The Desert Aesthetic of Frank Lloyd Wright: A Comparison of Taliesin West and Grady Gammage Auditorium

The city of Phoenix Arizona is famously named for the legendary bird that died and was regenerated from its ashes. It is here that Frank Lloyd Wright traveled in February 1928 to assist in the planning of the Biltmore Hotel. Already Wright's life seemed to parallel the myth of the Phoenix with its tale of fiery death followed by glorious rebirth. In 1914 Wright had endured the destruction by fire of his Wisconsin residence, Taliesin, and the murder of his companion and her children during that same disastrous event. He had weathered a failed first marriage, social ostracism brought on by his subsequent affair with his client ((Mamah Borthwick, the murder victim), another fire in 1925, and professional and financial setbacks. Yet, at over sixty years of age, newly married to a woman thirty years younger than himself, he would begin his encounter with the Arizona desert, a love affair that, like that with Olgivanna, would last the rest of his life.

It took ten years for Wright to establish roots near Phoenix and he did so just in time to witness its transformation from a sleepy farming center surrounded by pristine desert to the burgeoning metropolis it showed signs of becoming by the time he died in 1959. When Wright first visited in late 1928, Phoenix had a population of just under 50,000 inhabitants. By 1960, that number had more than doubled and Phoenix was well on its way to status as a major American city. Two of his buildings executed during these years reflect the inherent qualities of the Arizona desert Wright so loved and are representative of the evolution of the area from a sparsely populated, arid expanse punctuated by ancient Indian ruins, rugged mountains and cactus to the dynamic and glittering hub of culture, business and the arts that it is today. The first building, or rather complex of buildings, Taliesin West, embodies the pioneering spirit of the early days of Phoenix; indeed it was conceptualized as a camp or kind of tent compound when Wright excavated the land in 1937. The second, Grady Gammage Auditorium, named for the visionary president who would oversee the evolution of Arizona State University into a top-class institution of research and learning, was elegant and reflective of the increasing sophistication of the city. It was completed in 1964, five years after the deaths of both Wright and Gammage.

This essay will explore how these two very different structures reflect Wright's desert aesthetic, to what degree they embody his principles of organic design, and how they respectively mirror, on the one hand, the underlying and unchanging spirit of the land and its ancient history, and on the other its dynamic role as a southwest repository of Western culture.

Today, the road named for the architect, Frank Lloyd Wright Boulevard, cuts a wide swath running east from Scottsdale Road to Pima Road where it begins a wide curve south to run along the base of the McDowell Mountains until it reaches its end at Shea Boulevard. The street gets its name from the fact that at the point where it intersects with Cactus, where in fact Cactus ends, a narrow and winding but well paved road ascends another mile up into the McDowell foothills. Along the sides of the road, despite the heavy residential and commercial development below, one can still enjoy views of the starkly beautiful Sonoran Desert with its signature Saguaro cactus dotting the landscape like sentinels. Though these majestic cacti are now joined by towering electrical pylons

that straddle the land as far as the eye can see, one can still get a sense of the site as it was when Frank Lloyd Wright first selected it as winter home for his Fellowship in 1937. It was "bold, expansive and raw," and as his wife described it, "strewn with rocks, and gutted by deep, dry washes." In what is today North Scottsdale, the 600 acres lie twenty-six miles northeast of Phoenix. Now as then the low rise supporting the structure affords splendid views of the entire Valley of the Sun below with the landmark Camelback Mountain rising up in the middle of the broad mesa ringed by different mountain ranges all around. "Living in the desert is the spiritual cathartic a great many people need. I am one of them," Wright wrote.²



Fig. 1. A first view of Taliesin West

Where the road abruptly ends in an unassuming asphalt parking lot, there is still not much to see of Taliesin West itself - a pyramidal red roof beam and a low jutting rock wall, the shape of both repeated in the first low mountains rising behind. To the right is a low concrete bunker of a building with, surprisingly, perfectly round windows so low one must bend over to look within, while to the left stands a strange tower like a rectangular, upended rock wall inclined towards the right and balanced by a long spire at a corresponding angle to the left. This last is the first taste of whimsy and promises more to come. This entrance is subtle and curious; it requires surrender to the experience. It does not shout loudly but rather whispers of an elemental journey through an ancient space. The visitor today is kept at bay here with just the barest of glimpses until purchasing a ticket at the bookstore to the left and around the corner from the tower. Once this step has been taken, however, the entire complex begins to unfold like a path through ancient ruins, or like a trail through the cactus-studded mountains which rise startlingly just behind.

Taliesin West was laid out on a strict north/south axis but constructed piecemeal from 1938 when the first ground was excavated and roads built to the early 1940s when the interiors were given finishing touches. As Bruce Books Pfeiffer observes, "He planned the structure carefully – placing the complex of buildings up against a hill

¹ Bruce Brooks Pfeiffer, <u>Frank Lloyd Wright's Encounter with the Arizona Desert (Taliesin West, Scottsdale Arizona: Frank Lloyd Wright Foundation, Winter, 2005), 5-7.</u>

² Kathryn Smith, Frank Lloyd Wright's Taliesin and Taliesin West (New York: Harry N. Abrams, 1997), 88.

between a large wash to the west and a smaller wash to the east." ³ In the order of construction, Wright seems to have taken his early mentor, Louis Henry Sullivan's dictum "Form follows function" to its starting point and working areas came first with real living quarters following later. Conceived of as "the camp," the center of a way of life dedicated to architecture and based on the life of the Taliesin Fellowship, the first room constructed was the drafting room followed by the kitchen, dining room, apprentices' apartments, Wright's office, and finally the "Kiva," a half-submerged underground chamber based on the dwellings of the Pueblo Indians. This last room served as a small theater for the showing of films and for dining. ⁴ It was, as a tour guide will inform you, also a sort of multi-purpose room used for meetings and even sleeping when the weather was bad. With walls 2 feet thick and light provided by pendant lighting in the corners and innovative floor lights, the room provides the coziness and unassailable security of a cave or perhaps a frontier fort. This last impression is strengthened by the "Lincoln log" decorative trim running along the far edges of the ceiling and repeating the rectangular pattern in the center.

Because Taliesin West served as a sort of laboratory where Wright could experiment with forms and spatial ideas, and because the buildings needed to respond to the needs of a larger Fellowship over time, the buildings were never truly completed in the usual sense of the word. Additions and modifications have continued from the earliest days. In the early 1950s, when the Kiva proved too small to accommodate the expanded activities, a larger playhouse was built – the Cabaret-Theater. Here the company enjoyed formal dinners on the weekends with movies and music following. Moreover, Wright remained open to innovations and solutions to problems such as leaking roofs during desert storms. While the camp-like atmosphere was maintained – indeed from 1937-1945 the entire compound was open-air and used no glass whatsoever - he eventually enclosed certain areas that had been open to the elements with glass, taking care, however, to miter the edges of the glass together to maintain an unobstructed view of the outside.⁵

Function was never far from Wright's mind as he experimented with Taliesin West and nature was always his greatest inspiration. Wright included humans in this scheme. The dimensions of an average man and woman often determined the size and shape of his architectural features and the furniture he designed for each space. An example of this is the low entryways, a feature especially noticeable in our age of cathedral ceilings and the current "bigger is better" mentality from the vehicles we drive to the houses we live in. Wright argued that as the average person was rarely over six feet in height, his doorways could stop there. He designed his living room and the chairs in it with a similar reasoning. The room measures 56 by 34 feet, enough space to allow everyone a seat. He designed the chairs in this room based, again, on the actual average height of a man and a woman and angled the arms low on purpose to provide more comfort. He is said to have claimed that no matter what a person looked like, he would look good in one of his chairs.

³ Pfeiffer, 12.

⁴ Smith, 89.

⁵ Tours of Taliesin West provide much of the information provided here and throughout.



Fig. 2. A view of the tent-like wood beams and canvas panels in the living room. Note also the unusual chairs.

Taliesin West functioned as a school, living quarters, and a center for entertaining. In each arena Wright showed the greatest sensitivity to the activity taking place in the room. An intriguing feature of the Cabaret-Theater, for example, is the fact that the stage is bigger than the area allowed for the audience. Moreover, the seats are in a natural incline allowing a natural stadium seating arrangement. A particular peeve of Wright's led to another innovation; hating late guests, he developed the concept of aisle lighting at the base of the seats. And ever sensitive to the dimensions and natural poses of the human body. Wright angled the seats in each row in such a way that when guests crossed their legs, and threw one arm over the back of the seat, as they inevitably did, they would be facing directly towards the stage and thus be able to watch the performance in greater comfort. While many aspects of Taliesin West may bring to mind the word "monastic," as one woman on the tour I took commented, it is clear from these elements of his design, and from the attention to details of living at "the camp" that included fresh and varied foods, sumptuous parties, artistic performances of the highest caliber, and furnishings from Wright's own extensive collections of Asian art, that far from depriving the senses, Wright heightened them by paring down his spaces to the essential in complete harmony with the environment and with human needs. He considered beauty one of those needs.

Beauty was something that very much concerned Frank Lloyd Wright, beauty that sprang from a balance of natural forms, from the transformation of space in his interiors into something flowing and dynamic, from a tasteful play of primary colors in rich hues, and from the use of natural materials. This latter element coupled with his appreciation for unpainted wood and decorative motifs copied from nature marked him as inheritor of the rich traditions of the nineteenth-century Arts and Crafts Movement. 6 Like Sullivan before him, he carried this highly stylized ornamentation based on flowers, plants, and other natural forms into the twentieth century as he applied the science of geometry to them. Indeed for Wright, design was simply a "geometric abstraction of nature." In this as in his personal life, Wright was bucking convention. But now, it was not a conser-

⁶ Eric Peter Nash, Frank Lloyd Wright: Force of Nature, (New York: Todtri, 1996) 14.

⁷ Nash, 55.

vative, traditional convention but the new aesthetic of the machine age embraced by international architects such as Walter Gropius of the Bauhaus in Germany and Le Corbusier of France. Where the former espoused the idea that "less is more," and the latter conceptualized the house as "a machine for living" with all the stripped-down minimalism that expression implies, Wright delved deeper into color, decoration, thematic possibilities and symbolism, managing to integrate it all into a harmonious material symphony of form, color, space and light.

By the time Wright set up camp in Arizona, these harmonies and themes had been uniquely expressed in a wide variety of lyrical buildings from his own Wisconsin home, Taliesin, (1, 2, and 3), to Fallingwater in Pennsylvania, to his neo-Mayan concrete-block palaces in California, to name just a very few examples. Now he was ready for something on a vaster, experimental plane, something where his love of geometric forms could have free reign. "Arizona seems to cry out for a space-loving architecture of its own," he wrote. "The straight line and flat plane must come here... but they should become the dotted line, the broad, low, extended plane textured, because in all this astounding desert there is not one hard, undotted line to be seen." What resulted at Taliesin West was a series of terraces, breezeways, courtyards and rooms at times open, airy and spacious, or small, intimate and cave-like, all set on a starkly angular plan. It was the expression of Wright's famous principles of organic architecture in an entirely new and untried environment.

Wright had developed these principles over the course of forty years and Taliesin West, "so much an organic part of its site that it seems to have been formed by a force of nature," 10 embodies each of them. Wright's criteria included: Simplicity and repose; that the site be incorporated into the design; that the building express the owner's and the project's individuality; that the colors be drawn from nature; that the building be true to its nature and materials; and that the building express a spiritual integrity. ¹¹ Moreover, Wright's big themes - the hearth and the low sheltering roof - were incorporated here. These themes are ones that resonate keenly with all people and identify Wright's deep humanity and his concern for how people really live. Finally, the building expresses his early idea of "articulating the continuity of space," of opening up rooms so that they flow into one another, making space dynamic. He achieved this through contrasting high and low ceilings, through "working away at" the wall, and by building in extended vistas between rooms. The entire enterprise illustrates one of Wright's earliest ideas - the "destruction of the box," ¹² something he clearly achieved at Taliesin West. And ultimately, this paean to the rough but lyrical nature of the desert is a vivid illustration of Wright's definition of architecture, that it "is the scientific art of making structure express ideas."13

Walking through Taliesin West, evidence of Wright's ideas and philosophy are everywhere tangible. Not only could this place be called organic, it is elemental. The most striking aspect of this lies in the materials, in particular the stones from which the walls are formed. Hauled in from the mountainside behind the camp, they were placed

⁸ Nash, 42.

⁹ Pfeiffer, 7.

¹⁰ Nash, 61.

¹¹ Nash, 34.

¹² Nash, 21.

¹³ Sylvan Barnet, A Short Guide to Writing About Art, (New York: Pearson, 2005) 76.

into large frames with a quantity of desert sand and then covered with concrete which, when dry, formed massive if often low stone walls that appeal to our most primitive sense of shelter. Some spaces are cave-like, covered by low ceilings with only small clerestory windows for light. Others, as in the wide breezeways, exude the essence of canyon passes in shifting patterns of shade and sun. This is the bedrock of the place, figuratively and literally.





Fig. 2 and 3. Rocks hauled from the desert provide both color and texture.

Wright, citing this new and unique use of traditional materials, called it "desert masonry rubble walls." Along with rock, the next most prevalent materials here are wood beams, originally redwood, and canvas, this latter stretched tight on frames to form slanting roofs. Pfeiffer rightly observes that the beams and canvas formed "a great abstract tent of stone, wood and textiles." Indeed, though visitors in the summer can appreciate the enclosure by glass of the entire compound, one can only be wistful of the lost opportunity to experience it as it was with the sharp desert breezes smelling of creosote and dust prodding the canvas, the wonderful diffusion of light, a light that cast no shadows, and the complete integration of the indoors and the outdoors.

If Wright followed his principles of organic architecture with the materials he did so with every other aspect of the buildings as well. Though noisy civilization has crept up on the site, here one still feels a sense of simplicity and repose. The broad vistas over the Valley, the buffer of the mountains just to the east, and the stillness of the desert create a haven for the visitor. This is enhanced by the way the site is incorporated into the design; low walls meld into the landscape while the obviously geometric forms echo the mountain peaks. Pfeiffer expresses it distinctly when he describes the "Bold forms,

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¹⁴ Pfeiffer, 14.

sloping walls, and upturned beams that echo the mountains beyond; and open and spacious terraces much like the vast desert below." ¹⁵ As for color, everywhere the reds, oranges, tans and whites are mirrored in the spectacular surrounding desert strewn with a rugged carpet of sand and multi-colored rocks, peaceful under the brilliant cerulean sky punctuated by clouds as voluminous as sailing ships.

Most significant is perhaps the last in Wright's list of criteria: Does this building express a spiritual integrity? The answer to this lies in the intersection of space and time here and the way both evoke a sense of passage. The layout of the buildings and terraces move the visitor along on a path where unexpected vistas are revealed, where variously dark and cool or sunny and bright throughways and doorways invite and intrigue. It is hard to envision this layout with its variety and visual surprises while moving through it just as it is hard to do so in nature. And as in nature, while unique features delight, there is a sense of unity and cohesion, and of great expanses of time. A step into Taliesin West propels the visitor back to the remarkable years of modernism, then further back to Arizona's historical past, and finally to the deep geological past embedded in the very substance of this place.

It is this last, pervasive sense of the primitive that connects this structure so intimately to the land. But this is not to dismiss the deep aesthetic pleasure which is derived from the overlay of design and art. As the architect wrote, "You are perfectly right in feeling the primitive at Taliesin West. . . Taliesin West is as original as the Maya but far beyond it. More natural to the environment and our life in that desert than the barbarian could have been in his time and consciously proud of it in this time." The result is something beyond the ancient sites that still move and delight us. As Philip Johnson observed, what Wright created at Taliesin West was "the most intriguingly complex series of turns, twists, low tunnels, surprise views, framed landscapes, that human imagination could achieve." Indeed, he declared it to be "the essence of architecture."

If Taliesin West is, at heart, a primitive camp, an elemental manifestation of Wright's principles of organic design as applied to the desert environment, Grady Gammage Memorial Auditorium is a great, graceful coliseum of the desert. With floor-to-roof sheets of glass engirdling its front façade, when lit it suggests various fantastical and beautiful objects: a flying saucer, a merry-go-round, a grand, glowing circus tent supported by slender poles, a wedding cake. Where Taliesin West embodies the spirit of the ancient landscape, Grady Gammage celebrates the promise of a dynamic new city of the future, one rising out of dust and sand. Where Taliesin West flows with and blends into its surroundings, Grady Gammage dominates the land it sits on like a saucer that has just landed and from which something marvelous will soon disembark. Finally, where the "camp" places a soothing hand on the brow, Gammage (as locals refer to it), excites the senses with its suspended balls of light, and its incandescent interior. All this is in keeping with its purpose as a memorial auditorium on the grounds of the premier educational institution in a burgeoning American city.

Grady Gammage Auditorium is the only public building in Arizona designed by Wright, though he submitted plans for many he would have liked to build, including a

¹⁵ Pfeiffer, 23.

¹⁶ Pfeiffer, 19.

¹⁷ Philip Johnson, <u>Writings</u> (New York: Oxford University Press, 1979); rpt in <u>Frank Lloyd Wright's Taliesin and Taliesin West</u> by Kathryn Smith, (New York: Harry N. Abrams, 1997) 90.

futuristic new state capitol to be built in the stunning red-rock desert reserve of Papago Park. It was dedicated to Wright's friend and President of Arizona State University for twenty-seven years, Dr. Grady Gammage, a man "called the 'Architect of ASU." ¹⁸ This was the last major architectural design of Wright's life, one on which he worked enthusiastically during the last two years of his life; neither he nor Gammage lived to see it executed, however, both dying in 1959. None the less, the auditorium was the culmination of the hopes of both - for Wright, to provide Arizona with one stunning public building, and for Gammage, to realize an auditorium for Arizona State University built by the world's greatest architect.¹⁹

Plans for the auditorium date back to 1957 when the two men selected the site – fifteen acres in the southwest corner of ASU's campus, an environment with mostly modern buildings distinguished by shady, sunken terraces within a pedestrian mall pattern. Palm-lined avenues, splashing fountains and sub-tropical greenery contribute to the feeling of an oasis in the shimmering heat of the desert. Its circular frontage is bounded by Apache and Mill Avenues, busy thoroughfares. For Wright, the site immediately suggested the form; "The structure should be circular in design-yes, and with outstretched arms saying 'Welcome to Arizona!'" ²¹



Figure 2 View from the North West showing one of the sweeping pedestrian bridges.

While the setting inspired the exterior form Gammage would take, function dictated the dimensions; the auditorium is 300 feet long by 25 feet wide by 80 feet high. The structure would serve both the university and the community and, as a public space for performance, would need to accommodate a large crowd. It would have to be adaptable for events such as grand operas, musical and dramatic productions, symphony concerts, organ recitals, chamber music, solo performances, and lectures. How Wright

¹⁸ James O'Connell, <u>Gammage</u>, photo-copy of twenty-fifth anniversary souvenir catalogue, courtesy ASU Public Events, (Tempe, Arizona: 1989).

¹⁹ Dean Smith, ed. Grady Gammage Memorial Auditorium, (Arizona State University: 1964) 5.

²⁰ O'Connell.

²¹ Smith, Dean, 10.

fulfilled the functional requirements of this building while keeping true to the motif of the circle is poetry itself.

Gammage is essentially a marriage of two circular, slightly overlapping forms. The dominant element is the great audience hall with surrounding lobbies and promenades. This is encircled by a lofty colonnade, as striking viewed from the interior as from the exterior. The stage and working areas constitute the second and smaller circle; these include four floors of rehearsal and class rooms for the music and drama departments of ASU. This circular plan, like that of the ancient Coliseum in Rome and natural stadiums in Greece, allows for an easy flow of traffic on the main floor as well as on the grand tier and the balcony. Traffic is controlled through the twenty-four portals at the sides and back. Wright enhanced this by spacing his rows forty-two inches apart, thus eliminating the need for radial aisles. He considered flow out of the building as well as within it and designed long, functional pedestrian bridges extending 200 feet on either side, the "welcoming arms," to provide direct access to the parking areas thus preventing congestion.²²

Everywhere the curve and the circle predominate, giving all the elements of this building an organic form suggestive of the feminine, the fertile, the full and voluptuous. Wright allows nothing to disrupt these flowing lines. In the audience hall the grand tier creates a great uninterrupted sweep across 145 feet of air, connected only at the sides. The balcony above it completes this upward sweep. The lobby, too, extends in a gentle curve and, highlighted by a semi-circle of soft ceiling lamps, seems to cocoon the artlover in a soft embrace. The form echoes throughout the building in small, delightful details such as the drinking fountains, the door handles, the house lights, down to the patterns in the carpets; one thinks of scallops, moons, lollipops. Form, design and space come together in a harmonious integration at once clean, elegant, dynamic, and sensuous. It is grand yet intimate, voluminous but warm. It is like being in a spacious and pearly shell.



Figure 3 Carpet pattern



Figure 4 A drinking fountain



Figure 5 Wall decoration

²² Smith







Figure 7 Window trim



Figure 8 Curving lobby

Fig. 6-12. Examples of interior designs carrying through with the circle motif; this repeating form contributes to the continuity from space to space and from floor to wall to the vaulted space above.

Wright was also ever sensitive to the human response to color, and in keeping with his organic principles, the colors of Gammage speak just as loudly of the desert as those at Taliesin West. Now, though, it is the desert hues of sun-baked clay mesas achieved through an almost monochromatic application; Wright used fifty-seven shades of Terra Cotta at Gammage. ²³ The effect is that of an Arizona sunrise, the rooms suffused with a warm glow variously rose, peach, seashell pink, orange and terracotta. Small accents in turquoise once surrounded the interior wall scones, and today can be seen only in the carpet design. The effect is one of turquoise on sandstone, or of crystalline streams running through the red rock of Sedona.

Just as the mode of construction at Taliesin West, one based on more traditional methods revolving around the rock wall and the sheltering roof, is in keeping with the primitive simplicity of the finished structure, that at Gammage befits its more modern and cosmopolitan identity. Wright used the latest modes of construction and the most up-to-date materials. This is perhaps most evident in the circular steel frame, as well as with the mammoth steel beams, such as the 145 foot steel box girder that supports the remarkable grand tier in the great hall. He made extensive use of concrete, recognizing its superior compressive strength, for elements such as the 55-foot columns supporting the roof, and he used reinforced concrete for the floors. Exterior walls are of brick and marblecrete while the interior is constructed of colored cement plaster, brick veneer, and ornamental cast concrete. These materials provide a rich texture, and combined with the sand finish plaster on columns and selected walls inside, provide a pleasing contrast with the sleek glass windows all around.

If Grady Gammage Auditorium seems a less organic structure than Taliesin West, let's return briefly to Wright's six points. The architect's adherence to the circular motif, the placement of the building on generous, green acreage well away from other buildings, and a minimum use of decoration on both interior and exterior walls contribute to the simplicity and repose that is the first requirement. This is enhanced by the wide and leisurely walkways and breezeways, from the promenade on the third level punctuated by fourteen decorative pillars, to the gently curving lobby, to the outstretched pedestrian bridges. These spaces encourage a leisurely stroll and enjoyment of the building and the sights afforded from it. Wright clearly took the site into consideration for the design;

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²³ Smith

indeed, as has been noted, the site inspired the circular motif. The building expresses the individuality of the state of Arizona, (if that can be said to be its owner), and the institution for which it serves as a landmark – ASU – from its design which incorporates elements that resonate with all Arizonans; the textured, curving walls and soaring spaces speak of deep canyons while the great windows facing northwest permit illumination akin to the sun-lit open mesas. The colors, too, speak of the land, of its rock and sand, its clay tiles and pots. And for all its aesthetic appeal, the building knows what it is and fulfills its role admirably; that is, it is true to its nature, accommodating all kinds of performances. This is facilitated by its adjustable forestage, its collapsible orchestra shell, and its Aeolian-Skinner pipe organ, to name just a few elements. Finally, though it is indisputably a sophisticated and some might say elite structure in comparison to its cousin Taliesin West, itself a sort of modern primitive, Gammage expresses the spiritual integrity that comes with the realization of Wright's driving philosophy - the integration of art, music, architecture and life.

"Integration" is certainly a word one can apply to the breadth of Frank Lloyd Wright's work and it is interesting to note how he achieved it in two such different buildings as Taliesin West and Grady Gammage Auditorium, buildings in which the differences seem to speak much more loudly than the similarities. Where Taliesin West stays close to the ground, Gammage soars inside and out. Where Taliesin West employs all natural materials and traditional methods of construction, Grady Gammage expresses the new in both areas. Where Taliesin West is a camp in the desert, Gammage is the seat of culture and the arts in a rapidly expanding commercial, residential and information-age center. Yet, in both buildings Wright achieves a harmonious integration on several levels: integration of the inside and the outside; of the massive and the airy; of form and space; and finally of art and life. Both works of architecture are vivid testaments to a creative mind that was as unrestricted, as wide open, as the expanse of the Arizona desert itself.

²⁴ Smith.

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Digital Images

All photos except those otherwise indicated are from private archives of the author. Bay, Stephen. Fig. 5 in <u>Bay Images.</u> http://bayimages.net/phoenix/grady-gammage-auditorium/. 20 July 2005.