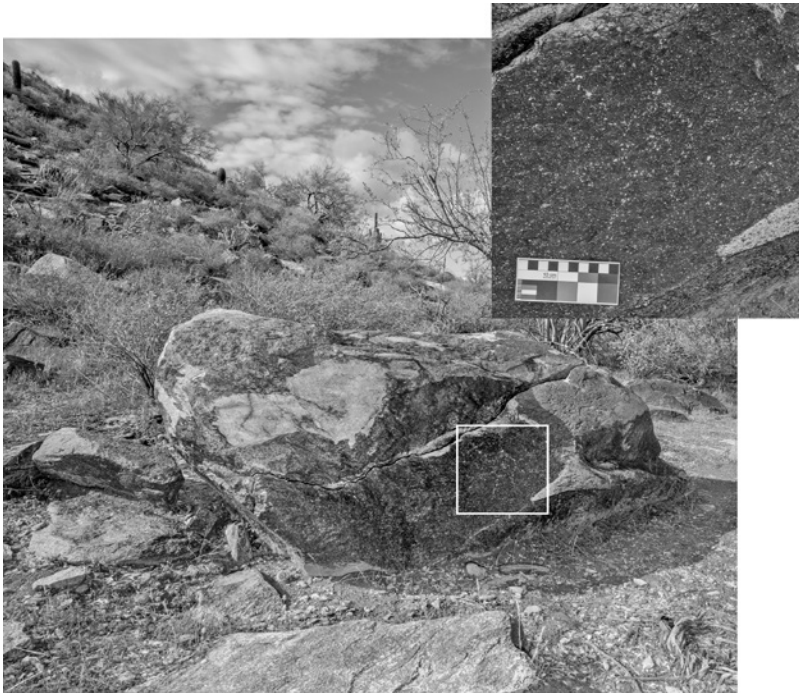


Figure 31. Boulder 17. (Photo by Paul Vanderveen.)

Boulder 18

As the final boulder found at the base of Taliesin Peak, Boulder 18 exhibits two petroglyphs on a west-facing surface (Figure 32). The imagery includes a lizard-like figure and a difficult-to-discern figure with a subtle likeness to a scorpion.



Figure 32. Boulder 18. (Photo by Paul Vanderveen.)

Summary Observations on the Petroglyphs at Taliesin West

Collectively, there are 123 petroglyphs on the boulders at Taliesin West and below Taliesin Peak, with just two attributable to twentieth-century manufacture (Table 1). The designs vary, but are dominated by uncategorizable motifs such as dint clusters and faintly pecked, indistinct forms. Of the recognizable designs, circular and linear designs prevail, followed closely by the various life-form motifs (anthropomorphs, lizards, quadrupeds) (Figure 33). The instances of design repecking, along with quite noticeable differences in repatination, indicate the petroglyphs were not made at the same time. Rather, as the vagaries in degree of repatination attest, their manufacture likely spanned several centuries. With the exception of the twentieth-century inscriptions on Boulders 3 and 16, all of the petroglyphs appear to have been made through direct percussion, the predominant manufacturing technique of Hohokam petroglyphs everywhere

(A. Wright 2014:101; A. Wright and Bostwick 2009). Direct percussion is evidenced by the relatively large pecks, wide lines, and rough edges of the petroglyphs, as well as the lack of any broken punches or chisels around the petroglyphs. That petroglyph hammerstones have not been reported from the immediate area is not unusual, but simply implies the tools were not left behind.

Table 1. Petroglyph Design Inventory at Taliesin West

| Petroglyph Design Class | Boulder No. | | | | | | | | | | | | | | | | | | Total |
|-----------------------------------|-------------|-----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| Anthropomorphs | | | | 2 | | 1 | | | | | | | 1 | | | | | | 4 |
| Reptiles/Amphibians | 4 | | 2 | 1 | 1 | 1 | | | | 4 | | | | | | | | 1 | 14 |
| Quadrupeds | | | 2 | | 1 | | 1 | | | | 5 | | | 1 | 1 | | | | 11 |
| Birds | 1 | | | | | | | | | | | | | | | | | | 1 |
| Miscellaneous Life-forms | | | | | | | | | | | 1 | 1 | | | | | | | 2 |
| Circle Designs | 5 | 2 | | | 3 | 1 | 1 | 5 | | 2 | | | 1 | | | 1 | | | 21 |
| Concentric Circles | 2 | | | | | | | | | | | | | | | | | | 2 |
| Curvilinear Scrolls | 2 | | | | | | | | | | | | | | | | | | 2 |
| Miscellaneous Curvilinear Designs | 1 | 1 | 1 | | | | | | | | 1 | | | | | | | | 4 |
| Rectilinear Scrolls | | | | | | | 1 | | | | | | | | | | | | 1 |
| Rectilinear Lines | | | | | | | | | | | 1 | | | | | | | | 1 |
| Crosses | 1 | 1 | | | | | | | | | | | | | | | | | 2 |
| Linear Designs | 7 | 2 | | | | 1 | | | 1 | 2 | | | 1 | | 1 | | | | 15 |
| Zigzags | | | 1 | | | | | 1 | | | | | | | | | | | 2 |
| Uncategorizable | 18 | 1 | 2 | 3 | | 1 | 1 | | | 11 | | | | 1 | | | | 1 | 39 |
| Historic/Modern | | | | 1 | | | | | | | | | | | | 1 | | | 2 |
| Total | 41 | 10 | 6 | 7 | 4 | 7 | 3 | 5 | 1 | 26 | 1 | 1 | 2 | 3 | 2 | 1 | 1 | 2 | 123 |

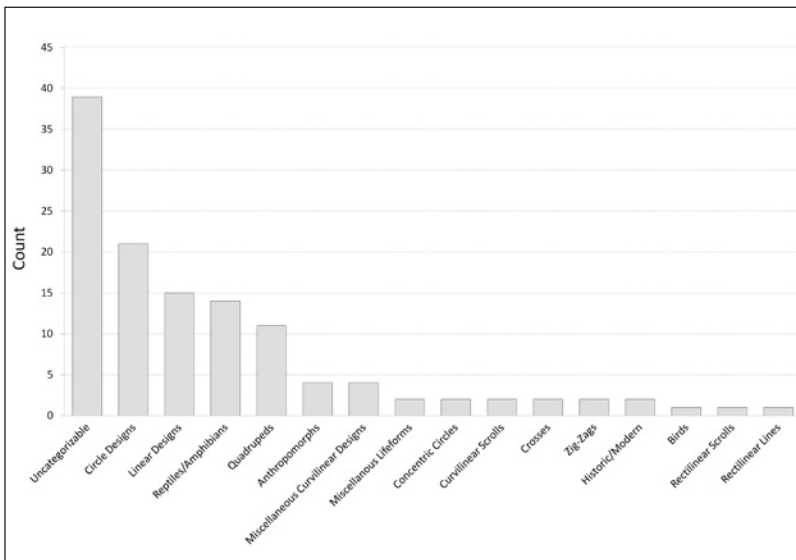


Figure 33. Bar chart of petroglyph design classes at Taliesin West. (Image by the author.)

We cannot be certain all of the petroglyphs at Taliesin West are from the base of Taliesin Peak. We know at least three, those on Boulder 7, are not, based on the stone's distinctive geology. The only petroglyph-adorned boulders that can be verifiably provenanced to the base of Taliesin Peak are those still found there (Boulders 10–18), the piece of Boulder 10 that is now in the reflecting pool (Boulder 4), and the stones shown at the base in the historic photographs but which were relocated to the Taliesin West campus (Boulders 1, 2, and 5). This leaves the provenance of Boulders 3, 6, 8, and 9 in question. While some of these may be from the immediate area, Peters's (1990:8) memory that the Fellows "brought several big ones" to Taliesin West leaves us guessing as to which are local and which were imported. Also worth considering is the possibility that some petroglyph-bearing stones may have been removed from the grounds of Taliesin West. Wesley Peters shared with Gronemann (n.d.) that some boulders had been taken from the base of Taliesin Peak and used for landscaping at a house in Phoenix, although he did not specify whether those stones bore petroglyphs. These lingering questions about provenance and the potential for missing stones underscore the fact that what is currently found at and around Taliesin West is not an exact representation of what was there in the past. As discussed at the end of this essay, such ambiguity of context clouds the archaeological record and therefore affects the integrity of the property as a place of cultural heritage.

As for those petroglyph-adorned boulders from the base of Taliesin Peak, they are comprised of a crystalline volcanic ash known as Taliesin Tuff (Skotnicki 2016; Vance 2012), the same type of stone Mr. Wright quarried and used in the construction of Taliesin West.¹³ The ash constituting Taliesin Tuff was laid down 1.6 billion to 1 billion years ago. It was subsequently subjected to processes of metamorphism and folding, rendering it with a waxy, crystalline structure. This tuff has been misleadingly called Taliesin Quartzite (Christenson et al. 1978) and mis-identified as metamorphosed rhyolite (Arrowsmith and Péwé 1999; Gruber et al. 2010).

A Visit from LaVan Martineau

Long eager for a fuller understanding of the petroglyphs at Taliesin West, approximately 30 years ago the Frank Lloyd Wright Foundation invited the self-taught petroglyph reader LaVan Martineau to visit the campus and provide an interpretation of the imagery (Figure 34). By that time, Martineau had developed some acclaim for his popular, though controversial, non-peer-reviewed guide to reading the petroglyphs and pictographs of North American Indians

(Martineau 1973). Martineau was a Mormon-raised, U.S.-born Anglo man allegedly orphaned at age 10 who was subsequently raised in a Southern Paiute community (Millett et al. 2006).¹⁴ He professed to have learned the language, culture, and customs of his Paiute family and peers, but learned to read the rocks on his own—that ability had apparently been lost by his Paiute teachers. As the story goes (Martineau 1973:xiii), while serving in the Korean War, many of Martineau’s tent-mates were cryptanalysts working to decipher enemy codes. It was through these tent-mates that Martineau supposedly learned the basics of cryptanalysis, a skill set he credited as the basis for his ability to finally break through and solve the mysteries of an ancient pan-North American writing system.



Figure 34. LaVan Martineau poised beside Boulders 2 and 3 in 1989. (Courtesy of the William Wesley Peters Library, School of Architecture at Taliesen.)

Martineau visited Taliesen West on February 26, 1989, at which time he was shown several boulders at the base of Taliesen Peak and around the campus. Martineau’s reading of the rocks was videographed (Anonymous 1989) and summarized in the *Whirling Arrow* (Conn 1989). He had apparently visited the petroglyphs before on at least one occasion, and had been shown pictures of them by Wesley Peters, both of which Martineau acknowledged in the video and which was recalled by Peters (1990:8). According to Martineau, the

petroglyphs at Taliesin West, by and large, recount an ancient and epic battle that took place some 500 years ago at and around Thompson Peak (see Figure 1), the highest point in the McDowell Mountains and which is visible from the petroglyphs' original location at the base of Taliesin Peak. The different petroglyph-bearing boulders recount the same legend in full or in part.

The legendary battle entailed one group of people besieging another group who had converged atop Thompson Peak. To Martineau, the animalistic figures are actually portrayals of people (lizard people versus deer people); their placement relative to the top and bottom of the rocks shows their advance up the mountain; dots and squiggly lines indicate the routes they took to the mountain's crest and the difficulty of the conquest; figures on the tops of the rocks reveal which group reached the summit; simple lines count the number of battle dead; etc. Martineau did not pull any punches here—he presented this battle as possibly the final chapter in the demise of the Hohokam cultural tradition, a most grandiose and sensational interpretation.

Martineau's claim to be able to read petroglyphs is quite controversial, to say the least. His quasi-cryptanalytic approach to read American Indian iconography as a written language has been refuted repeatedly by relevant scholars of linguistics (Peterson 1974) and archaeology (Francis 2005; Hyder 1988; Schaafsma 1980:13; Wallace and Holmlund 1986:143; see also Bahn 2010:1). Nevertheless, Martineau's "readings" have been accepted uncritically by many for the mere reason that much of the interested public wants to believe petroglyphs and pictographs are a written language simply awaiting a code breaker, a North American Rosetta stone, so to speak. It is also compounded by the fact that Martineau repeatedly invoked science as the foundation for his technique.

In the course of my research, any preconceived ideas I may have entertained were weighted and abandoned in the balancing scales of cryptanalysis—a science which allows no mixing of fact and fancy. [Martineau 1973:xiii]

This work is offered on the strength of its scientific merits and documentation only.... [Martineau 1973:xiv]

A thorough unpacking of Martineau's extraordinary claim to be uniquely versed in the grammar of American Indian pictography and "rock writing" is beyond the scope of this paper. However, since the enthralling nature of Martineau's decipherments (at Taliesin West and elsewhere) lingers among those who were there to witness it, and because it is captured for posterity on a video recording in the Archives Department, Taliesin West, Scottsdale, a careful consideration of his reading at Taliesin West, and his methodology more broadly, is warranted.

Why Martineau Was Wrong

Faults with Martineau's decipherment of the Taliesin West petroglyphs center largely albeit ironically on issues of science and fact. Errors are many, but the obvious ones beg explication. As a case in point, he insisted Boulder 10 was "in its original position and original direction" (Anonymous 1989), though, as reviewed above, it had obviously been dislodged from the earth in the 1940s and reoriented to some extent. This is a significant error in his "reading of the panels," because he claimed the unusual geometric motif (Figure 24, top) pointed toward Thompson Peak, and was itself a polysynthetic "word" that combined the characters of "mountain" and "to go around"—people going around Thompson Peak. Another shortcoming in Martineau's telling is the disregard for quite different degrees of repatination among the petroglyphs. This is most obvious with the face of Boulder 10 with the numerous zoomorphic figures (Figure 24, bottom). These petroglyphs exhibit a great degree of variability in execution, form, and repatination, all of which point to individual production episodes by different people and over a prolonged time period. Claims that panels such as this portray narrative, integrated scenes (or "sentences") must account for such obvious nuances in authorship and synchronicity, something Martineau consistently failed to do here and elsewhere.

Perhaps the most glaring flaw in Martineau's reading was his assertion that Boulder 16 contained elements of the tale he deciphered from the other boulders (Figure 30). Admitting he had not seen this boulder before, Martineau approached it with caution. He even acknowledged how "fresh" this panel appeared relative to the others, and debated whether or not it was a fake. Despite his reticence, in the end he accepted it as "more authentic than fake because it has all the elements of the battle" and "the elements look Indian and fit the story" (Anonymous 1989). Martineau concluded the panel is a later addition but related to the story in some way, implying the creator was not just aware of the legend but could also read it in the other panels. We have solid evidence, however, that this complex petroglyph was made in the twentieth century, most likely by Wesley Peters, Allan Gelbin, or another Taliesin Fellow, none of whom would have known the cryptic tale "written" on the adjacent rocks.

Admittedly nit-picky, the foregoing highlights the inadequacy of Martineau's decipherment at Taliesin West. Of far greater relevance to the question of whether his readings should be considered reliable, at Taliesin West and elsewhere, is the fundamentally illogical nature of his theory and methods. Martineau's chain of reasoning, as distilled by Peterson (1974:47), links three arguments: (a) American Indian sign language (AISL) was universal; (b) American Indian pictography (petroglyphs and pictographs in all media) was based substantially upon AISL;

(c) therefore, American Indian pictography was a language universally intelligible by those literate in it. These are addressed in turn.

The first premise of Martineau's claim is that American Indians throughout North America employed a sign language of universally understood manual gestures. This contention he derived from the works of Mallery (1881, 1886, 1893), whom he repeatedly credited as the source of this proposition, and to a lesser extent the writings of Clark (1885) and Tomkins (1948). However, as Peterson (1974) revealed, this is a gross oversight of Mallery's position on the part of Martineau, and one that breaches into misrepresentation. Whereas Mallery concluded that, at least by European contact, most American Indians practiced a mode of sign language, that gestural language was not universal since many of the individual signs varied across communities (Mallery 1881:13–36). Contemporary scholars verify Mallery's findings that, whereas most tribes throughout the Great Plains and neighboring areas employed sign language, regional varieties were evident (Davis 2006:4, 2010:3). Though the use of gestural signs was widespread among indigenous North American cultures, Martineau's assertion it was a universal language is unfounded.

Martineau's second premise—that American Indian petroglyphs and pictographs are based on their system of manual gestures—is an extreme generalization that remains unsubstantiated, yet he presents it as factual and universal. Martineau (1973:171–173) attributes proof of this to one source, Constantine Samuel Rafinesque, an early-nineteenth-century professor of historical and natural sciences. In 1822 Rafinesque obtained, secondhand nonetheless, the *Walam Olum* (“Red Score”), which consisted of a number of birch-bark plaques with 183 pictographs purported to be an epic record of important events in the history of the Lenape (Delaware) Indians. Each pictograph stood for a verse in the epic. In 1824, he acquired the accompanying verses in the Lenape language from an unreported source, and later published the symbols and English translations of the corresponding Lenape verses (Rafinesque 1836). As has often been the case with these types of discoveries, Rafinesque lost the original bark plaques before any other scholar could analyze them. According to Brinton, who retranslated the *Walam Olum*, Rafinesque stated “the Graphic Signs correspond to these Manual Signs” (Rafinesque 1836:78, cited in Brinton 1885:152).

There are two principal lapses of validity in the above premise. Brinton, for one, incorrectly quoted and cited Rafinesque. It was a later work in which Rafinesque asserted the sign language and pictography of the Lenape were similar:

...the *Graphic Signs* corresponding to these *Manual Signs*: these I have partly procured, and found them quite accordant, nay often identical with the Chinese, known to be 5000 years old in China! [Rafinesque 1840:78; emphasis in original]

To his credit, Rafinesque stated clearly that his assessment was preliminary and incomplete, but it is the connection between Lenape pictography and Chinese characters that casts a shadow of caution across his work and, indeed, presages an outright fraud. The Achilles' heel of Martineau's second premise is that the *Walam Olum*—its origin and existence, accompanying Lenape verses, or both—is considered widely to be an elaborate hoax (Jackson and Rose 2009; Oestreicher 2005; Vansina 1985:55–56; see also Warren 2005). The pictography in the *Walam Olum*, as published by Rafinesque, was a mix of Lenape, Ojibwa, Mayan, Egyptian, and even Chinese characters, apparently in an attempt to link the Lenape to Asia. Oestreicher (2005:4) suggests Rafinesque created the document in an effort to win the coveted Volney Prize in comparative philology awarded by the Institute of France. Though speculative, there is also room to believe Rafinesque concocted the hoax to also support his theory of an Asiatic origin for American Indians and thus contradict the prevailing theory of his day that the Lost Tribes of Israel populated North America.

Aside from the similarity Martineau saw between AISL and American Indian pictography, his reference to Rafinesque's work is the sole source for his second premise (Martineau 1973:171–173).¹⁵ We are therefore left to take Martineau at his word that American Indian pictography is merely AISL on rocks, without any presentation of data, explanation of method, or replication by others—the substance of scientific methodology. This leaves any reading of Martineau's entirely suspect.

The lingering doubt in the mind of the reader of a “just so” interpretation would be lessened if Martineau would reveal more of the workings of his technique and the substantiation of his analysis. [Peterson 1974:47]

To further muddy the water, underlying Martineau's second premise is an unsupported linkage between American Indian pictography and oral language, one which undermines his literacy of the symbols. According to Martineau, American Indian languages are polysynthetic, in that they generate new words by fusing or condensing the simplest component elements of individual sentence, phrases, or words. This, according to Martineau (1973:13), “can also be applied to Indian rock writing, which has the same predominant structure.” Since his method of cryptanalysis demands considerable repetition in symbols across contexts (Martineau 1973:179–185), this subtle move from processes of oral language to petroglyphs and pictographs serves to justify Martineau's readings of pictographic motifs that are uncommon or unique. A prime example from Taliesen West is the reading of the complex design on Boulder 10 (Figure 24, top) as a composite of the V-shaped line at left (“mountain”) and rectilinear

pattern at right (“revolve”) into a unique motif meaning “go around the mountain.” Other examples abound.

The error with Martineau’s claim that American Indian petroglyphs and pictographs constitute a polysynthetic written language is twofold. He regarded petroglyphs and pictographs as polysynthetic because of the widely held notion that all Native North American oral languages are polysynthetic. However, his theorem is that the pictography approximates American Indian sign language, not necessarily oral language, because both sign language and “rock writing,” as he asserted, facilitated communication across otherwise cultural and linguistic boundaries. By bridging pictography with oral language, Martineau sidesteps the need to demonstrate whether American Indian sign language itself was polysynthetic.¹⁶ A second and more elementary fallacy with Martineau’s premise is that, contrary to his claim, not all indigenous languages of North America are polysynthetic. As reviewed exemplarily by Campbell (1997:37–40), the notion, which derives from linguist Peter Stephen Du Ponceau (1838), has been sufficiently refuted by Sapir and Swadesh (1946). Some are polysynthetic, but the majority are not. Again, Martineau favored the outmoded work of a nineteenth-century antiquarian over contemporary scientific consensus.

The logical errors enumerated above leave Martineau’s third premise—that American Indian pictography was a written language of universal intelligibility to American Indians throughout North America and can therefore be decoded—entirely untenable, at least so based on his theorem, methodology, and presentation of data (or rather lack thereof). This leaves us to consider his reading of the petroglyphs at Taliesin West to be not a practice of science, but one of blind faith and potential charlatanism. It is not that petroglyphs and pictographs are devoid of meaning, or lacked any communicative function when made. Instead, as Schaafsma (1980:13) concisely delivers, numerous case studies from across North America demonstrate that American Indian pictographic symbols, regardless of their use cross-culturally or not, have different meanings to different people. What this review does imply is that Martineau’s self-taught, pseudo-scientific cryptanalytical approach is not a valid methodology for reading petroglyphs, pictographs, or other modes of American Indian pictography.

PART II: AN ARCHAEOLOGY OF TALIESIN WEST

Although indecipherable, the petroglyphs and other archaeological materials at Taliesin West provide glimpses into the ancient cultural landscape of Paradise

Valley, a region with a long history of use and settlement by indigenous communities in south-central Arizona. Likewise, it is this larger landscape that enables us to contextualize the archaeology of Taliesen West and better understand how it figured into the lives of past people (Figure 35). The earliest evidence of a human presence in Paradise Valley comes from recent excavations at Brown's Ranch Rock Shelter, 19 kilometers north of Taliesen West along Rawhide Wash at the northern end of the McDowell Mountains (T. Wright ed. 1999; T. Wright 1999, 2002). Excavations there recovered projectile points dating from the Early Archaic to the Historic period, roughly 7000 BC to AD 1860 (Marshall and Bostwick 1999a, 1999b). As summarized by Hackbarth (1999:60–61; 2001:82–86), additional Archaic projectile points have been found intermittently along bajadas in the northern half of the McDowell Mountains, the closest being 5.5 kilometers north of Taliesen West. More projectile points consistent with Archaic forms were also found along the bajada between 6 and 9 kilometers southeast of Taliesen West (Stone 1979:7). The Archaic-period cultural landscape of Paradise Valley was one of logistical mobility, where groups set up base camps in rock shelters, with smaller task groups moving across the surrounding terrain to hunt and gather resources within a certain range of the base camp (Hackbarth 1999, 2001; Stubing and Mitchell 1999).

The Hohokam cultural tradition is far better represented in Paradise Valley than earlier traditions, in large part because agriculture encouraged larger population sizes (with a larger footprint) and Hohokam material culture is more substantial, abundant, and diverse. In the Phoenix area, the Hohokam tradition spanned the millennium of AD 450 to 1450, and witnessed the growth and decline of elaborate irrigation networks and associated population centers along vast stretches of hand-dug canals (Fish and Fish 2007; Gumerman 1991; Haury 1976). The millennium of Hohokam habitation was not one of stasis, but rather one which witnessed notable shifts in demography, architecture, visual arts, ceremony, settlement organization, and patterns of exchange, all of which allude to profound changes in social, political, and religious organization at various points in time.

One of the principal pivot points in Hohokam culture history occurred around 1,000 years ago. Prior to AD 1050, during the Preclassic era, the Hohokam world was characterized by pithouse villages, ornate red-on-buff pottery and shell jewelry, inter-village ritualism focused on a Mesoamerica-inspired ballgame, and perhaps a nascent market system, all of which tied villages in different river valleys into a cohesive social network (Abbott 2010; Abbott et al. 2007; Wallace 2014a). After 1050, Hohokam communities began to break from many of the traditions they and their ancestors had maintained for centuries,

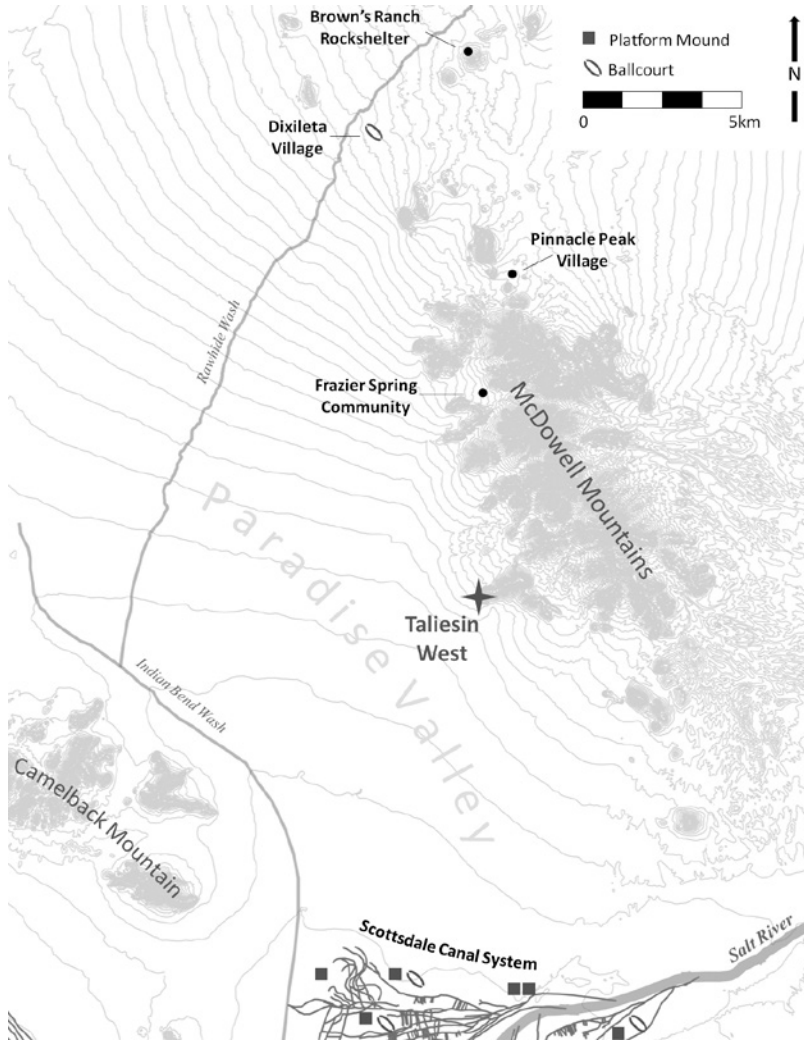


Figure 35. Points of archaeological interest discussed. (Image by the author.)

so much so that by AD 1200 the Hohokam world appeared considerably different. In the Phoenix area, ballgame ritualism gave out to ceremonialism tied to platform mounds, earthen edifices added to the domestic landscape. Instead of residing in semi-subterranean pithouses, many families took on aboveground adobes as their preferred domiciles, and households began to mass in walled compounds. Reliable mechanisms that promoted the far-flung trade

in exotic items and craft goods broke down (Abbott 2003). In the visual arts, potters swapped figurative and animated life-forms for complex, rectilinear designs (Wallace et al. 1995), and practices involving the making and using of petroglyphs subsided in favor of village-oriented ritualism (A. Wright 2014).

Between 1050 to 1150, a tumultuous century regarded as a transitional phase between the Preclassic and Classic periods, the Hohokam world underwent a profound social transformation, yet some important elements carried over and therefore affirm continuity from the old world to the new order. Indeed, many communities, especially those in and around what is now Phoenix, seemingly weathered the tumult, as they reorganized their villages atop or near their earlier residences—deliberate acts at maintaining connections to ancestral lands (Elson 1998). Likewise, Hohokam communities in the Phoenix area continued to maintain the many kilometers of canals on which they relied to bring river water to their villages and fields, albeit with necessary retooling and realignment of the irrigation infrastructure (Howard and Huckleberry 1991). By the 1400s, however, the Hohokam world experienced social and economic stresses to the point where people ultimately gave up on an aggregated village lifestyle focused on irrigation agriculture (Abbott 2003). They did not disappear (Chenault 2000; Henderson and Hackbarth 2000), but took on a way of life that left a footprint so small it is nearly invisible to archaeologists (Wells et al. 2004).

Hohokam in Paradise Valley

Although Paradise Valley lies squarely within the reach of the Hohokam world, significant Hohokam settlements are few. The lack of a perennial waterway probably discouraged the founding and growth of large villages and associated irrigation infrastructure within the valley's interior. The closest population centers were to the south, with a canal system tapping the Salt River upstream of the Papago Buttes (Hackbarth et al. 1995), and to the east on the lower Verde River opposite the McDowell Mountains (Whittlesey et al. 1997). Lying on the rim of the valley, Taliesin West is situated relatively far afield of any substantial Hohokam village currently known. The closest primary villages—those with public architecture in the form of ballcourts or platform mounds (Abbott et al. 2006; Fish and Fish 2000) and presumed to be seats of political and religious organization (A. Wright 2014:216)—are located at nearly equal distances to the north and south (Figure 35).

Pinnacle Peak Village was a Hohokam settlement centered on a spring in Boulder Pass at the northern extremity of the McDowell Mountains. As a bird flies, it is 11 kilometers north of Taliesin West, but the walking distance is closer

to 13.5 kilometers when skirting the bajada. A number of investigations (Gilman 1993; Opfenring 1965; Schroeder 1994; Stubing et al. 1998) have shown that people used the site setting throughout the Preclassic era, but the village was most intensely occupied from AD 850 to 1150. With at least 25 trash mounds, Pinnacle Peak Village is perhaps the largest Hohokam settlement in the valleys north of those fed by canals from the Salt River (Gilman 1993:4; Leonard 2002:163). Some have reported the possibility of a ballcourt at Pinnacle Peak Village (Marshall 2001; Wallace 2014b), yet none of the field investigations have confirmed it. Approximately 3 kilometers northwest of Pinnacle Peak Village, and 18.5 kilometers north-northwest of Taliesin West, is the Dixileta Village Site (Courtright 2002; Schroeder 1993), a smaller Hohokam settlement with better evidence for a ballcourt, but with a shorter occupation span, from AD 950 to 1150. Together, Dixileta and Pinnacle Peak represent a substantial extended community of Preclassic Hohokam farmers utilizing the northern portion of Paradise Valley in the absence of canal irrigation.

Fourteen and one-half kilometers south of Taliesin West is a string of Hohokam settlements along a canal system extending from a bend in the Salt River to Indian Bend Wash in south Scottsdale (Figure 35). The canal system supported an irrigation community throughout the Preclassic and Classic periods, although sites dating to the Classic are best known. These include the five compounds and two platform mounds comprising the extended community of Tres Pueblos at the head of the canal system (Hackbarth et al. 1995). Sites all along the canal system also contain Preclassic Hohokam artifacts, and two settlements—Pueblo Ultimo and El Caliche—are suspected as having ballcourts dating to the AD 950–1150 period (Marshall 2001; Wallace 2014b).

While Taliesin West is situated at considerable distances from any of the sizable primary Hohokam villages in the Phoenix area, recent investigation in the vicinity of Frazier Spring, approximately 6 kilometers to the north, identified a dispersed Hohokam settlement that was occupied in some form, though not continuously, between AD 750 to 1300 (Leonard 2002; Leonard et al. 1999). Collectively, the remains of the settlement consist of several dozen structures represented by a mix of aboveground stone buildings and semi-subterranean pithouses within a canyon below Frazier Spring. Rock piles and rock alignments, as well as many roasting pits scattered throughout the canyon, imply agave cultivation was a significant focus of activity. The residents may have engaged in on-site pottery production as well, since the temper in many of the vessels was consistent with locally available sands (Abbott 1995, 1997, 1999). Based on the ceramic assemblage, economic ties were strongest with villages along the Scottsdale Canal System, and there was no evidence of exchange with the much

closer contemporaneous communities at Pinnacle Peak Village and Dixileta or with those along the lower Verde River.

The nature and duration of residence at Frazier Spring are not as substantial as would be expected for a typical Hohokam village, and the settlement may represent more of a hamlet focused on dry-farming and the acquisition of upland resources, all of which were important exchange items. Leonard (2002:166) suggested residence may have taken place predominantly during the winter and late summer to coincide with rainfall patterns, but noted the presence of a possible reservoir that potentially supported year-round habitation by a small number of people during the Preclassic. There was some indication that the community was slightly larger in that earlier period too, because more of the structures dated to that era, and those were dispersed farther throughout the canyon than Classic-period abodes. To Leonard (2002; Leonard et al. 1999), the difference in layout between the Preclassic- and Classic-period structures signaled a shift in use, with the Classic-period occupation representing a more limited, seasonal use by people from villages along the Scottsdale Canal System. According to Doyel and Crary (1995:Figure 21.02), the portion of the bajada around Taliesen West was within the extended resource zone of communities along the Scottsdale Canal System, further supporting a connection between the petroglyphs there and people residing along the Salt River to the south.

The Petroglyphs of Paradise Valley

The petroglyphs at Taliesen West are part of a broader distribution of similar petroglyph sites along the margins of Paradise Valley, predominantly in the McDowell Mountains. The Arizona Rock Art Coalition recently identified 42 sites containing over 330 panels of petroglyphs within a 22-square-kilometer area of the McDowell Sonoran Preserve and McDowell Mountain Regional Park, two large parcels of public land encompassing most of the McDowell Mountains (Kalish and Nightwine 2007; Nightwine 2008; see also Logan Simpson 2016:32). This is merely a small, representational sample of an unknown total number of petroglyph sites in the mountains. From available information, however, the largest concentrations of petroglyphs are located 5 to 8 kilometers north of Taliesen West, in canyon passes on the north and south flanks of McDowell Peak. The two most concentrated sites are the Spring Site at Frazier Spring on the mountains' western flank and the Dixie Mine Site on the eastern side, both of which are centered on springs (Schoonover and Virden 1999). Frazier Spring was the principal water source for the Hohokam hamlet 6 kilometers north of Taliesen West.

The petroglyphs in the McDowell Mountains have been classified into four categories believed to have cultural and chronological significance (Schoonover and Virden 1999:235–237). The earliest petroglyphs conform to a Western Archaic tradition (Wallace 1989:37–39; Wallace and Holmlund 1986:84–86), a body of motifs distributed widely across western North America dating from approximately 5000 BC to AD 800 (Hedges 1982; Heizer and Baumhoff 1962; Schaafsma 1980:36–49). Western Archaic tradition petroglyphs tend to be pecked abstract forms with a deep degree of repatination. The motifs often utilize the rock's surface by contouring edges and seams, accentuating curvatures in the surface, and extending across faces. Another distinguishing factor is that they tend to be more deeply pecked into the rock than later styles.

The more recent Gila style is generally considered to be spatially and temporally co-terminus with the Hohokam cultural tradition of south-central Arizona (Ferg 1979; Schaafsma 1980:83–99; Wallace 1989:40–41; Wallace and Holmlund 1986:82–84), yet it blends with other styles along its periphery. The Gila style perpetuates some of the abstract motifs found in the earlier Western Archaic tradition, though the corpus of designs is more extensive and includes both abstract and figurative forms. Figurative designs are dominated by stick-like anthropomorphic and zoomorphic figures. Among the abstract figures, curvilinear forms far outnumber rectilinear forms, with the former dominated by circle-based motifs such as bull's eyes, circle chains, concentric circles, and circles with appendages. More often than not, Gila-style petroglyphs appear as assortments of haphazardly arranged motifs upon the rocks, with little to no integration between the figures and variable degrees of repatination among them. The Gila style is often dated to AD 800–1450 based on association with the Hohokam tradition; however, I have shown that the post-1100 era was a time of regionalization in Hohokam petroglyph manufacture (A. Wright 2014).

Schoonover and Virden (1999) also report on petroglyphs in the McDowell Mountains they attribute to Yavapai manufacture. A Yavapai style(s) has never been fully defined, but I and Polly Schaafsma (A. Wright and Schaafsma 2016:11) have delineated a Yavapai pictographic style, and Pilles (1994) has provided some preliminary insights on Yavapai pictographs and petroglyphs from the Sedona area. Yavapai pictography consists of both petroglyphs and pictographs, with motifs including horse-and-rider scenes, large animals, and possibly spiritual beings known as *akaka* depicted as anthropomorphic forms with headdresses, elongated bodies, fingers, and toes. Petroglyphs include scratched, pecked, and abraded techniques, with designs paralleling those in the pictograph inventory. The horse-and-rider motif and the minimal degree of repatination on petroglyphs is the basis for dating these motifs to the Historic period (AD 1580–1890) and thus attributable to the Yavapai who ranged throughout this region during that time.

In addition to the indigenous pictographic traditions, inscriptions by Euro-Americans are found in the McDowell Mountains and constitute a distinct style of petroglyphs. The designs consist primarily of names, initials, dates, and cattle brands that date from the last 150 years (Schoonover and Virden 1999:237).

Cultural and Temporal Association of the Taliesin West Petroglyphs

With the exception of the figure on Boulder 16 (Figure 30) and the abraded hourglass motif on Boulder 3 (Figure 12), the 121 petroglyphs at Taliesin West conform to the Gila style. The abundance of representational figures, especially the lizard-like and quadrupedal zoomorphic forms, and the prevalence of circle-based motifs at Taliesin West (Figure 33) are hallmarks of Gila-style pictography. The “disorganized” arrangement of petroglyphs on the panels, particularly the heavily worked faces of Boulders 1 and 10 (Figures 10 and 24), is likewise characteristic of this style. None of the petroglyphs exhibit the depth of pecking, degree of repatination, or surface manipulation to be expected of the Western Archaic tradition, nor do any bear similarity to known Yavapai designs. The prevalence of Gila-style petroglyphs at Taliesin West implies the entirety of the indigenous petroglyph assemblage derived from Hohokam hands.

In addition to stylistic affinities, which is the standard approach for assigning cultural and temporal dimensions to pictography, consideration of the archaeological context can add considerably to refining an understanding of who made the petroglyphs, and when (A. Wright 2014:128–134). The ability to do so with the petroglyphs at Taliesin West is stymied greatly by the amount of potential artifact collecting that has occurred over the years. Wesley Peters (1990:8) alone claimed to have gathered three bushels of pottery sherds from the grounds in the late 1930s. This may have been an exaggeration or misremembrance since such a quantity is quite high relative to most other reported Hohokam petroglyph sites.¹⁷ The implication nonetheless is that at one time there were many more pottery sherds than what is currently found at Taliesin West. Before they were stolen from out front of Mr. Wright’s office, Peters recalled taking the sherds, possibly to the Heard Museum in Phoenix, to have them identified. “Some of them were actually Hohokam and others were Pima and some other various things were there” (Peters 1990:8). It isn’t clear who provided Peters with the pottery identifications, or on what basis, so this gross assessment leaves us with little clarity on the composition of the original pottery assemblage that could aid in ascribing a cultural and temporal attribution to the associated petroglyphs.

Despite the extent of artifact collecting, recent archaeological investigation

has identified small amounts of pottery that help contextualize the petroglyphs. As noted above, Gronemann (n.d.) found a single non-micaceous plain ware sherd (i.e., Salt Variety) next to Boulder 10. Buckles (2008:32) found three sherds of a reportedly red-slipped bowl and nine plain ware sherds, all with a brown-colored paste, scattered amid the petroglyph boulders at the base of Taliesin Peak. None of the pottery had a micaceous sand temper, and was thus likely manufactured somewhere in the Salt River Valley. The presence of a red slip on the interior and exterior of three sherds is suspect because this would be a rather unusual treatment for Hohokam pottery unless it were either a Sacaton or Santan Red Ware vessel, both of which are typified by micaceous temper. This “slip” may simply be a polish, a common misidentification in the field.

Farther southwest of the petroglyph boulders, Buckles (2008) found scatters of micaceous plain ware (probably Gila Plain Ware) and a single untyped red-painted buff ware sherd. While none of the pottery can be assigned to more specific types or times, all of it can be easily attributed to Hohokam manufacture. It also evidences a range of activities involving jars and bowls across the grounds of Taliesin West, not just in association with the petroglyphs.

The stone artifacts found at Taliesin West also have some bearing on the cultural and temporal affiliation of the petroglyphs. Buckles (2008:Table 3) reported a 3/4-grooved axe made of diorite found some distance south of the petroglyphs. Based on his re-excavation of Snaketown, Haury (1976:291–292) recognized two types of 3/4-grooved axe, each of which is temporally diagnostic. Type 1, which exhibits ridges flanking the hafting groove, dates from the Sweetwater to Santa Cruz phase, or approximately AD 600 to 950. Type 2, which dates from the Gila Butte to Civano phase (AD 750 to 1450), lacks the ridges along the groove. The specimen found by Buckles is of the earlier Type 1 variety (Figure 7). Another 3/4-grooved axe was found by Paul Wagner, a former apprentice in the Frank Lloyd Wright School of Architecture and caretaker of Taliesin West, in the 1980s (Figure 36). That example lacks the ridges around the hafting element and is therefore of the later Type 2 variety.

Albeit sparse, the pottery and stone axes attest to a fairly long use of the landscape around Taliesin West by Hohokam communities, on the order of several centuries at least. This compares quite well with the variable degrees of repatination to the Gila-style petroglyphs. This is not unusual for places with Hohokam petroglyphs. In the South Mountains, for instance, people revisited select places over many generations, sometimes crafting new petroglyphs near older ones. The repeated creation of petroglyphs attests to the amount of ritual depth that accrued as people continually revisited such localities, thereby generating and perpetuating traditions tied to important places within the



Figure 36. Paul Wagner holding a 3/4-grooved groundstone axe found at Taliesen West. (From Joseph Rorke's unpublished autobiography titled "My Life," courtesy of the Archives Department, Taliesen West, Scottsdale.)

landscape (A. Wright 2014). The presence of pottery from earlier (i.e., red-on-buff) and later (i.e., red ware) periods, as well as earlier and later types of axes, coupled with the repeated creation of petroglyphs on the same cluster of boulders, all suggest that the Hohokam traditions tied to the place now occupied by Taliesen West persisted over centuries.

One of the recent breakthroughs in petroglyph research in the Phoenix area is the ability to link places with petroglyphs to particular Hohokam villages based on the temper in pottery sherds found around the petroglyphs (A. Wright 2014:83–97). The pottery collected by Wesley Peters, stolen long ago, would have been of considerable utility for connecting the petroglyphs at Taliesen West with certain villages, especially if the volume of sherds he reported was accurate. However, the meager number of pottery sherds left on the grounds of Taliesen West prohibits any reliable means of doing so today. Nevertheless, prior research on the topic has confirmed the intuitive assumption that Hohokam petroglyphs are most often associated with the villages closest to them (Snyder 1966; A. Wright 2014). In the case of Taliesen West, it would be quite reasonable to presume the petroglyphs were created by people from the hamlet near Frazier

Spring, or from the more distant communities at Pinnacle Peak Village and along the Scottsdale Canal System (Figure 35).

The presumption that the petroglyphs at Taliesin West are primarily associated with the Hohokam community near Frazier Spring is strengthened by the



Figure 37. "Hourglass/footprint" petroglyph at Frazier Spring. (Photo by the author.)

presence of a unique motif in both localities. The “hourglass/footprint” design portrayed on Boulders 11 and 12 (Figures 25 and 26) was also pecked repeatedly into boulders near Frazier Spring (Figure 37). That this motif has yet to be found beyond the canyons along the west-central slopes of the McDowell Mountains implies an authorship limited to a particular community, or even an individual residing in the immediate area. Indeed, Kalish and Nightwine (2007) recognize this motif, as well as possibly anthropomorphized variations which seemingly depict appendages (Figure 38), as the primary figure of a petroglyph style localized to the McDowell Mountains.

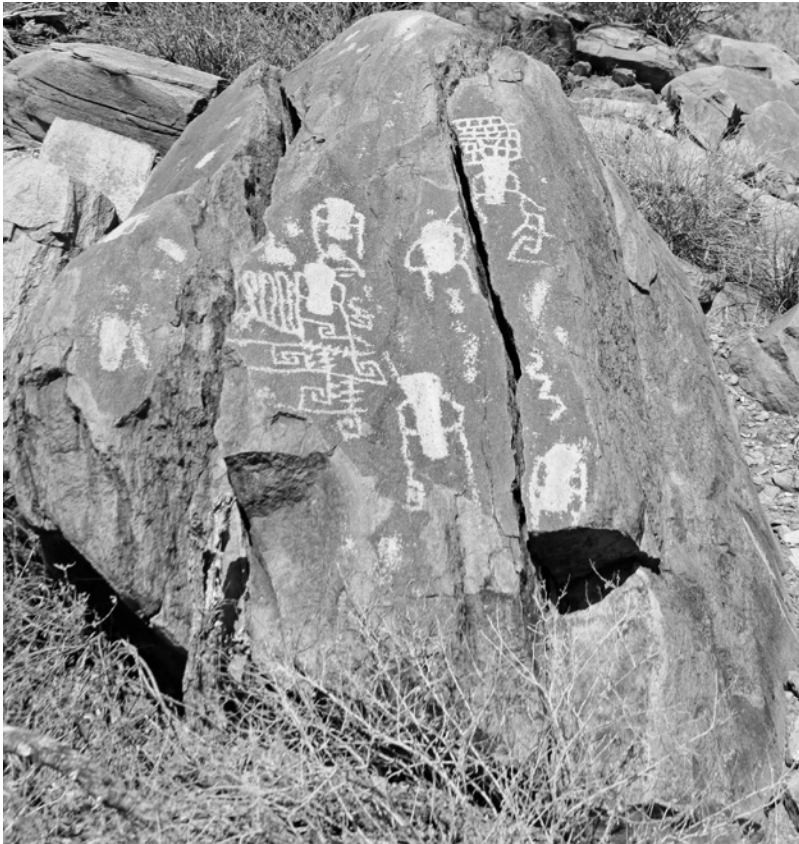


Figure 38. *Petroglyphs near Frazier Spring.* (Photo by the author.)

Whereas the petroglyphs are of Hohokam origin, quite likely originating from people residing near Frazier Spring or moving between there and villages along the Scottsdale Canal System to the south, two items on the grounds of

Taliesin West indicate the vicinity of Taliesin Peak figured into the earlier Archaic cultural landscape as well. There is, of course, the basalt Archaic dart point reported by Buckles (2008:Table 3). Though broken at its haft (Figure 8), it most likely approximates the San Pedro form, a ubiquitous point type found throughout south-central Arizona and neighboring regions from approximately 1200 BC to AD 100 (Loendorf and Rice 2004:34–36; Sliva 2015:15–38). Another item is a previously unreported stationary grinding slab, as defined by Adams (2002:145), found about 400 meters south of the petroglyphs at the base of Taliesin Peak. As with the other stones on-site, this slab is of local Taliesin Tuff. The small, flat, lightly ground surface suggests it was minimally used, perhaps just once (Figure 39), and this ephemeral quality limits insight into what it was used for. The grinding activity evident on the stone is tentatively attributable to the Archaic period based on the degree of repatination to the ground area, which is darker than any of the petroglyphs found at Taliesin West. Both the grinding slab and projectile point may, however, date to the Red Mountain phase, AD 0 to 450, a nebulous period marking the poorly understood transition from the Archaic hunting-and-gathering lifestyle to the sedentary agriculture villages of the later Hohokam cultural tradition (Mabry 2000; Morris 1969).



Figure 39. Stationary grinding slab on the grounds of Taliesin West. (Photo by the author.)

That the grounds of Taliesen West factored into the ancient cultural landscape over millennia, yet the petroglyphs are limited to Hohokam manufacture only, begs the question as to why Archaic petroglyphs are absent. It is well known that the contexts of Archaic pictography and those of later traditions vary in important ways. In south-central Arizona, there is a penchant for Archaic petroglyphs to be found in highly visible settings, arguably public contexts in which seeing the petroglyphs was important to their creation (Wallace 2008:204–206). This differs from Hohokam pictography, which is found in a far greater range of contexts that include individualized, private settings (A. Wright 2014:149–163). Whereas Hohokam petroglyphs are often found in the same general location as Archaic examples, Hohokam petroglyphs occur more frequently in places without prior marking on the rocks. Although research has barely scratched the surface in explaining this important distinction, different settlement and use patterns of the landscape between mobile Archaic groups and sedentary Hohokam villagers are surely one factor.

Recently, Hackbarth (1999, 2001) made a case that group size differed in how Archaic and Hohokam communities gathered plant resources in Paradise Valley. In his argument, Archaic task groups were larger and capable of harvesting more resources from a greater area more rapidly. These groups spent little time in one place as they moved from patch to patch across the bajada before returning to their base camps. With the introduction of maize, however, there was a smaller labor pool and less time that could be dedicated to gathering plants. In consequence, task groups were smaller, and necessarily spent more time gathering in any specific area. Moreover, since they were smaller, task groups could operate more independently, which implies they were freer to exploit a wider range and more distant resources.

In other words, minimizing group size maximized the quantity of resources that could be encountered in one season, especially in marginal productive ranges where resource density is highly variable [i.e., the Sonoran Desert].
[Hackbarth 2001:97]

It requires much more data and focused research to effectively address why the locations of Archaic and Hohokam pictography differ as they do, but the potential reduction in task group size provides food for thought in this regard. Smaller groups would mean less awareness of each other's whereabouts on the landscape, so novel means of sharing information about places, and people's experiences in or claim to such places, would be advantageous. To keep it simple, during the Hohokam millennium, petroglyphs may have served some sort of signaling function that was not needed in times prior. Perhaps petroglyphs marked territorial claims to important resource patches or even chronicled

specific episodes of resource procurement in any specific locality. Alternatively, since smaller task groups would have spent more time in any single location in order to gather the full extent of resources there, they presumably camped longer in such places. This may have freed up time to devote to activities ancillary to resource procurement, including potentially the periodic creation of petroglyphs. Regardless of the unanswered nature of this question, and whether or not it pertains to hypothesized changes in task group size, the apparent contrast in the locations of petroglyphs underscores a fundamentally different relationship to the landscape between Archaic and Hohokam communities. Hopefully, future inquiry will expand on this interesting peculiarity.

Why Taliesin Peak?

Hohokam petroglyphs and pictographs are not randomly scattered through space, but were instead carefully crafted in specific locations across the landscape (Wallace and Holmlund 1986:131–141; A. Wright 2014:143–149). People were drawn to the area of Taliesin Peak for over a millennium, and while there they engaged in a range of additional activities, including hunting (i.e., the dart point) and the processing of wild products (i.e., groundstone axes, grinding slab, and purported mortars/metates). What was the attraction?

The most prolific activity to take place near Taliesin Peak prior to the establishment of Taliesin West was the quarrying of knappable toolstone. As



Figure 40. Flaked-stone core of Taliesin Tuff amid the desert rubble below Taliesin Peak. (Photo by the author.)

found by Buckles (2008:26–28), Taliesin Peak is an extensive lithic quarry with an estimate of at least 10,000 pieces of flaked stone. The first evidence of this was uncovered by Grady et al. (1973), who found a concentrated area of quarrying on the south face of Taliesin Peak. The densest area of quarrying, however, was atop Taliesin Peak, where the debitage is estimated at 150 pieces per square meter (Buckles 2008:28). Subsequent reduction of toolstone into more useful and portable objects was most intensive at the base of Taliesin Peak, right amid the cluster of petroglyph-adorned boulders, though pieces are scattered widely and indicate knapping took place over a large area and broad span of time. Primary and secondary flakes and tested cobbles dominate the assemblage across the grounds of Taliesen West, indicating cores were most often taken off-site for further reduction elsewhere. Additional high-density quarries of the same toolstone occur east and northeast of Taliesin Peak, all along the ridgeline as it traces back into the McDowell Mountains (Giacobbe and Larkin 2000; Schroeder 1999).

The quarried toolstone is the same Taliesin Tuff on which the petroglyphs are



Figure 41. Examples of flaked-stone debitage from the grounds of Taliesen West. Bottom row: greenish-gray Taliesin Tuff. Top left: Dark gray-black Taliesin Tuff with white phenocrysts. Top right: milky quartz. (Photo by the author.)

pecked. It is also the same material Mr. Wright quarried for the desert masonry walls of Taliesin West. Taliesin Tuff grades from a white-speckled black matrix to one that is uniformly pale green (Vance 2012:27–29; see also Gruber et al. 2010). As reviewed above, Taliesin Tuff is easily and often misidentified. Giacobbe and Larkin (2000) classified it as a metamorphosed rhyolite. Buckles (2008:28) regarded the toolstone as two sources, a “medium-grained rhyolite with small white phenocryst inclusions and a fine-grained gray quartzite that grades to a pale green.” Schroeder (1999:31) found two quarries of the same toolstone less than 3 kilometers to the east of Taliesin Peak, but he too misidentified it as varieties of Taliesin Quartzite. These different grades of Taliesin Tuff also outcrop at Taliesin Peak and were equally quarried (Figures 40 and 41). There is also a very minor presence of milky-hued quartz outcropping throughout the area, and a spattering of flakes of this material is present around Taliesin Peak.

The quarrying activity at and around Taliesin Peak ties the various archaeological threads into a shared framework. This abundant source of toolstone was the principal draw to the area for both Archaic and Hohokam communities. While there, they engaged in a range of pursuits in addition to quarrying, and likely camped in the immediate area. The lack of substantial amounts of refuse besides the flaked stone and possibly the pottery collected by Wesley Peters, and the absence of any substantive features such as hearths or structures, indicates the visits were by small groups who did not stay long. Murray (1994) came to the same conclusion, albeit he was not aware of the quarrying activity and therefore associated the petroglyphs with plant collection activities along the wash at the base of Taliesin Peak.

The co-occurrence of Hohokam petroglyphs and a toolstone quarry at Taliesin Peak represents a pairing of what may seem as quite different activities, but it is a relationship repeated throughout the reach of the Hohokam cultural tradition. For instance, Wallace (1983:233) found some of the petroglyphs at Rillito Peak in the Tucson Basin concentrated around a quarry of red jasper. Likewise, he identified significant clusters of petroglyphs at felsite quarries in the Picacho Mountains north of Tucson (Wallace and Holmlund 1986:138–140). The petroglyph-quarry relationship is also evident at places where Hohokam communities acquired stone for grinding implements. Perhaps the classic example of this is at the andesite outcroppings of Hedgpeth Hills in north Phoenix, where hundreds of petroglyphs are intermixed with places of mano and metate manufacturing (Bruder 1983). Additional examples abound, with many of the larger and well-known petroglyph sites along the Gila River—Robbins Butte, Powers Butte, and Painted Rocks—also bearing the marks of substantial groundstone quarrying activity. The relationship extends further, beyond the

edge of the Hohokam world and into the heartland of the Patayan (i.e., ancestral Yuman speakers) cultural tradition to the west. Prominent petroglyph sites on the lower Gila and Colorado Rivers, such as Antelope Hill (Schneider and Altschul 2000) and Palo Verde Point (Griffitts and Klucas 2017), respectively, were also intensively quarried for groundstone implements by nearby Patayan communities. Evidently, in the low deserts of the American Southwest, there was a strong association between petroglyph manufacture and quarrying activity that breached cultural and linguistic boundaries.

Since little research to date has explicitly addressed this relationship, there is ample room for conjecture as to why petroglyphs often, though not always, adorn boulders about the places where Hohokam communities quarried stone for their domestic needs. The considerable diversity of designs at Taliesin West (Table 1) undermines any notion that Hohokam petroglyphs demarcated territories or claims of ownership. If that were the case, we would expect more redundancy in the chosen designs, since a land-claim premise would imply the motifs reference specific individuals or social groups. If the petroglyphs did serve to ascribe claim to a place, the diversity of imagery indicates it was a rather ineffective means of doing so. Wallace has shown that petroglyphs at quarries in the Picacho Mountains are actually more diverse than many other types of settings, which he takes as being indicative of the use of quarries by many different individuals or small groups (Wallace and Holmlund 1986:139–140).

A case could be made that the pairing of petroglyphs and quarries is merely a coincidence of technology. Out of necessity, the hammerstones used for testing and reducing toolstone have to be harder than the toolstone. The same fundamentals of physics apply to petroglyphs—in order to effectively craft one, a hammerstone has to be harder than the surface on which the glyph is to be inscribed. It is thus rarely the case that cobbles found on-site can be used to make petroglyphs, so more often than not people intent on making petroglyphs had to bring petroglyph hammerstones with them. At Taliesin West, the hammerstones used for quarrying Taliesin Tuff would have also been effective tools for making petroglyphs, since the glyphs were pecked into boulder-sized clasts of the same stone material. Therefore, it may simply be the fortuitous circumstance in which people seeking toolstone had the requisite tools in hand for making petroglyphs, and therefore did so sporadically and whimsically around the quarries. Characteristics of the petroglyphs, however, suggest otherwise. The number of petroglyphs relative to the intensity of quarrying is far less than we should expect for a coincidence. Likewise, the petroglyphs remaining on-site are concentrated in a specific location at the base of Taliesin Peak, and those Mr. Wright had placed within Taliesin West likely originated in the same general

location. Their location is not random, but instead evidences “staging.” Staging is the process of choreographing individuals’ movement through a place of ritual performance and guiding their sensory experience while there, and with petroglyphs it is evinced through clustering, density, topographic setting, environmental context, and orientations of placement (A. Wright 2014:143–149).

Hohokam petroglyphs are productively understood as indicia of ritual activities (A. Wright 2014). They occur, or are rather choreographed, on a variety of stages across the landscape, with quarries constituting one such type of stage. Rituals tend to invoke symbols, but it is the performance of making or employing the symbols that constitutes the ritual action (Bell 1992, 1997). With petroglyphs, we are therefore faced with the artifacts of past ritual performance, not the essence or act of the ritual itself. The labor investment necessary for petroglyphs and the permanence intended by inscribing in stone nevertheless make clear that in such instances the visual symbols were fundamental to the ritual. Clusters of petroglyphs like those at Taliesin West are accumulations of different ritual acts, with the differential degree of repatination belying the historical depth of ritualism on any particular stage. In essence, the petroglyphs around Taliesin West proxy a tally of ritual acts, with the mass of glyphs lingering as the sole visual vestiges of such performances.

A ritual orientation is critical for understanding Hohokam petroglyphs as both actions and symbols. Ritualism, considered broadly, is a unique mode of communication (Rappaport 1999), so Martineau was not entirely off base in believing petroglyphs had a communicative role. But it was not a written language to be read by others. The discourse in the ritual communication involving Hohokam petroglyphs was surely between people in some instances, yet in others it was between the self and other-than-human agents, what can be regarded generally as spiritual or supernatural entities. This is most evident in situations where the petroglyphs were not created on stages conducive to viewing by a human audience (e.g., Munson 2012). At Taliesin West, this quality is best expressed by the small and discrete petroglyphs found on Boulders 11, 12, 13, 14, 15, and 17 (Figures 25–29, 31)—the ones hard to see without being immediately above them. Presumably, fellow humans were not the intended audience in these cases, as there are plenty of large faces on obvious and easily accessible boulders that are void of petroglyphs.

With archaeology at Taliesin West and elsewhere, we can only broach the content of the ritual discourse tangentially, though the iconography of the petroglyphs can help in some regard (e.g., Hernbrode and Boyle 2013, 2018; Russell et al. 2009; Wright and Russell 2011). The purpose of the ritual, or the

efficacy sought through engaging in the ritual production of petroglyphs, is equally ephemeral. However, if the exchange was between self and other-than-human agents, the discourse would not be relevant to other humans then or now, and this may account for why no one has yet developed a means of “translating” them. But, perhaps actions speak louder than symbols. While contemporary analogies for petroglyph-related ritualism are few, the goals of such practices are universal and timeless. It is the connection to religion and the process of relating to a higher order. In this way, petroglyphs may approximate the ritualized messaging familiar to many, something similar or analogous to prayers. Indeed, with regard to Hohokam petroglyphs around quarries, Wallace suggested the motivating factor as possibly “relating to the expression of gratitude or requesting permission for the utilization of the lithic resources” (Wallace and Holmlund 1986:140). A similar scenario at Taliesin West—a ritual asking to consume or thanking for consuming a local substance—makes sense, far more sense than a battle narrative of epic proportions.

The sacral nature of Hohokam petroglyphs was not lost on Mr. Wright. In fact, his relationship with this medium began during his stay at Ocatilla Camp a decade before commencing his great experiment below Taliesin Peak.¹⁸ The camp, built in January 1929, was to serve as Mr. Wright’s residence while designing the 110-room, luxurious San Marcos in the Desert resort—a contract for Dr. Alexander J. Chandler that fell through with the ensuing crash of the stock market in October of that same year (Levine 1996:201–215). San Marcos in the Desert was to be built on the southern fringe of Phoenix’s South Mountains, so Mr. Wright sited Ocatilla Camp a mile near the project site, approximately 10 miles west of the town of Chandler and atop the Ahwatukee Foothills. The South Mountains are replete with Hohokam petroglyphs (Bostwick and Krocck 2002; Snyder 1966; A. Wright 2014), some of which undoubtedly dotted the project site and likely the outcrops around Ocatilla Camp.

Across the mesa from the camp are great low-lying mounds of black, burnt rock covered with picture writing scratched on the surface by the Indians who came there at sunrise to worship the sun, the greatest evidence of the Great Spirit they knew. [F. Wright 1932:304–305]

Clearly, in 1929 Mr. Wright believed Hohokam petroglyphs to be of religious significance to their creators and once implicated in rituals, in this case acts of worship and prayer. This reverence would carry over ten years later with the discovery of similar glyphs on Mr. Wright’s own property in Paradise Valley.

PART III: PARALLELS, POLARITIES, AND PARADOXES

Hohokam archaeology was in its infancy at the founding of Taliesin West. Many of the foundational excavations that would come to define the Hohokam cultural tradition—Snaketown, Pueblo Grande, University Indian Ruin, Ventana Cave—were merely works in progress or just reaching the printing press when Frank Lloyd Wright and his apprentices began clearing the grounds for what would become their winter home. Lacking the fortune of hindsight, they were not privy to much of what we know today about either Hohokam archaeology or petroglyphs, nor would they have been cognizant of the important subtleties of modern archaeological methods. The Taliesin Fellowship were keenly aware that the petroglyphs at Taliesin West are obvious relics, but the nuances of the stage on which they are found were understandably lost to them. So, in light of their innocent oblivion, the parallels between Frank Lloyd Wright's architectural vision for Taliesin West and those of the Hohokam communities who utilized the grounds before him are most interesting.

For both Mr. Wright and the bygone residents of nearby Hohokam villages, Taliesin Peak was a source of stone for crafting designs to weather the challenges of the Sonoran Desert. In the desert strain of organic architecture materialized at Taliesin West, the stones inspired form.

But for the designing of our buildings certain forms abounded. There were simple characteristic silhouettes to go by, tremendous drifts and heaps of sunburned desert rocks were nearby to be used. We got it all together with the landscape—where God is all and man is nought.... [F. Wright 1943:453]

For Mr. Wright and his cadre, the desert rubble around Taliesin Peak was stimulus for form as well as function, as the naturally shaped stones doubled as the insulating walls of their winter domicile. Unbeknownst to the Fellowship, it was this same raw material that drew Hohokam villagers to Taliesin Peak and which they carted off back to their homes. For Hohokam communities, the stones of crystalline volcanic ash were crafted into sharp and piercing utilitarian items for daily routine tasks—knives, planes, and points.

Above the shared pragmatism of working with stone, moving beyond the material, Taliesin West presents a merger of aesthetics. Most of the icons depicted in Hohokam petroglyphs are not unique designs, but are elements of a limited corpus of motifs that were re-created across stages throughout south-central Arizona. The petroglyphs conform not just in motif, but also in manufacturing technique and their somewhat haphazard arrangement on panels. As with place,

such redundancy and repetition in choice of symbol, arrangement, and production bespeak the ritual basis for which the petroglyphs were made (A. Wright 2014:Table 6.1). It is also these underlying conformities across space and through time for which the Gila style is recognized aesthetically as a unique “Hohokam school of design” (Hayden 1972:81). While “art” is a problematic way of thinking about American Indian petroglyphs and pictographs (A. Wright 2016), such images are often regarded as “rock art” by scholars and laypersons alike because of the discernible aesthetic qualities inherent to their visual form.

As many do, Mr. Wright approached the petroglyph-adorned boulders at Taliesen West as works of art. Certainly, according to Wesley Peters (1990:13) and Herb Fritz (1978:18), he regarded them as “sculpture.” This is a profound evolution in perspective since his short stint at Ocatilla in 1929, when he referred to the petroglyphs in the South Mountains as sacred objects.¹⁹ In this revised view, the significance of the petroglyphs was likened to that of saguaros and stones, artistic forms indigenous to the desert yet devoid of culture. In a way, the petroglyphs were merely props of a much larger tapestry of natural origins and endless proportions, a desert backdrop in which Mr. Wright would cloak Taliesen West.

The desert with its rim of arid mountains spotted like the leopard’s skin or tattooed with amazing patterns of creation, is a grand garden the like of which in sheer beauty of reach, space, and pattern does not exist, I think, in the world. [F. Wright 1940:8]

Here [in Arizona] all is sculptured by wind and water, patterned in color and texture. Rocks and reptiles no less so than the cacti. A desert building should be nobly simple in outline as the region itself is sculptured: should have learned from the cactus many secrets of straight-line patterns for its forms, playing with the light and softening the building into its proper place among the organic desert creations.... [F. Wright 1940:10]

Mimicry and mirroring of the natural landscape are elementary design practices of organic architecture. Mr. Wright and his students accomplished these in multiple ways, many of which were specific to the natural settings of his architectural works. At Taliesen West, there was the use of local materials for masonry and landscaping, of course. There were also the orientations, directional alignments, and linear contours of the buildings and their layout, as explained by Levine (1996:254–297). Another technique was the re-presentation of surrounding jagged, lithological masses fringing the horizon as smaller, effigy-like forms within the plan of Taliesen West. A prime example is the placement

of Boulder 1 where, upon facing the original entrance perpendicular to its axis, the large stone sits like a tiny replica of Thompson Peak, which towers over Taliesin West on the eastern skyline (Figure 1).²⁰

Unique to Taliesin West is the re-presentation of American Indian petroglyphs, and thus the fusion of indigenous and Wrightian aesthetics. To Mr. Wright, the petroglyphs around Taliesin Peak were part of the natural desert environment and were thus, for the aims of organic architecture, ripe and ready for replication and cooptation. As detailed in the first part of this article, the integration and reorientation of the petroglyphs into the layout of Taliesin West are the overt demonstration of this principle. Less apparent are the pastiche Whitmanian and Wrightian petroglyphs cut into Taliesin West. The inscription of a rephrased portion of the fourth stanza of Whitman's "Song of the Universal," below a reoriented petroglyph boulder in Whitman Square (Figure 14), is an undoubted example of Mr. Wright's effort to pull together Whitmanian democracy, Taliesin West, and a romanticized notion of a mythic American Indian past into an organic whole. A second example of Wright's take on petroglyph manufacture is the "Taliesin West" greeting boldly cut into the low masonry wall between the entry court and the parking lot (Figure 42). The pairing of architecture and inscription was nothing novel, but it may have been the petroglyphs found on the McDowell Mountains bajada, shrouded in mystery and ritualistic significance, that inspired Mr. Wright to similarly carve symbols of poetic beauty and philosophical gravity into the mortar and foundation of Taliesin West.



Figure 42. Taliesin West inscription in masonry wall. (Photo by the author.)

Comparison of Mr. Wright's residence at Taliesin West with the tenure of earlier Hohokam communities exposes a number of important differences that measure against the parallels outlined above. An obvious yet significant contrast is Mr. Wright's constructive intentions vis-à-vis the extractive nature of Hohokam enterprise at Taliesin Peak. Aside from petroglyph-related ritualism, Hohokam activity centered largely on collecting resources, principally toolstone but apparently also some wood on account of the multiple unbroken stone axes found on the grounds, and those resources were taken away to be consumed elsewhere. Mr. Wright, on the other hand, came to Taliesin Peak intent on constructing institutions in place. These include not just Taliesin West, but also the community of the Taliesin Fellowship that lives on today with the Frank Lloyd Wright Foundation and the School of Architecture at Taliesin. Although Mr. Wright, too, mined Taliesin Peak for its crystalline tuff, he kept it on-site, and to it he added "carloads of cement, carloads of redwood, [and] acres of stout white canvas" (F. Wright 1943:454) to create his work of art. Here is another simple though pointed example of the polarity between constructive and extractive practice. Mr. Wright's architectural craftsmanship was amalgamative, in that he compiled matter of different compositions and origins into his constructive enterprises, what many regard as inhabitable sculptures. The Hohokam practice of making petroglyphs was entirely subtractive. To impress the petroglyph designs into stone required the removal of desert varnish and some of the underlying heartrock. The distinction is one of technology, medium, and intention, but nonetheless reifies that there are fundamentally different ways of creating enduring aesthetic works on the desert landscape.

Mr. Wright's intention with the petroglyphs at Taliesin West was not one of mere mimicry. Simply consider the manner of re-presentation within the layout of Taliesin West. Once nestled soundly within the earth and away from the din of domestic life, he had the boulders exhumed, with some raised onto pedestals within the center of his domicile to be gazed upon daily by dozens (and now hundreds) of passersby (e.g., Figures 1 and 6). Formerly fixed at and below eye-level, from certain vantages Boulders 1, 2, and 3 now loom overhead in a reconfigured relationship between observer and observed. The situation is a profound polarity in context of which the stones' naked soil lines and chain-induced scars bear witness.

The polarities between Mr. Wright's legacy at Taliesin West and that of the former Hohokam communities, especially with regard to the petroglyphs, beget certain paradoxes.

The first can be considered a paradox of historical significance. Despite Taliesin West's listing on the Scottsdale Historic Register (SHR) and the National

Register of Historic Places (NRHP), its designation as a National Historic Landmark (NHL), and its inclusion on UNESCO's World Heritage List (WHL), the petroglyphs have never been officially recognized as contributing to the property's significance. Mr. Wright revered the petroglyphs to the point where he enlisted them as monumental works of art within his winter domicile, even adopting one as a symbol for his community that lives on as the logo of the Frank Lloyd Wright Foundation (Figure 17). Yet, the property's multiple designations of historic significance on local, national, and international scales are founded solely on Taliesin West's association with Mr. Wright, undeniably a significant person (NRHP Criterion B), and the campus's status as the work of a master with high artistic value (NRHP Criterion C) (Charleton 1982; City of Scottsdale Historic Preservation Office n.d.; see also National Park Service 2002). Furthermore, the SHR, NRHP, NHL, and WHL designations failed to recognize the fact that this is the only Frank Lloyd Wright property to have incorporated petroglyphs into the architectural design. It would seem this unique aspect of Taliesin West should be weighed as one of Taliesin West's significant attributes relative to many of Mr. Wright's other works.

From another angle to this paradox, archaeologists have judged the petroglyphs remaining at the base of Taliesin Peak as well as the adjacent prehistoric quarry of Taliesin Tuff as eligible for both the SHR and NRHP (Buckles 2008:38). These recommendations are based on the potential for these cultural heritage properties to yield data useful for addressing questions of importance to prehistory (NRHP Criterion D). However, as explained earlier in this paper, these sites have been heavily impacted by artifact collecting and the harvesting of petroglyph boulders by early Taliesin Fellows. Aside from the historic architecture of Taliesin West, do the cultural heritage properties around Taliesin Peak retain enough integrity for eligibility to the NRHP? (See National Park Service [2002] for consideration of a property's integrity relative to its eligibility for the NRHP.) This further begs the question as to why neither Taliesin West nor the petroglyphs remaining at the base of Taliesin Peak have been recognized as significant based on the National Park Service's criterion for design and construction on the part of Hohokam communities (NRHP Criterion C), since the petroglyphs, in and of themselves, do "embody the distinct characteristics of a type, period, or method of construction...[and] possess high artistic value" (National Park Service 2002:17). This was surely not lost on Mr. Wright. Archaeologists are accustomed to invoking NRHP Criterion D (data potential) when considering the significance of cultural heritage properties, but with petroglyphs we would be remiss if we did not consider the significance of their aesthetic value (NHRP Criterion C) as well.

Rhetorical questions aside, the situation at Taliesin West presents a curious

example of how the factors weighed when determining the significance of a cultural heritage property or asset are not static, but can shift depending on contexts. For instance, the nine petroglyph boulders relocated to the Taliesin West campus effectively lost their eligibility to the NRHP because their integrity of location, setting, feeling, and association was compromised with their removal from their original contexts below Taliesin Peak and elsewhere. This act also compromised the integrity of the nine boulders remaining at the base of Taliesin Peak, since that cultural heritage property is no longer fully intact (missing boulders and pottery)—although it remains to be determined whether the impacts are so severe as to demerit the property's eligibility to the NRHP. Interestingly, however, a degree of significance was reinstated to the nine boulders incorporated into Taliesin West based on their new association with Frank Lloyd Wright (NRHP Criterion B) and one of his architectural masterpieces (NRHP Criterion C). Under the protocols of the NRHP, the significance of the nine petroglyph-bearing boulders within Taliesin West to understanding and appreciating the Hohokam cultural tradition has been overridden by their newfound relevance to Mr. Wright.

The paradox of historical significance surrounding Taliesin West illustrates some of the complexity underlying how the significance of cultural heritage properties is determined, particularly concerning to whom they are significant and on what basis, and how those factors may change based on perspective as well as reconfiguration of the property. Understandably, the question of Taliesin West's historical significance to date has been focused on Mr. Wright. This study of the petroglyphs in and around Taliesin West has added a new chapter to the narrative of Taliesin West and illuminated an American Indian dimension to the property's significance. Fortunately, with the recent addition to UNESCO's World Heritage List, there is an opportunity to recognize the American Indian dimension to the land upon which Taliesin West now sits, as well as the peculiar relationship Mr. Wright developed with American Indian iconography and architecture. Indeed, these are factors clearly exhibited at Taliesin West, and ones the Frank Lloyd Wright Foundation values and deems worthy of recognition (Harboe Architects 2015:124).

A Paradox of the Organic

The cooptation of petroglyph-adorned boulders at Taliesin West shrouds the property in a second paradox. Underlying Mr. Wright's appropriation and re-presentation of the petroglyphs is a romantic equation of American Indians and their works with natural objects, an ontological legacy of colonialism

pervasive throughout American culture. Bousé (1996) refers to this as “cultural naturalization” the process whereby a dominant society casts communities of foreign, indigenous, and typically non-industrial backgrounds as extensions of nature on account of racial, cultural, and technological differences. Throughout Western history, such differences have been typically taken as innate inferiorities of indigenous communities and explained along culturally relative notions of morality and archaic socio-evolutionary grounds in order to naturalize and justify their subjugation by Euro-American settlers and institutions. In a post-colonial world, many may no longer regard indigenous communities in such a disparaging light, yet the Native-Nature equation persists. Bousé (1996:81) sees this as a failing on the part of the United States and its many political and civic institutions to “internalize the historic experience of American Indians as a part of what has been called ‘the American Experience.’”

The point here is not to unpack the Native-Nature equation with any degree of acumen, but to explore this thread as it permeated Mr. Wright’s understanding of American Indian culture(s) with specific regard to Taliesin West. Having lived through profound social and technological transformations wrought by industrialization and World War I, there is no question about Mr. Wright’s contempt for the increasingly crowded, polluted, and urbanized twentieth century. Organic architecture, and modernist architecture more broadly, was a reaction to classical and neoclassical schools of art and design and the social apparatuses they symbolized.

Reality is ever and always the nature of Nature but, to distinguish ourselves, we continue to assume and refer to a *Human Nature* because in such civilization, as we have known, civilization, fails precisely because it has not been made integral with, nor even natural to, Nature. Our civilization itself therefore, it still, in the affair of culture—antagonistic assumption? Have all attempts to build the fruitful life of a society failed because of such antagonism? Yes. [F. Wright 1956:13; emphasis in original]

For those who see the dominant society as tainted in some fashion, as Mr. Wright clearly did, the Native-Nature equation affords them an alternative, an antidote for the poisons of Western society. For the disillusioned, indigenous cultures and practices present a refreshingly useful paradox, in that it is easy to conceptualize indigenous communities as more civilized because they had not yet been corrupted by Euro-American civilization (e.g., Pearce 1953:138; Truettner 1979:70). It is this logic of “cultural primitivism” (Lovejoy and Boas 1935:7) that girds quotidian though controversial and romanticized caricatures

of the “ecological Indian” (Krech 1999) who lived in harmony with the natural world (Berkhofer 1988).

Mr. Wright drew inspiration from American Indian lifestyles and ingenuities as he understood them, practically to the point of reverence. In his writings, he repeatedly credited them, in a general and idealized sense, as teachers of natural principles of efficiency, simplicity, and aesthetics. The Native-Nature equation that buttressed such a worldview was duly amplified by the completely organic nature of American Indian architecture, a point of intrigue shared by acclaimed architectural historian Vincent Scully (1972, 1991). With such a primitivist frame of reference in mind, we can begin to understand how Mr. Wright conceived of the appropriation of petroglyphs—relics and symbols of American Indian ritualism—in organic terms. Although he surely acknowledged them as aesthetic products sculpted through human intention, American Indian petroglyphs were simultaneously objects of natural origin and beauty because they were of a primitive otherness that inherently embodied the values organic architecture aimed to materialize.

This romantic ideal of primitive Native America as somehow different from the modern world and its dominant societies, more natural than cultural, creates the paradox in which the practice and vision of organic architecture at Taliesin West involved a demonstrably inorganic manipulation of petroglyph-adorned stones. Yet just such a paradox lies at the heart of Mr. Wright’s genre of organic architecture. To him, the aim was not merely one of replication and mimicry of the natural environment, but improvement upon the basic foundations provided by nature. And since American Indian culture was paradoxically natural, it provided raw materials that could be improved upon. This sentiment is expressed clearly in Mr. Wright’s writings.

Nor is the Indian Hopi-house a desert house in any true sense. Even were the Hopi imitation no base imitation for us, it is too loud. The projecting poles soften it with shadows a very little; the native Indian got that far with it. But the Indian learned from the desert when he made pots or mats or beadwork or clothed himself. He got something of the spirit of the desert into all those things as we may see. The rattlesake [sic], the Gila Monster, and the Cacti may have taught him something we don’t learn.

But, Architecture, the great art, except on very primitive terms, was beyond him as Music and Literature. The Fine Arts are in themselves a finer civilization—or ought to be. They once were and will be again. [F. Wright 1940:10–11]

For Mr. Wright, American Indian art and architectural forms, with their purely organic bases, were a source of inspiration, but he believed American Indians were unable to grasp the higher levels of aesthetic refinement witnessed in Western fine arts (architecture, literature, and music), presumably due to their state as natural rather than cultural beings.

You are perfectly right in feeling the primitive in Taliesin West. In the ancient days of the race men were close to nature as a *child* to its mother. They were naturally inspired and taught by her forms. They had no choice.

Sophistication came with Science and what we call education to wean or warp them away from the simplicity of that childhood.

Well, Fowler [McCormick]—Taliesin West is modeled with that higher understanding—deeper than the simplicity of the *barbarian*, not copying his forms but drinking understanding from the springs from which he drank unconsciously. The result is not imitation but inspiration from the same source—now enlightened and furnished in action with more ample means to create symphony where before only the natural response of the child existed.

Modern art feels the need of the inner strength that comes from this eternal inspiration. But, being weak falls into imitation instead of creation. Of this imitation Taliesin is not guilty.

Taliesin West is as original as the Maya but far beyond it. More natural to environment and our life in that desert than the barbarians could have been in his time and consciously proud of it in this time. [Wright 1982 (1949); emphasis added]

From his own writings, both public and private, we can see how Mr. Wright reconciled the appropriation of the petroglyphs and their re-presentation in manners opposite their original context as an improvement upon the original form, an advancement upon what he perceived as primitive and adolescent yet eternally inspirational feats by American Indian predecessors.²¹ However, creating an edifice of art by repurposing indigenous sacral items as sculptures, and severing their connection to place, may rightly be regarded by descendant communities as acts of disrespect, or even violence, against their identities and histories. I raise this important point of critique not to chide Mr. Wright, but merely to situate his beliefs and actions within the social climate in which he operated.

Taliesin West was constructed long before most legislation aimed at preserving

and honoring American Indian heritage and cultural properties, and Mr. Wright passed away prior to the mounting body of social movements that have begun to empower descendant communities with regard to managing historic properties, controlling cultural knowledge, and practicing traditional religions. While an architectural visionary, in some regards Mr. Wright was also a man of his times, influenced consciously and subconsciously by his contemporaries, molded in part by history, and conditioned by the social world in which he dwelled. Indeed, as Levine (1988:69n51) pointed out, Mr. Wright's use of the petroglyphs was quite in line with the aesthetic primitivism of modern art (Rubin 1984), in particular the works of abstract expressionists such as Jackson Pollock and Adolph Gottlieb, who were coming of age at the time of Taliesin West's founding. With deep roots in colonialism, modernism's primitivizing gaze, which permeated the arts, humanities, and social sciences during the twentieth century, has come under considerable post-colonial scrutiny (e.g., Etherington 2018; Geertz 2004; Myers 2006; Torgovnick 1991). Among other things, the post-colonial critique regards the manipulation and repurposing of indigenous symbols and the fetishization of tribal identities and lifestyles as acts of cultural appropriation (Rogers 2018) and thus objectifications of and exertions of power over non-Western "others."

Mr. Wright's appropriation of petroglyphs at Taliesin West is situated in that historical frame of primitivism. This dimension of Mr. Wright's legacy, while controversial, is nevertheless humanizing, in that it humbles a historical figure to whom history has afforded a somewhat larger-than-life persona. It is perhaps ineffective and inconsequential to hold characters and actions of the past accountable by the mores and standards of today; to do so would doom nearly everyone—visionary and layperson alike. It is now in the hands of the Frank Lloyd Wright Foundation and the School of Architecture at Taliesin, Mr. Wright's legacy institutions, to balance past perspectives and actions with contemporary understandings regarding cultural patrimony.

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NOTES

1. The controversial petroglyph and pictograph interpreter LaVan Martineau—an Anglo-American man allegedly raised among the Kaibab Band of Paiute Indians who professed to have devised a system to decode American Indian pictography (Martineau 1973)—visited Taliesin West in 1989 and provided a reading of the petroglyphs, as discussed later in this article. That occasion, however, can hardly be considered documentation, let alone research.

2. Gronemann revisited Taliesin West on June 2, 1999, to record a petroglyph boulder the staff found near a basketball court built by the campus's students in the 1970s (see Boulder 8).

3. At the time of Gronemann's investigation, the Arizona State Museum (ASM) had already recognized the boulders incorporated into Taliesin West as part of AZ U:5:15(ASM), the site number given to the architecture. ASM therefore assigned Gronemann site number AZ U:5:36(ASM) for the boulders still present at the base of Taliesin Peak. Gronemann created a site record, a copy of which is on file in the Archives Department, Taliesin West, Scottsdale. In the accompanying report (Gronemann n.d.), she states copies of the site record, accompanying report, and associated documentation were on file at ASM. However, as of 2017, a search of both AZSite (ASM's electronic database) and ASM's physical holdings had not recovered a copy of these records. For all intents and purposes, AZ U:5:36(ASM) was never filed. As a result, in the course of their 2007 survey, WestLand Resources, Inc.'s (WRI) personnel did not find notation of Gronemann's prior work during their background research and records search at ASM. This is why WRI personnel failed to account for 9 of the 18 previously identified petroglyph-adorned boulders around Taliesin West. Moreover, this has resulted in the

boulders at the base of Taliesin Peak being assigned two site numbers: Gronemann's AZ U:5:36(ASM) and WRI's AZ U:5:328(ASM).

4. As originally designed and built, the entrance to Taliesin West faced southwest, with a sweeping vista across Paradise Valley, the Phoenix Mountains, Camelback Mountain, and the Salt River Valley beyond. This is the view that sold Mr. Wright on establishing Taliesin West at the foot of the McDowell Mountains, "The top of the world" (F. Wright 1943:452). Boulder 1 is front and center to this panorama as one looks out from the drafting room, where the visions of Mr. Wright, his apprentices, and current students of the School of Architecture at Taliesin are put to paper. By the mid-1940s, power lines had begun to cut across this majestic viewshed. Mr. Wright was offended by this perceived assault on the very essence of what he was attempting to achieve at Taliesin West. To him, the power lines were "pigs in a cornfield" and the "mark-up of Cain" (F. Wright 1949:15). After unsuccessfully petitioning President Truman to intervene, Mr. Wright literally turned his back on Paradise Valley by relocating the entrance to the main building's backside, with a view of Taliesin Peak to the northeast (McKay 2010).

5. Taliesin West staff had incorrectly told Buckles (2008:28) that the boulders within the Taliesin West campus were moved manually, without the aid of machinery.

6. A previous study (Russell and A. Wright 2008:Table 1; A. Wright and Russell 2011:Figure 6k) classified the squiggle lines attached to the concentric circles as a "pipette," a distinctive petroglyph design believed to have been a highly charged religious symbol throughout the American Southwest and northwest Mexico (A. Wright and Russell 2011). That impression was based on a published photograph (Cheeks 2008:50–51). After firsthand investigation, the design's likeness to a pipette petroglyph is no longer warranted.

7. There has been some confusion on when Mr. Wright established Whitman Square. The *Taliesin West Preservation Master Plan* places the inception of Whitman Square in the 1940s (Harboe Architects 2015:347), yet a statement by the Frank Lloyd Wright Foundation (2017) dates it to the early 1950s. According to Bruce Brooks Pfeiffer—a Taliesin Fellow and former director of the Frank Lloyd Wright Foundation Archives—the concrete slab at Whitman Square was set in place in the late 1940s or early 1950s (Uechi 2013:135n37). McLaughlin's photo clearly shows it in place by the end of 1949. The photo is part of the Supplementary Materials of the Collection of Herbert and Dorothy McLaughlin Color Photography and Other Materials, curated by the Arizona State University Library Arizona Collection, Tempe. The photo has since been published in Levine (1996:Figure 239).

8. As with the other McLaughlin photo, this one is archived in the Supplementary Materials of the Collection of Herbert and Dorothy McLaughlin Color Photography and Other Materials, in the Arizona State University Library Arizona Collection, Tempe. A published version can be found in Levine (1996:Figure 289).

9. The date of the visit to Casa Grande is not recorded, but it may have taken place before Taliesin West, during the days of the Fellowship's residence at Ocatilla Camp, near present-day Chandler. This would account for the Whirling Arrow's early influence at Taliesin West, long before Boulder 6 was put on display in the Entrance Court.

10. The labyrinth is a unique maze-like pattern often called "Troy Town" or "The Walls of Troy" on account of its portrayal in early Greek, Etruscan, and Roman media (Matthews 1922). Although the simple culture historical process of diffusion can account

for its depiction in multiple media across Europe and Scandinavia, explaining its limited depiction in American Indian media in the North American Southwest, specifically at Casa Grande, at a select few other locations, and in the O'odham "Man-in-the-Maze" motif (Fewkes 1907; Colton 1917, 1944; Grant 1967:65–66), continues to be a point of active research (Astroth 2019; Saward 2008).

11. Frank Waters (1963:52, 152), who interpreted the motif as a Hopi *nakwách* symbol of brotherhood, also considered it emblematic of the holding-of-hands during the final public dance of the tribe's Wuwtsim ceremony. Though popular and influential, Waters's *Book of the Hopi* (1963) was first published after Mr. Wright's passing in 1959, so it cannot be the source of Mr. Wright's interpretation. It will be forever left to speculation as to why Frank Lloyd Wright relied on a Hopi interpretation of the double square spiral as a symbol for friendship, when several other American Indian communities reside much closer to Taliesin West. Had Mr. Wright considered the perspectives of the O'odham of the Salt River Pima-Maricopa Indian Community, whose reservation is located just 4 kilometers south of Taliesin West, or the Yavapai of Fort McDowell Yavapai Nation 13 kilometers to the east, he may have come to regard the "Whirling Arrow" and the other petroglyphs near Taliesin West in a different light.

12. Apparently, there has been a long-standing rumor that Wesley Peters pecked a deer petroglyph on the grounds of Taliesin West in the late 1930s. Ken Lockhart shared this rumor with Gronemann (n.d., 2014). When asked by Gronemann over a phone call, Peters said he had done so to see if it could be done. From this exchange, Gronemann concluded that the antlered petroglyph on Boulder 14 was Peters's deer petroglyph. It is highly improbable that Peters created the antlered petroglyph on Boulder 14. For one, he never confirmed that his petroglyph was of a deer, only that he had attempted to make a petroglyph; that it was presumed to be of a deer derives from Ken Lockhart. Peters passed away before Gronemann (n.d.) could verify with him which petroglyph he supposedly made.

Independent lines of evidence suggest the antlered petroglyph is of a much older origin. The degree of repatination is similar to that of the other petroglyphs at Taliesin West. A modern petroglyph, even one that is 80 years old, would have a brighter, "fresher" appearance. Further, the antlered petroglyph was crafted with a direct percussion technique—stone-on-stone without an intermediate tool such as a chisel or punch. This is the standard technique for indigenous petroglyphs in southern Arizona (A. Wright 2014; A. Wright and Bostwick 2009), and not something that is readily apparent to non-archaeologists. Historic inscriptions, even those that attempt to replicate older petroglyph styles, tend to be made with other techniques, such as abrasion/scratching and indirect percussion with metal implements. Finally, the petroglyph in question is nearly identical to other indigenous petroglyphs in the greater Phoenix area. The likeness in style and technique far exceeds what would be expected of Peters—someone without awareness of the authentic production technique, who had just moved to Arizona and likely had not seen very many other petroglyphs in the area, and whose intention was simply to see if he could make a petroglyph.

13. Hoppen (1993:65) incorrectly called the stones of Taliesin West basalt. Archaeologists have also misidentified them. Gronemann (n.d.) classed the boulders as andesite, and Buckles (2008:Table 6) identified them as granite, both of which are

incorrect based on more recent geological investigations. Despite calling it Taliesin Quartzite, the geologists who mapped and named this material acknowledged that, in fact, it is in metamorphic stone—"light green to black, very fine-grained, platy to blocky, foliated quartzite, probably metamorphosed rhyolite and dacite flows and tuffs" (Christenson et al. 1978).

14. On the dust jacket for the original 1973 printing of *The Rocks Begin to Speak*, Martineau is introduced as "part Indian," undoubtedly an attempt to bring credibility to his alleged proficiency at reading ancient American Indian petroglyphs and pictographs. Similarly, photographs on the Martineau Archives (2016) website portray him in attire intended to be reminiscent of American Indian clothing and adornments, albeit not of traditional Southern Paiute fashion.

15. The discredited work of Rafinesque is also the basis for other works, such as those of Rajnovich (1994) and Patterson-Rudolph (1997:116–122), that use American Indian Sign Language as the source for "reading" American Indian petroglyphs and pictographs. While Mallery (1893:637–648) did report on the use of sign gestures in American Indian pictography, it is quite different than what Martineau and his protégés propose. Mallery identified cases in which portrayals of human figures appear to replicate hand and body gestures that also occur in American Indian Sign Language. Mallery surmised that decipherment of what the figures were gesturing in such pictographs could be made through analogy to the sign language.

16. Since Martineau's work, it has been shown that morphosyntactic processes of some varieties of American Indian Sign Language do exhibit polysynthetic forms (Davis 2010).

17. Gronemann (n.d., 2014:8) reported that Peters mentioned in a telephone conversation on January 16, 1991, that he had collected two bushels of pottery sherds. However, in a video interview with Neil Levine nine months prior, on April 5, 1990, he put the figure at "about three bushel baskets full" (Peters 1990:8). Evidently, the forty years intervening Peters's gathering of the pottery and his reporting of it to Gronemann and Levine has left some of the finer details murky. This level of misremembrance likely also factors into the debate on Peters's petroglyph-making activity as well (see note 12).

18. Mr. Wright variably called his camp Ocatilla (F. Wright 1932:305) and Ocatillo (F. Wright 1943:309), the latter being almost the correct spelling (ocotillo) for the common name of *Fouquieria splendens*, a thorny, desert-adapted plant. Mr. Wright decided to name the camp after this plant on account of the buildings' scarlet-colored triangular gables. The triangular gables were intended to reflect the surrounding mountainous landscape, whereas the reddish hue mirrored the same-colored triangular leaves of the blooming ocotillo, a Spanish word derived from the Nahuatl word *ocotl*, "torch."

19. It is not clear if Mr. Wright came to view petroglyphs as religious icons *and* sculpture, or if he grew to see them as artistic *rather than* sacral. As Levine (1996:465n54) points out, he removed the religious commentary about the petroglyphs near Ocatilla Camp from the second edition of his autobiography (F. Wright 1943). It may not be a coincidence that the revised autobiography was released soon after the initial construction at Taliesin West, when Mr. Wright had three petroglyph-adorned boulders relocated from their natural state and set upon daises within the campus. Of course, there is also the possibility that Mr. Wright retained his original perspective but took the liberty to wittingly repurpose Native American sacred objects as decorative items.

20. In some instances, Mr. Wright modeled his works as replicas of the surroundings more so than fitting the architecture into its surroundings. For example, with the design for the San Marcos in the Desert resort, Mr. Wright presented the edifice as a sort of effigy of the natural setting. The design was “an abstraction of mountain region and cactus life” (F. Wright 1943:314), with the iconic saguaro cactus—sentinel and symbol of the Sonoran Desert—“as motive for the building” (F. Wright 1938:68).

21. Mr. Wright similarly characterized African Americans as child-like in personal correspondences regarding his design of a Rosenwald School planned for the Hampton Normal and Agricultural School (now Hampton University) in Virginia (Wilson 2017).

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