

PRIX
MARTIN ELI WEIL
PRIZE 2013

ORGANIC ARCHITECTURE AND INDIGENOUS DESIGN TENETS: FRANK LLOYD WRIGHT IN RELATION TO THE WORK OF DOUGLAS CARDINAL

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It is known that Frank Lloyd Wright had an interest in Indigenous North American culture, as made evident by several architectural commissions and records from his personal life.¹ Scholars such as Anthony Alofsin, Vincent Scully, and Donald Hoffman detail Wright's interest as part of a larger discussion surrounding the topic of influence. This essay is not concerned with influence, but rather a desire to examine the relationship between Wright's concept of organic architecture and Indigenous North American approaches to the environment and built form. Architect Douglas Cardinal, who has spent the greater part of his career designing for First Nations communities, outlines several such approaches in his collected writings, *Of the Spirit*. In a close analysis of Cardinal's work for First Nations communities, I intend to demonstrate the relationship between Wright's architectural philosophies, Cardinal's design style, and First Nations perspectives on architecture.

ORGANIC ARCHITECTURE AND OF THE SPIRIT

While Wright's concept of organic architecture has been interpreted in various capacities, he most consistently defines his philosophy as based upon the concept of an integrated and unified whole. In his final revised edition of *The Living City*, Wright directly addresses the issue:

The use of the term "organic" in architecture applies to a concept of intrinsic living and of building intrinsic and natural . . . the term should be a daily working concept of the great *altogether* wherein features and

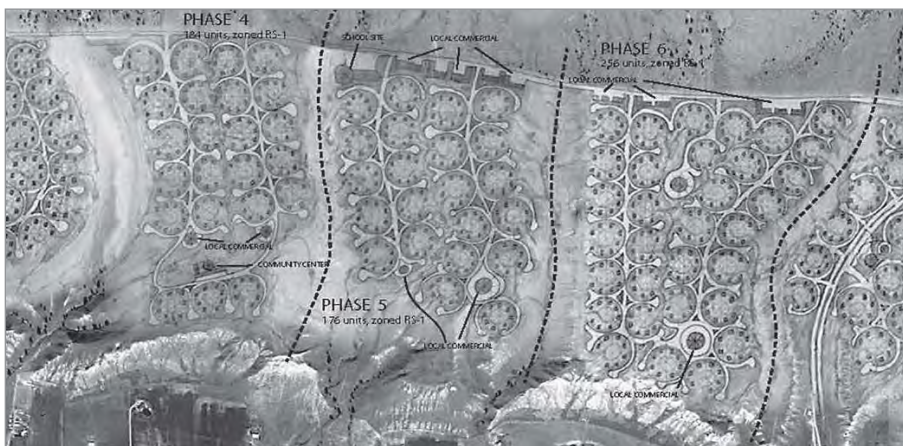


FIG. 1. DOUGLAS CARDINAL ARCHITECT INC. KAMLOOPS BAND USE PLAN. 2005. | DOUGLAS CARDINAL ARCHITECT INC.

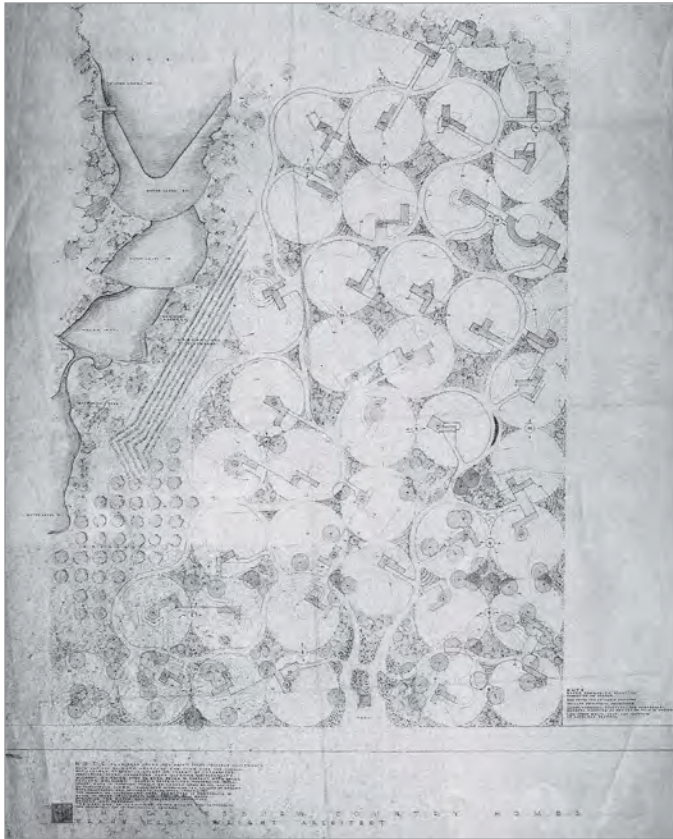
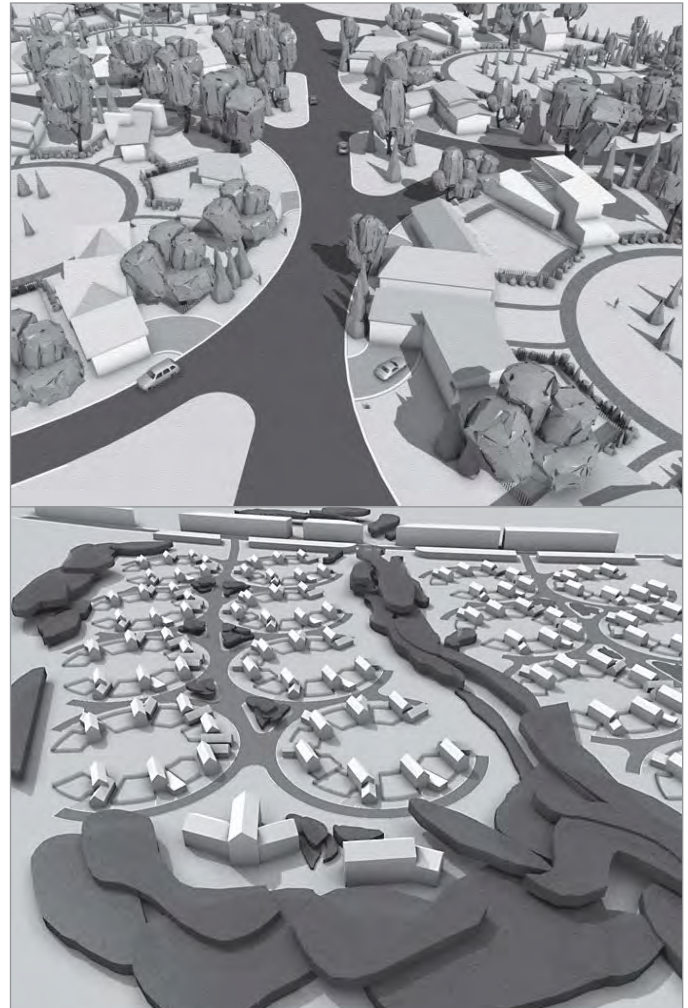


FIG. 2. FRANK LLOYD WRIGHT. PLAN FOR GALESBURG COUNTRY HOMES. KALAMAZOO, MICHIGAN. 1946-49. COURTESY THE FRANK LLOYD WRIGHT FOUNDATION ARCHIVES (THE MUSEUM OF MODERN ART | AVERY ARCHITECTURAL & FINE ARTS LIBRARY, COLUMBIA UNIVERSITY). ALL RIGHTS RESERVED. | THE FRANK LLOYD WRIGHT FOUNDATION ARCHIVES (THE MUSEUM OF MODERN ART | AVERY ARCHITECTURAL & FINE ARTS LIBRARY, COLUMBIA UNIVERSITY). ALL RIGHTS RESERVED.



FIGS. 3-4. DOUGLAS CARDINAL ARCHITECT INC. MASTERPLAN FOR THE YELLOWQUILL NATION. 2009. | DOUGLAS CARDINAL ARCHITECT INC.

parts, congenial in form and substance, are applied to purpose as congenial . . .²

In his writings regarding the future of First Nations architecture, Cardinal emphasizes similar ideas concerning the integrated whole and intrinsic living. He discusses the holistic philosophy underlying every aspect of First Nations life in which the interrelated and unified whole is considered sacred.³ In community planning for example, the relationship of buildings to one another and their place within the whole is of the utmost importance to Cardinal's design schemes.⁴ Similarly, this

holistic ideology involves living "in sympathy with the natural environment."⁵ In architectural form, Cardinal translates this into structures that are built close to the ground, address the natural landscape, and employ local materials; all attributes seen to be characteristic of Wright's own work. In their respective writings, both Wright and Cardinal describe the ideal building as "growing" from its site in a manner compatible with its natural surroundings.⁶

According to Wright's Usonian vision, housing should not only be integral to

the site but integral to the life of its inhabitants.⁷ In his early writings on the Prairie home, he stated: "there should be as many kinds of houses as there are kinds of people and as many differentiations as there are individuals."⁸ It is this aspect of Wright's philosophy that resonates the strongest with Cardinal.⁹ In a statement defining his own organic philosophy, Cardinal writes that "The potential users of the project provide feedback and direction to sculpt the plan and facilities from the inside out . . . Each cell or space has a particular function, like that of the human body."¹⁰ Working within

this organic philosophy, Cardinal has developed an in-depth form of analysis in which he asks at least sixteen basic questions to the client. These answers are then entered into a database that is scaled in relation to room samples to establish actual room use and attain maximum functionality.¹¹ His First Nations projects in particular have involved intense community consultation, with Cardinal commonly revising his plans according to the client's input¹² (Wright was not so accommodating). Indeed, Cardinal's approach to the client-architect relationship is an extremely democratic one.

Finally, it is important to mention Wright's belief in the metaphorical significance of the fireplace as "the heart of the whole, and of the building itself."¹³ The central role of the hearth is evident in his Prairie house designs, while in his later Usonian designs, the kitchen (a related space) takes on this position within the home.¹⁴ In *Of the Spirit*, Cardinal describes the role of the fireplace in First Nations communities as that element which keeps every clan in close and constant contact with the whole.¹⁵ As an architectural component, it has informed structures built by both Wright and Cardinal.

THE MASTERPLANS

The philosophies outlined above can be identified in Cardinal's masterplanning projects such as the Yellowquill Community plan and the Kamloops Indian Band plan. The influence of Wright on Cardinal is very much obvious (and a testament to his connection with Wright's principles), yet his plans are uniquely Indigenous, as will be demonstrated.

In his design for the Kamloops Reserve (fig. 1), each structure is considered in relationship to the greater whole; the geometry of the individual structures

relates to their arrangement in the landscape, and to the structuring of the entire community (the plan is based on variations of the circle and the octagon). The organization of dwellings into clusters is reflective of the band's traditional mode of living. These clusters then share a central communal space and are arranged in a non-hierarchical manner. For Cardinal it was essential that there be a dispersal or "integration" of parks throughout the plan, as opposed to one centralized green space.¹⁶ It is interesting to look at this project in comparison to Wright's quadruple housing plan, where Wright has divided houses into distinct groupings of four, wherein each group is walled-in to reinforce unity.¹⁷ Wright has also considered each unit in relationship to the entire group,¹⁸ using variations on the rectangle/square throughout the block plan. Like in the Kamloops project, areas of greenery are dispersed throughout, and car traffic is relegated to the periphery of the housing groups. There is also a non-hierarchical structure or "picturesque standardization"¹⁹ (as Wright deemed it) within the block. The four houses appear to share a communal garden space and shed area in the centre, but unlike Cardinal's plan, the plots are clearly delineated.

In his later community designs (1939 onward), it is easy to observe how Wright directly addresses the existing landscape. He also makes more frequent use of organic curvilinear forms (as is more commonly seen in Cardinal's work). For example, in his plan for the Usonia 1 project in East Lansing, Michigan, Wright developed the community around the landforms and the views.²⁰ He also developed the roadways and the plantings "to obscure any perception of the underlying geometric structure in favor of an emphasis on natural place."²¹ In his Galesburg community plan (fig. 2),

individual lots are adapted to the gently rolling topography. Similarly, Cardinal developed his plans for the Yellowquill Nation (figs. 3-4) around the ravine that runs through the estate, and developed the roadways to suggest a continual organic flow. He also uses an L-shape formation for his homes, as was typical of Wright's Usonian designs. For the Kamloops band use plan, one of the first steps for Cardinal was identifying areas of environmental concern, and the grounds indigenous to animals and plant life.²²

In his desire to create a fully integrated master plan, Cardinal conducted several consultations not just with band leaders but the entire community, receiving input from every level.²³ In designing the Ouje Bougoumou community in Northern Quebec, he consulted with the community eight times before finalizing a scheme.²⁴

Ultimately, it should be noted that while the homes in Wright's communities remain aesthetically integrated, they are not socially integrated in the manner of Cardinal's First Nations communities. In fact, most of the homes in Wright's communities are resolutely isolated in their individual lots. While there is opportunity for communal activity, it is not directly incorporated into the lot design as is seen in Cardinal's plans. Wright advocates for an integral relationship with nature, not with one's neighbours.

AN IDEAL SCHOOL

Scaling down to the level of individual structure, it is most informative to look at Cardinal's designs for First Nations schools in relation to Wright's concept of organic architecture. For example, Cardinal employs fractal and non-Euclidian geometry (as is typically seen in traditional First Nations design work) in his floor plans to achieve a fully



FIG. 5. DOUGLAS CARDINAL ARCHITECT INC. ROSSIGNOL (AKA ÎLE-À-LA-CROSSE ELEMENTARY) FLOOR PLAN. 1973. | DOUGLAS CARDINAL ARCHITECT INC.

integrated educational structure (fig. 5). Just as Wright looked to geometry as it is found in nature, Cardinal's floor plan for Rossignol Elementary (fig. 5) is reminiscent of three flowers clustered together. Again, the evolution of this design saw intense participation from the community, and the centroidal approach was considered most reflective of the band's values. It was also important that each space be integrated with the next, and that the rooms be placed in intimate contact with one another, reinforcing the community's role in the teaching process.²⁵ For example, four individual classrooms open onto a single resource centre, which in turn opens into the central space (and focal point) of the school: a hexagonal lounge space which serves as a meeting place for all members of the community. This central space features a sunken lounge area echoing the fire pit (a symbol of unity in the community),²⁶ while the circular skylight above reflects the smoke holes that would have been built into traditional structures (fig. 8). The use of skylights in this single level

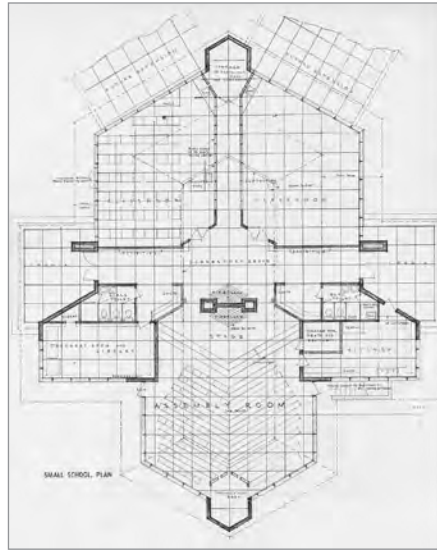


FIG. 6. FRANK LLOYD WRIGHT. SCHOOL FLOOR PLAN. PUBLISHED IN THE LIVING CITY, 1958. COURTESY THE FRANK LLOYD WRIGHT FOUNDATION ARCHIVES (THE MUSEUM OF MODERN ART | AVERY ARCHITECTURAL & FINE ARTS LIBRARY, COLUMBIA UNIVERSITY). ALL RIGHTS RESERVED. | WRIGHT, F. L. (1958). THE LIVING CITY. NEW YORK: HORIZON PRESS.

structure is also representative of the "earth to sky" connection, another important symbol within First Nations culture.²⁷ The structural supports of the building are left visible and the wood is left its natural colour (fig. 8), reflecting Wright's penchant for truth in materials. This visible roofline also serves to integrate the exterior of the building with the indoor space. The building (fig. 10) is sensitive to the prairie landscape in form (low to the ground, single level) and colour (the sandy colours reflect those of the prairie grasses). Finally, it is important to mention that due to the shape of the building, there are several sheltered areas for outdoor play all around. By way of this architectural element, Cardinal's building embraces the outdoor grounds of the school.

It is relevant to compare Rossignol with Wright's design for an ideal school in *The Living City*, a school that would eventually be built in Wyoming Valley, Wisconsin (fig. 11). Like Cardinal, Wright uses a combination of hexagonal and

semi-hexagonal shapes to create a centroidal plan with classrooms opening up into a main assembly hall (fig. 6). In his writings on education and school structures in *The Living City*, Wright argues against the typically large American high school of his day, calling them "knowledge factories" and "spiritually impotent"²⁸ places. His ideal school would be small in size and have a sense of intimacy, emphasizing quality in education over quantity.²⁹ He states that the school building "should be well designed and appointed not only as a whole, but so that 'small' may be then divided into smaller units in so far as possible."³⁰ Wright was also a firm believer in learning outside the classroom, in communal settings, and in nature, declaring that "the young worker should learn of the potentialities of the soil . . . working on the soil and in it . . . learning to listen to the sounds of animal cries, wind in trees, water flowing and falling, thus becoming more sensitive to nature and appreciative of integral rhythm."³¹ In *Of the Spirit*, Cardinal identifies almost identical approaches to education within his First Nations culture, writing that the Indigenous concept of education "demands the use of the total environment as the learning setting with the indoor classroom relegated to only selected uses,"³² continuing on to emphasize the importance of developing an individual relationship with nature. In the same vein, Wright insists that the school houses of the future American suburb be placed in the "choicest part of the whole countryside."³³

With regards to structure, Wright's school house embraces the landscape in the same manner as Cardinal's in that similar areas of outdoor shelter are inserted into the building's fabric. Wright's use of the large overhanging roof is particularly accommodating. Also similar to Cardinal, Wright brings in light from above. Although he



FIG. 7. DOUGLAS CARDINAL ARCHITECT INC. ROSSIGNOL. MAIN HALL SEATING AREA. 1973. PHOTOGRAPHER UNKNOWN. | DOUGLAS CARDINAL ARCHITECT INC.



FIG. 8. DOUGLAS CARDINAL ARCHITECT INC. ROSSIGNOL ELEMENTARY. SKYLIGHT. 1973. PHOTOGRAPHER UNKNOWN. | DOUGLAS CARDINAL ARCHITECT INC.



FIG. 9. FRANK LLOYD WRIGHT. WYOMING VALLEY SCHOOL. 1956. SKYLIGHT IN MAIN HALL. PHOTO: ANTHONY THOMPSON. | ERIC O'MALLEY (2012) "WRIGHT & LIKE 2012: SPRING GREEN HIDDEN TREASURES" PRAIRIEMOD: THE ART OF LIVING IN THE MODERN WORLD, WEB, ACCESSED: SEPTEMBER 13, 2013.

uses a clerestory as opposed to a skylight, the light is also screened by an overlay of wooden beams (fig. 9). Finally, it is interesting to note that Wright places a fireplace in the centre of the school's assembly hall, similar to Cardinal's designation of the hallowed seating area, reminiscent of a fire pit (fig. 7). Indeed, both spaces serve a similar function; as Richard Joncas denotes in his chapter on Wright's Educational Structures, in Wright's mind, the great hearth was "symbolic of community and inspiration."³⁴

CENTRALIZED SPACE - LLOYD KIVA NEW, WRIGHT, AND THE NATIONAL MUSEUM OF THE AMERICAN INDIAN

In relation to Wright's designation of the fireplace as "the heart of the whole, and of the building itself," is his frequent use of the central sky-lit atrium space (as observed in buildings such as the

Guggenheim, Unity Temple, the Larkin Building, Marin County Civic Centre, and the Johnson Wax Factory). This type of space is frequently used in Indigenous architecture (fig. 12) and relates to traditional dwellings such as the *hooghan* and the *teepee*, in which the fire pit would be placed at the centre of the structure, with a hole carved in the ceiling (beyond the obvious practical reasons, the hole symbolically links earth to sky³⁵). Due to the spiritual importance of the fire in First Nations life, the central space of a building is often designated as sacred. This is exemplified in designs by Cardinal for the Kamloops Indian Band, the Ouje Bougoumou village, and most recently, the National Museum of the American Indian (fig. 14). Interestingly enough, one of the elders whom Cardinal consulted with on this museum, Lloyd Kiva New, was a close friend of Wright's.³⁶ New was a renowned Cherokee artist and designer who co-founded the Institute of American

Indian Arts. According to Cardinal, New and Wright would have long philosophical conversations, often discussing the integration of art with architecture and the idea of a "total art."³⁷ Indeed, it is difficult to look at the interior of this museum without being reminded of Wright's famous Guggenheim atrium (fig. 13) and one must speculate as to how much of an influence Wright's museum had on Cardinal and the contributing designers, John Paul Jones and the Geddes Brecher Qualls Cunningham (GBQC) firm. Conversely, it should be noted that this design is the result of years' worth of consultation with Indigenous groups from across North America³⁸; elements which are reminiscent of Wright's Guggenheim—such as the circular space, and a dome open to the sky, were identified by the Native American communities as "basic requirements" of a building that would embody their cultural and architectural traditions. In this way, the



FIG. 10. DOUGLAS CARDINAL ARCHITECT INC. ROSSIGNOL ELEMENTARY. 1973. PHOTOGRAPHER UNKNOWN. | DOUGLAS CARDINAL ARCHITECT INC.



FIG. 11. FRANK LLOYD WRIGHT. WYOMING VALLEY SCHOOL. 1956. PHOTO: MARY ANN SULLIVAN. | MARYANN SULLIVAN (2004) "WYOMING VALLEY SCHOOL." BLUFFTON UNIVERSITY: MARY ANN SULLIVAN, WEB, ACCESSED: SEPTEMBER 13, 2013.

Guggenheim is also reflective of historic indigenous structures. In *Understanding Media*, Marshall McLuhan addresses a similar issue relating to Wright's museum, proposing that Wright was influenced by storytelling methods within oral societies:

The Eastern mode of thought tackles problem and resolution, at the outset of a discussion in a way typical of oral societies in general. The entire message is then traced and retraced, again and again, on the rounds of a concentric spiral with seeming redundancy. One can stop anywhere and have the full message. This kind of plan seems to have inspired Frank Lloyd Wright in designing the Guggenheim Gallery on a spiral concentric basis.³⁹

Indeed, McLuhan's proposal echoes the vast amount of scholarship surrounding Wright's "non-Western" influences. Yet in comparison to the research concerning Wright's Japanese and Mayan associations, there has been little exploration into his connections with the Indigenous culture of his home continent. Looking at the designs of Cardinal, several parallels

can be drawn between First Nations approaches to architecture and Wright's, such as a holistic, integrated design style, an architectural respect for the environment, the metaphorical importance of fire, the open plan, and a preference for forms inspired by nature. However, it should also be recognized that Wright's approach to design sharply diverges from First Nations practices in that he champions individual land ownership, privacy⁴⁰, and a secluded relationship with nature, while many First Nations cultures require a highly communal way of life, based on a shared experience of the environment and its resources.⁴¹

Looking forward, it would be valuable to explore Indigenous approaches to art and architecture in relation to the broader context of Early Modernism (from *Art Nouveau* through to the Bauhaus), and ideas of *Gesamtkunstwerk* on an international scale. What are the connections between these movements and the design tenets of Indigenous cultures from around the world? How have these connections been previously

recognized, or not recognized? What are the important differences between these approaches, and how can contemporary architectural practice be informed?

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FIG. 12. BARRY MORE. ALABAMA COUSHATTA MUSEUM AND VILLAGE. CEREMONIAL BUILDING. 1972. PHOTO: RICK GARDNER. COURTESY HOUSTON PUBLIC LIBRARY, HMRC, MSS 0078-3615. | HOUSTON PUBLIC LIBRARY, HMRC, MSS 0078-3615.



FIG. 13. FRANK LLOYD WRIGHT GUGGENHEIM. MAIN HALL ATRIUM. PHOTO: DAVID HEALD ©THE SOLOMON R. GUGGENHEIM FOUNDATION. | THE SOLOMON R. GUGGENHEIM MUSEUM, NEW YORK. PHOTOGRAPH BY DAVID HEALD©THE SOLOMON R. GUGGENHEIM FOUNDATION, NEW YORK. FLWW-14.



FIG. 14. DOUGLAS CARDINAL ARCHITECT INC. DOUGLAS CARDINAL, GBQC ARCHITECTS, JOHNPAUL JONES. MAIN HALL ATRIUM. NATIONAL MUSEUM OF THE AMERICAN INDIAN. 2004. PHOTOGRAPHER UNKNOWN. | DOUGLAS CARDINAL ARCHITECT INC.

NOTES

1. Wright makes direct reference to Native American iconography and architectural forms in the following works: *Wingspread*, *Nakoma Country Club*, *Lake Tahoe Summer Colony*, *Bogk House* (frieze), *Bradley House* (windows), *Dana House* (art glass), *Trinity Chapel*, Oklahoma.

Personal Interest: According to Douglas Cardinal, Wright was in close contact with Cherokee artist Lloyd Kiva New and frequently spoke with him about art and design, and in particular the idea of a "total art." (Douglas Cardinal, telephone interview with author, December 14, 2009.)

Wright commissioned the artist Orlando Giannini to paint two murals depicting Plains Indians on the wall of his bedroom in Oak Park. These murals still exist today.

According to Anthony Alofsin (1998, *Frank Lloyd Wright—The Lost Years, 1910-1922: A Study of Influence* [paperback ed.], Chicago, University of Chicago Press, p. 229), Wright was in close contact with William Guthrie, a preacher who regularly practiced Hako ritual. Alofsin also states (p. 371): "Wright's personal interest in Indians was reinforced by an apocryphal story that Olgivanna and her child posed for Nakoma . . . further confirmed by Eric Mendelsohn's account that, during his visit to Wright in 1924, Wright had the German architect dress up in Indian clothing, replete with Bark shoes, staff, gloves, and tomahawk."

"Wright stood statuettes of Indians by Heron MacNeil at the door of his first office in downtown Chicago . . . placed same artist's 'Primitive Chant' near inglenook of Winslow House." (Hoffmann, Donald, 1986, *Frank Lloyd Wright, Architecture and Nature*, New York, Dover Publications, p. 95.)

2. Wright, Frank Lloyd, 1958, *The Living City*, New York, Horizon Press, p. 16.
3. Cardinal, Douglas, 1977, in George Melnyk (ed.), *Of the Spirit: Writings*, Edmonton, NeWest Press, p. 56.
4. Cardinal, telephone interview with author, December 14, 2009.
5. Cardinal, 1977 : 101.
6. *Id.* : 34: "Grand Prairie College must establish a pattern of growth which is sympathetic to nature. It must grow in a way compatible with the land on which it rests."

Frank Lloyd Wright, 1908, "In the Cause of Architecture," in Bruce Brooks Pfeiffer and Frank Lloyd Wright (eds.), 1992, , Scottsdale (AZ), Frank Lloyd Wright Foundation: "A building should appear to grow easily from its site and be shaped to harmonize with its surroundings."

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19. Wright, as quoted by Desmond, *id.* : 242.
20. *Id.* : 243.
21. *Ibid.*
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23. Cardinal, telephone interview with author, December 14, 2009.
24. *Id.*
25. *Id.*
26. Cardinal, 1977 : 57.
27. Cardinal, telephone interview with author, December 14, 2009.
28. Wright, 1958 : 208.
29. *Id.* : 209.
30. *Ibid.*
31. *Ibid.*
32. Cardinal, 1977.
33. Wright, 1958 : 208.
34. Joncas, Richard, in De Long et al. (eds.), *Frank Lloyd Wright and The Living City*, *op. cit.* : 121.
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36. *Id.*
37. *Id.*
38. *Id.*
39. McLuhan, Marshall, 2003, in W. Terrence Gordon (ed.), *Understanding Media: The Extensions of Man* (critical ed.), Corte Madera (CA), Gingko Press, : 43.
40. Wright, Gwendolyn : 91.
41. Cardinal, 1977 : 56.