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Author(s): James M. Dennis and Lu B. Wenneker

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James M. Dennis and Lu B. Wenneker

Ornamentation and the Organic Architecture of Frank Lloyd Wright

In examining the architecture of Frank Lloyd Wright it is only natural to concentrate on the three dimensional, on the masterful articulation of solids and voids. After all, as one of his early students put it, Wright's main concern was obviously not mechanical delineation, but "that immeasurably greater thing, the large scale manipulation of spaces and masses into a vital, intrinsic architecture."[1] With this observation in mind it is not surprising to learn that much of the detailed drawing and drafting was left to student-assistants. It is also not unusual for those who analyze Wright's architecture to become preoccupied with the dynamics of a plan or elevation. To describe spatial continuity writers search for adjectives suggesting constant movement: "hovering roofs," "embracing rooms," "rhythmic patterns of sliding lines and planes," and so on.

In spite of the movement inherent in Wright's architecture, however, none of his buildings is extremely mobile in spirit. They are in fact substantially monumental in their earth-bound stability. Among the houses the one possible exception, Falling Water, is securely entrenched in its hillside and only the dramatic downslope view, so often photographed, gives the impression of cantilevered mobility. Thus, as a significant adjunct to a balanced combination of mobility and monumentality, an ornamental effect, including in the first half of his career surface patterns, was of main concern to Wright. It is to this comparatively neglected aspect of his work that the following paragraphs are devoted.

Wright undoubtedly learned much about Sullivan's notion of "organic ornament" during his years in the offices of Adler and Sullivan. The importance of "living structure" as a phrase in his discussions of architecture is equivalent in emphasis to that which Sullivan places on the term "growth" in explaining the organic principle. In his *Kindergarten Chats* the older man points out the lack of growth or change in the ornament of contemporaneous architecture. One solution is to remove all ornament momentarily in order to allow the "decayed" matter to be forgotten. Then architects could start anew with a fresh ornament of the times, for a building without any ornament was as unthinkable to Sullivan as a summer tree without leaves.[2] In his *Autobiography*, Wright seems to agree with this conclusion and goes so far as to state the meaning of ornament as the "imagination giving natural pattern to structure itself."[3] In order to be "natural" a pattern must be as integrated to the structure as spots are to a leopard, or a patterned shell is to the turtle. These are the identifying characteristics of nature. In a similar way a building would not be fulfilled or identifiable as an individual structure without its ornament, something particularly suited to itself—its "natural pattern."[4]

Edgar Kaufmann, Jr. suggests that there were at least four main forces at work in Sullivan's personal approach to ornamentation. The first was a "conventionalized botanical ornament" inspired by Frank Furness and Christopher Dresser in the 1870's; the second, a "poetic expression of structure" similar in approach to that of Mackintosh or Gaudi; the third, Eastlake's "Queen Anne" style; and the fourth, Symbolism, revealed mainly in his literary reflection on architectural ornament.[5] The first two forces are of primary importance in establishing the effect Sullivan had on Wright's invention of a personal style of ornamentation.

Sullivan's ornament was usually either flower or vinelike. At times it reminds one of the sinuous curves of the Art Nouveau. Yet, if one compares the wrought iron ornament in Horta's Rue de Turin with the Carson, Pirie and Scott store front, one discovers that Sullivan's relief panels are more integrally architectural. Sullivan arrived at his forms by laying out geometric shapes, usually circles and squares, which were elaborated and enlarged with compass and rule until the desired complex emerged. Although his approach was one of "mobile geometry" and the forms used were mathematical, or "inorganic," he believed that he could create "organic" or "live" ornament by following "nature's method of liberat-

[1] *Barry Byrne,* Journal of the Society of Architectural Historians, *XXII, No. 2 (May, 1963), 108-109. A book review of* The Drawings of Frank Lloyd Wright *by Arthur Drexler (New York: Horizon Press for the Museum of Modern Art, 1962).*

[2] Quoted in *Hugh Morrison,* Louis Sullivan, Prophet of Modern Architecture *(New York: W. W. Norton & Co., Inc., 1935), p. 254.*

[3] *Frank Lloyd Wright,* An Autobiography *(New York: Longmans, Green and Company, 1932), p. 142.*

[4] *Frank Lloyd Wright,* A Testament *(New York: Horizon Press, 1957), p. 157.*

[5] *Edgar Kaufmann, Jr., ed.,* Louis Sullivan and the Architecture of Free Enterprise *(Chicago: The Art Institute of Chicago, 1956), p. 15.*

ing energy."[6] He constantly refers to the opening seed, not only as symbolic of growth, but as one form becoming two, then four, eight, and on up, doubling as it goes. Thus the term "organic" may intimate a process in nature, with flowers, vines, and ferns remaining in the abstract without being imitated in detail.

Wright also employed plant life abstractions in ornamentation, but his methods of arriving at these forms were to become quite different. Sullivan began with simple geometric shapes, adding to them as he went along until he arrived at a foliation. Under his employer's guidance Wright followed this "synthetic" approach. After a few years of independence, however, he started to reverse the process by taking an actual flower or fern, breaking it down into its component abstract shapes, thereby arriving at a design composed of geometric figures much like those with which Sullivan began. Thus, Wright's system was to develop into an "analytical" one. Both owed a debt to Christopher Dresser, the nineteenth-century ornamentalist, who states: "If plants are employed as ornaments they must not be treated imitatively, but must be conventionally treated, or rendered into ornaments."[7] But, it was Wright who carried the last phase of Dresser's admonition to its logical conclusion.

The second force suggested by Kaufmann, the "poetic expression of structure," is expressed in Sullivan's classification of his ornament as "integral," that is, evolving out of the individual structure. Although Wright was employed by Adler and Sullivan with a portfolio of drawings containing historical architectural devices, he, too, became disenchanted with the "surface ornament" of his academic contemporaries. Late in his career he attacks ancient architecture as a false "pilaster art" of applied ornament and dismisses the classical entablature as "carpentry work done in stone."[8] As an antidote to classicism, Sullivan's concept of "structural ornament" was absorbed into Wright's artistic creed to such an extent that it was to assume an importance beyond ornamentation as such. As will be demonstrated, many of his final designs are so much determined by the integration of structure and ornamentation that they result in what might be termed "ornament buildings."

Apart from influences directly attributable to Sullivan, there was at least one more experience at the beginning of Wright's independent career that left its mark on his design methods. The Transportation Building had been on the drawing board for some time when Wright left Sullivan in 1893, thus he had had ample opportunity to visit the grounds of the Columbian Exposition. Most of what he saw there disgusted him, but he was favorably impressed with the Japanese exhibits, especially the Tea House and the Ho-o-Den.[9] Although steadfast to the end in denying any oriental influence, he finally conceded in his *Autobiography* that Japanese architecture "really did have organic character."[10] The East Indian Building, with its round arch and square frieze resembling the facade of Sullivan's Transportation Building, also must have been of interest. Finally, the Turkish Building, a copy of the famous fountain in Constantinople, the Hunkhar Casque, had little ornament; but, the strong simple lines of its clerestory windows and its heavy overhanging roof anticipated the Prairie Houses.[11]

A much earlier source of long-lasting inspiration for architectural design and decoration was Wright's childhood encounter with the Froebel Kindergarten methods. He and his mother discovered the Froebel "Gifts" and "Occupations" at the Centennial Fair in Philadelphia. Seventy-five years later Wright still praised them as a "basis for design and the elementary geometry behind all natural birth of form."[12] The "Gifts" consisted of a series of geometric forms, including spheres, cubes, and cylinders. These were divided and subdivided into analogous forms and arranged in complex patterns. The "Occupations" were more intricately comprised of paper, sticks, thread, yarn, and cloth.[13] Of all these materials, a set of combined glazed and matte paper strips seemed to remain in Wright's memory more vividly than any other. The object was to weave them into "colorful checkerings," a scheme to which Wright returns for such ornamental accessories as theater curtains, screens, and carpeting.[14]

In the long run, however, the more substantial wood "Gifts" were of greatest significance. Wright reminisces about them in his *Testament*, describing the blocks of maple that were moved about a table top ruled with a grid of four-inch squares. He even assigns the square, circle, and triangle with qualities of integrity, infinity, and aspiration, in that order.[15] As for the table-top grid, it is easily likened to an engineer's graph paper, or the

[6] *Louis Sullivan,* A System of Architectural Ornament *(New York: Press of the American Institute of Architects, Inc., 1924), Plate 2.*

[7] *Christopher Dresser,* Principles of Decorative Design *(London: Cassell, Petter, Galpin & Co., no date), p. 24.*

[8] *Wright,* Testament, *pp. 133-134.*

[9] *James Marston Fitch, "Frank Lloyd Wright's War On the Fine Arts,"* Horizon, *III, No. 1 (September, 1960), 127.*

[10] *Wright,* Autobiography, *p. 194.*

[11] *See J. B. Campbell,* Campbell's Illustrated History of the World's Columbian Exposition, *Vol. II (Philadelphia, 1894), p. 417.*

[12] *Wright,* Testament, *p. 19.*

[13] *Evelyn M. Lawrence,* Friedrich Froebel and English Education *(London: University of London Press, 1952), pp. 238-239.*

[14] *See Frank Lloyd Wright,* Drawings For a Living Architecture *(New York: Horizon Press, 1959), pp. 160-161.*

[15] *Wright,* Testament, *p. 19.*

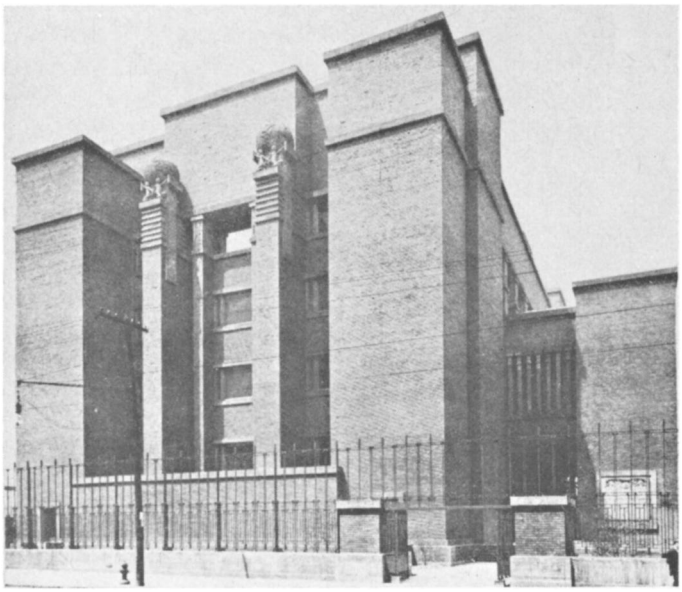

Fig. 1. Larkin Company Administration Building, Buffalo, N.Y. 1904.

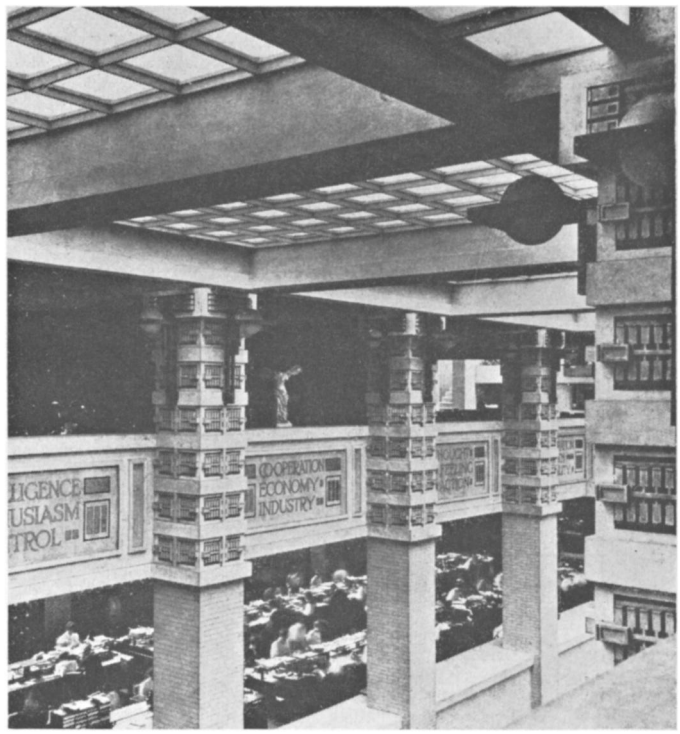

Fig. 2. Larkin Company Administration Building, Buffalo, N.Y. 1904. Fourth Floor View.

modular sheets used by Wright for drawing his plans. Of more importance here, however, is the use he made of the Froebel "Gifts" for creating architectural ornamentation. They are a key to the low-relief patterns on several major buildings, including the Coonley House and the Midway Gardens. Furthermore, they remain a basis for the last of Wright's increasingly ornamental ground plans.

In discussing Wright as an ornamentalist, it is convenient to deal with his works in three major periods: the early buildings in which ornament remains applied or at least oriented to a surface, a brief middle period in which the ornament becomes more of a structural module, and then the late designs in which a total structure is often conceived as a full-scaled ornament in its own right. The first of the three periods begins in the late 1890's and lasts until approximately 1920, the second extends into the late 1920's, and the third emerges by the early 1930's to remain until Wright's death.

EARLY PERIOD

In 1893 Wright left Adler and Sullivan in order to develop independently, but this intention is only gradually revealed in the ornamentation of his early residential architecture. For example, the second story frieze on the W. H. Winslow House built in River Forest, Illinois in 1893 combines geometric forms with foliation in the Sullivan manner. Delicate foliage is set into a latticework of diamond shapes with little relationship to the heavy blockish masses of the hip roofed house. However, the band of textured terra-cotta covers the full height of the slightly projected story and is thus integrated in general with the total structure. The ornamental texture also helps to relieve an otherwise carton-like appearance, and its intricate pattern tends to soften the meeting of the walls with the heavy horizontal of the overhanging eaves. The repetition of a similar pattern inside the house, for instance the decorative spandrels of the reception hall arcade, is also a Sullivan trait. In short, Wright had yet to assert his own imagination completely.

Sullivanesque ornamentation remained stock-in-trade for him throughout the 1890's. The austere brick exterior of the Francis Apartments, constructed in Chicago soon after the Winslow House, was relieved in that idiom by an ornate cornice and a basement-course. For the latter Wright borrowed the familiar interlocking rings of stylized foliation, sending them around the two wings as five friezes. Even the iron gates at the entrance to the court were obviously based on Sullivan's motives. This same dependence is witnessed in the two major residences of the late nineties, the Isidor Heller House of 1897 and the Joseph W. Husser House of 1899. Both were complicated designs, including big bays, projecting eaves, pronounced string courses, and Romanesque arcades for windows and loggias. The sprawling plans and heavy horizontals anticipated the later low-lying Prairie Houses. But wide friezes in decorative relief were retained around the upper story of each.

The eaves of the Heller House also sheltered nude figures executed under Wright's supervision by Richard Bock, a local sculptor who was to provide relief and free standing figures for the young architect for another fifteen years. The first collaboration had taken place in 1895 when Wright set up shop for himself and Bock helped him dramatize the entrance portal of the Oak Park studio with terra-cotta and stone. Heavy pedestals

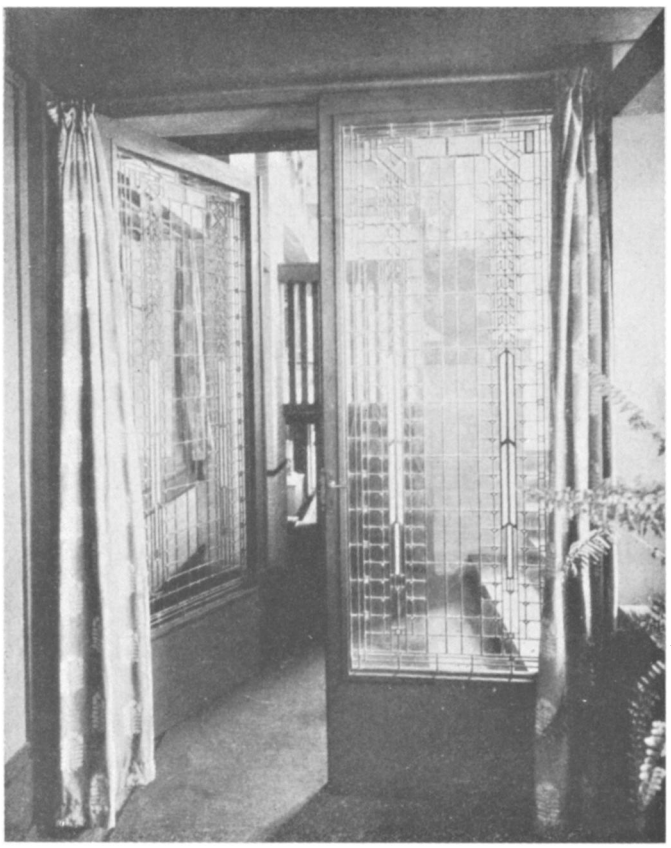

Fig. 3. Susan Lawrence Dana House, Springfield, Ill. 1903. French Doors.

were attached to its corners for no other apparent reason than to elevate two crouching male nudes, resembling atlantes. The four square piers of the entrance way must have been decorated by both men. Each side was faced with terra-cotta foliage from the files of Sullivan and uninscribed scrolls were flanked by whimsical water birds standing at attention in high relief.

From the preliminary drawings to its completion, the Larkin Building of 1904 called for decorative sculpture, both freestanding and relief. At first the latter was automatically conceived as Sullivanesque, but by the time of construction the amount of applied ornamentation was considerably reduced, and stylized foliation was eliminated altogether. Carved relief panels were used on the piers of the top-floor loggias while square plaques were incised with pairs of heroic, allegorical figures for the bases of the two corner stair-towers. The most pronounced sculpture, however, was placed on top of the paired buttresses at either end of the building (**Fig. 1**). A Bock-designed group, consisting of a large globe supported by two nude figures, was duplicated in stone for each. Directly beneath the sculpture Wright built an architectural motive of five louvered strips held between string courses and drawn together on the sides by wide vertical bands.

Of Wright's ornamentation inside the Larkin Building the most advanced was reserved for the top of the brick piers rising uninterrupted from the floor of the large central well (**Fig. 2**). This height corresponded with the fourth, or last, balcony which was designed as a restaurant beneath a skylight, thus encouraging elaboration. In this case, however, real vines and ferns were actually grown in planting boxes for foliage while the applied ornamentation became strictly geometric. Six uniform bands were worked out as an intricate play of blocks. These included small vertical rectangles arranged in rows above and below a horizontal axis which was punctuated at either end by still another block in higher relief. The idea for such a design might very well have been suggested to Wright by his boyhood experience with the Froebel "Gifts." This could also be claimed for the spherical glass lamps hung in open rectilinear brackets on each side of the corner piers.

The ornamentation of the balcony restaurant as well as the exterior form of the Larkin Building as a whole anticipated the Unity Church which was begun during the same year. The auditorium and parish house interiors of the Oak Park structure share rectilinear borders and bands illuminated by a skylight and glass globes. While reinforced concrete permitted cantilevered cornices to replace classical molding, the new material resulted in an exterior wall surface that is much harsher than the uniform pattern of brick. Something was needed to enliven an inert building-block appearance and in order to complement the overall design Wright once again produced a geometric ornament instead of literal foliation. He capped the piers of the clerestory with a plain vertical strip that starts in the middle of each, ending on top in a design of alternating indented and projected paneling. As in the decorative blocks of the Larkin Building balcony, a long central axis is flanked by small oblongs attached to the center strip by tiny stems. The notion of a plant, however, is now a matter of inference. That is, Wright has adopted a means of abstracting nature into geometric ornaments as opposed to the nature-bound approach continued by Sullivan.

The decorative casement windows of the Unity Church clerestory are also strictly geometric in pattern. They consist of vertical and horizontal panels concentrated along the top half as a sequence of clear and opaque rectangles. This kind of paneling was not new for Wright, since leaded windows had already become an outlet for ornamentation in his residential architecture at the turn of the century. As a consequence, a view from inside a Prairie House was often interrupted by casement designs that were extremely intricate and sometimes more distracting as surfaces than the terra-cotta reliefs of the late nineties (**Fig. 3**). For example, in 1903, the lavish interior decoration for the Dana House in Springfield, Illinois included the most elaborate designs of paneled glazing that Wright ever used. The sumac motives in the dining hall and the breakfast alcove demanded so much leading that the windows as clear

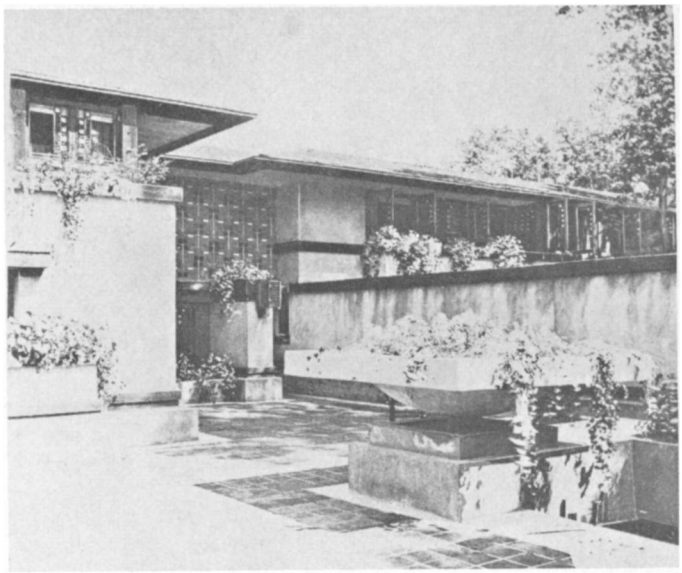

Fig. 4. Avery Coonley House, Riverside, Ill. 1908. Terrace.

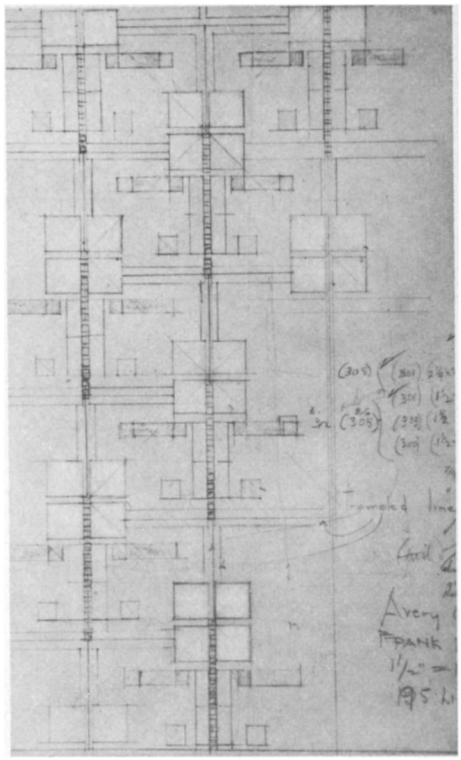

Fig. 5. Drawing for exterior wall decoration of Avery Coonley House, Riverside, Ill. 1908.

openings were sacrificed to a prismatic translucence.[16]

A work that ranks with the Dana House in its ornamental elaboration is the Avery Coonley House of 1908 in Riverside, Illinois. The obtuse angles of the Dana House casements now appear as a decorative arrangement of open beams on the dining room ceiling. Otherwise, the geometric ornamentation of the Coonley House is held to the rectilinear. This is witnessed on the second floor exterior where large patterned areas alternate with smooth stuccoed surfaces and fenestration. A tulip served as a point of departure for the motive duplicated from wing to wing (**Fig. 4**). The flower is actually generalized beyond identification, becoming instead a purely mathematical reflection of the basic forms of the house (**Fig. 5**). Four pink squares represent the blossom while a vertical row of much smaller white squares projects as a segmented stem flanked by two white horizontal rectangles suggesting leaves. The "tulips" are drawn together by incisures in the stucco representing the roots of each plant. Here again an "analytical" process of starting with actual plant forms and abstracting them into geometric components was applied. These components were also separated from their original abstraction and seemingly scattered throughout the house on French doors, casement windows, skylights, rugs and even into the garden as a formal ground plan. Such profusion alone gives the structure and its setting a sense of unity and coherence as an architectural composition. Furthermore, by allowing its placement to be determined by the planes, projections, and indentations of the building, ornamentation looses much of its earlier applied appearance and is consequently strengthened as an integral part of the house. The pergola on the garden facade demonstrates in a modest manner this changing role for an ornament. The wooden beam ends of the later addition are covered by bronze caps of indented rectangles. Each reflects the rectangular complex as a whole in addition to punctuating the profile of an individual beam.

Profusion and punctuation remain characteristics of the multiple ornamentation lavished by Wright on his two major structures of the teens. The first, the Midway Gardens, was intended to be a collection of architectural novelties conducive to band music, sauerkraut, and beer. The second, the Imperial Hotel, was engineered as a novel structure with equally unique materials encrusted upon its surface as applied decoration. As with those of the Larkin Building and the Unity Church, most of the Midway Gardens's ornaments were purely geometric. Along with brick the building was constructed of great

[16] *For additional examples see the window panes of the Harley Bradley House, constructed in Kankakee, Illinois in 1900. They were designed with double diagonals to match the roof lines of the overhanging eaves. A year later windows in the Ward W. Willets House of Highland Park were bordered with a rectilinear pattern of slender glass strips. Immediately following the Dana House, casement windows were repeated in the Darwin D. Martin residence, constructed in Buffalo in 1904. In this house, however, leaded glass could hardly hold its own as a decorative attraction with the other built-in appointments. Much more eye-catching were the florid Art Nouveau mosaics of wisteria blossoms on the chimney breast of the main fireplace.*

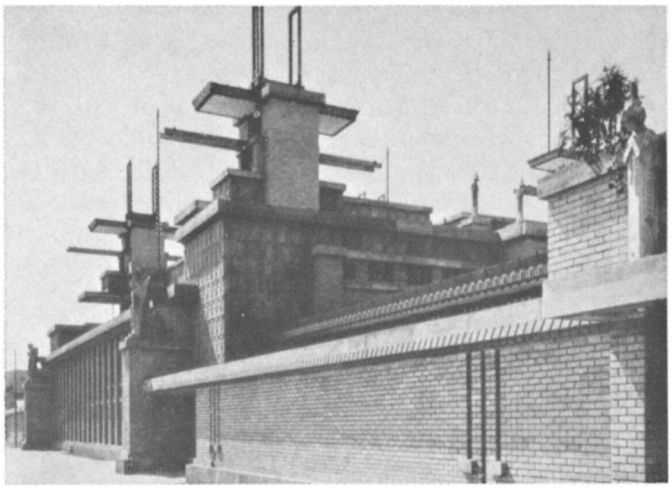

Fig. 6. Midway Gardens, Chicago, Ill. 1914.

Fig. 7. Imperial Hotel, Tokyo, Japan. 1922.

quantities of patterned concrete blocks, especially on the upper levels. Four large towers, called "welcoming features" by Wright, dominated the central pavilion of the restaurant (**Fig. 6**). Projecting from them, rectangular slabs of masonry edged in decorative concrete were condensations of the Gardens as a whole in their shape, scale, and direction. Trellises for vines and flowers, accompanied by "electric needles," tall poles perforated with light bulbs, rose up from the top of each tower. Most of these devices had been anticipated by Wright as early as 1895 in the Wolf Lake Amusement Park Project, and now were to have an ephemeral existence of ten years.

In addition to the fanciful towers, two flanking roof terraces transformed the restaurant into a cantilevered adventure. Inside these clusters of soaring rectangles Wright emphasized the circle and the sphere. A mural decoration in the Tavern Room was composed entirely of overlapping and intersecting circles, similar to Kandinsky's painting of the 1920's. Bunches of different sized colored globes served as interior light fixtures, while the furniture and linen, both Wright-designed, were patterned with circles as well as with triangles and squares. Returning outside, the crowning touch would have been giant balloons attached to the "welcoming features" and "electric needles."

Sculpture was used more generously in the form of freestanding ornaments for the Midway Gardens than in any other structure by Wright. Designed from studies of a nude model, the famous female figures were finally extremely stylized, with only the head remaining generally naturalistic. Wright referred to them as human figures encased in "geometric shells."[17] From the neck down they were essentially rectangular posts, but with cubistic facets carved in angular relationships. There was a revealing similarity in their bowed heads and squared-off generalization to a series of figures at the Vienna Art Exhibit of 1908.[18] In fact, the central figure over the main entrance of the Exhibition Building, a draped and hooded female, could have been seen by Wright during his trip to Europe in 1910-1911.

Because of their Japanese look, the female figures of the Midway Gardens could just as well have been incorporated into the scheme of ornament employed at the Imperial Hotel. However, at that point the human figure was eliminated forever from Wright's ornamentation and this is dramatized in the abstract lava sculpture that overlooks his garden courts in Tokyo (**Fig. 7**). Cubes and spheres rise up in stacks that are clustered together as finials along terrace balustrades. Larger spheres, quartered by penetrating slabs of lava on the vertical and embraced horizontally by still another projecting wedge, are installed among the shrubs and above the reflecting pools.[19]

More conventional forms and locations were chosen for ornamentation on and in the hotel building proper. Although the material is lava; cornices, coins, string courses, and moldings retain a generally academic appearance. Upon close inspection, however, the initial impression of classicism is overcome by the intricate syncopation of various interlocking shapes. The greatest elaboration of all is concentrated in the ballroom where the trusses are covered with complex patterns in color. Also, as part of a peculiar arch-order, eight low-relief panels of lava, carved as geometricized peacocks, are distributed around the walls of this large central room. Throughout, the ornament lies primarily upon the surface as an

[17] *Wright,* Autobiography, *p. 183.*

[18] *For photographs of the figures in Vienna see those accompanying article by Josef August Lux, "The Vienna Art Exhibit—1908,"* Deutsche Kunst und Dekoration, *XXIII (1908-1909), 33 and 58.*

[19] *There is some semblance of a human figure remaining in the decorative, freestanding posts along a reflecting pool in front of the "Emperor's Entrance." Each is topped with a highly geometricized head.*

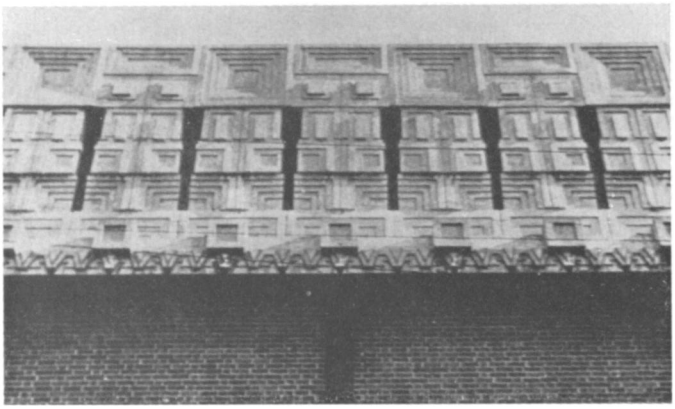

Fig. 8. A. D. German Warehouse, Richland Center, Wisconsin. Detail of exterior wall. 1915.

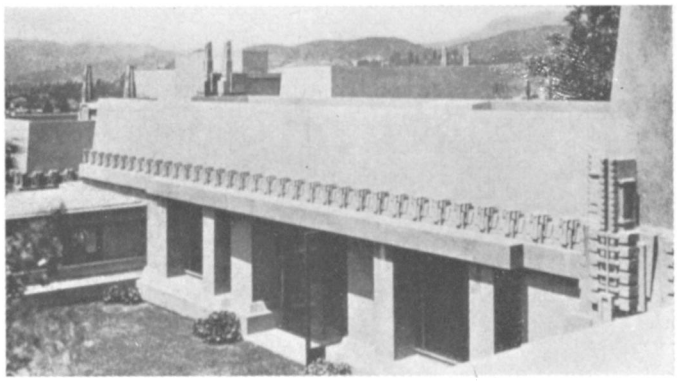

Fig. 9. Hollyhock House, Olive Hill, Hollywood, Los Angeles, Calif. 1920.

addition to the structure, rather than functioning as an organic determinant to the whole. In other words, while decorative devices complement each other and even reflect the basic character of the building, they remain, upon final analysis, applied. For this reason the Imperial Hotel may be considered a culmination of Wright's early approach to ornamentation generated by Sullivan in the 1890's.

MIDDLE PERIOD

A further advance in the integration of ornament with structure was underway in Wright's architecture while the Imperial Hotel was under construction. The move forward was instrumented by molded concrete, already heralded in the patterned blocks crowning the A. D. German Warehouse in Richland Center, Wisconsin (**Fig. 8**). There, instead of remaining a flat uniform pattern, similar to the upper exterior walls of the Midway Gardens, the concrete blocks project forth in registers of relief to become the most pronounced factor of a building that is otherwise relatively commonplace. Nevertheless, they correspond to Wright's definition of integral ornament: a "third mathematical element" used for modifying or emphasizing the straight line and the flat plane "to allow suggestion, proper scope, and appropriate rhythms to enter."[20]

[20] *Wright,* Autobiography, *pp. 227-228.*

Such dynamic integration of ornament over and against structure is fully demonstrated in the concrete Hollyhock House, completed for Aline Barnsdall of Los Angeles in 1920, (**Fig. 9**). Although similar in pattern to the abstract ornaments used by Wright in the Larkin Building and for the piers of the Unity Church clerestory, the highly geometricized hollyhocks are arranged in an almost freestanding row along the cornice line, or they are scattered as finials above the roof line. In either location they exist without seriously disrupting the long unbroken contours of the temple-like structure, nor do they disturb the overall smoothness of its broad exterior surfaces. In any case surface patterning in bands of textured terra-cotta, stucco panels, or wall-bound blocks have vanished in favor of an energetic fringe of three-dimensional devices.

In spite of this delicate touch of ornament, poured concrete is not easily associated with domestic architecture and Wright returned to the building block as a basis for the textile, concrete-slab houses constructed around Los Angeles in 1923 and 1924. Not only was the block now molded and perforated into a variety of geometric patterns from house to house, but it also became a modular factor in the devising of ground plans and elevations for each. The Millard House is composed primarily from one ornamental block which, when duplicated throughout, creates an overall impression of geometricized foliation (**Fig. 10**). Indeed, Wright speaks of it as being "textured like the trees." The blocks, he says, would make the building "a kind of tree itself standing at home among the other trees of its own native land."[21] From a distance the pattern looks flat, but a close-up view reveals a complex of rectangles that are built up in layers to project from a lower surface of deep indentations (**Fig. 11**). Highlights and shadows alternately outline and soften the rectilinearity of a full section in the design.

Following the Millard House, the handful of textile, concrete-slab structures designed by Wright as California homes retain a modular application of mass-produced blocks.[22] However, the patterned concrete sections on the later examples are combined with plain unmolded surfaces that function visually as a smooth ground for the highly textured areas. In final form the concrete block house was deprived of molded textures entirely. Thus, the austerity of plain concrete returned to qualify the domesticity of the Richard Lloyd Jones House in Tulsa, Oklahoma. In this example, erected in 1929, the only decorativeness involved is that managing to emerge from the abrupt alternation of vertical openings and

[21] Ibid., *p. 241.*

[22] *See the Storer, Ennis, and Freeman Houses illustrated in Henry-Russell Hitchcock,* In the Nature of Materials *(New York: Duell, Sloan and Pearce, 1942), Figs. 255-262.*

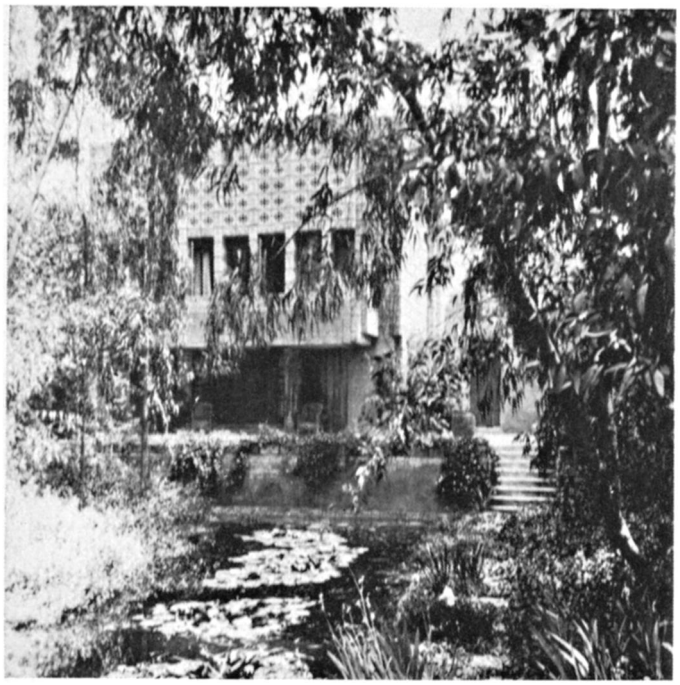

Fig. 10. La Miniatura, Mrs. George Madison Millard House, Pasadena, Calif. 1923.

uniform upright pillars, uncapped by a cornice. If by the phrase, "imagination giving natural pattern to structure itself," Wright considered ornamentation to be a surface addition or even a structural adjunct, the Jones House would be disqualified as ornamental architecture. At any rate, it marks the end of a short-lived phase of ornamentation in which a decorative block functioned as a module throughout a rectangular structure. From the Jones House on, the ornamental in Wright's buildings became increasingly pure architecture. That is, an element of decoration was achieved, but through the manipulation of spaces and masses without the aid of surface additions, inside or out.

LATE PERIOD

The word ornament is commonly defined as "a part that contributes to the beauty or elegance of a thing, an embellishment." Accordingly, a building, if it is to be an ornament, must embellish its site. But this notion tends to shift the emphasis over to the site as a dominant whole rather than allowing it to remain specifically on the building. What is more, the very definition of "organic architecture" ultimately demands a total unity between the two. A typical Wright ground plan during the last thirty years of his career reveals that much care and attention was given to the planning and rendering of a site in conjunction with a structure. In fact, the two are often so integrated that it is difficult to determine in reading the plan just where a house ends and a patio or garden begins.

In elevation as well as plan a house or a public building by Wright might well become extremely fanciful in form, with spirals, hemispheres, and hexagons as its main

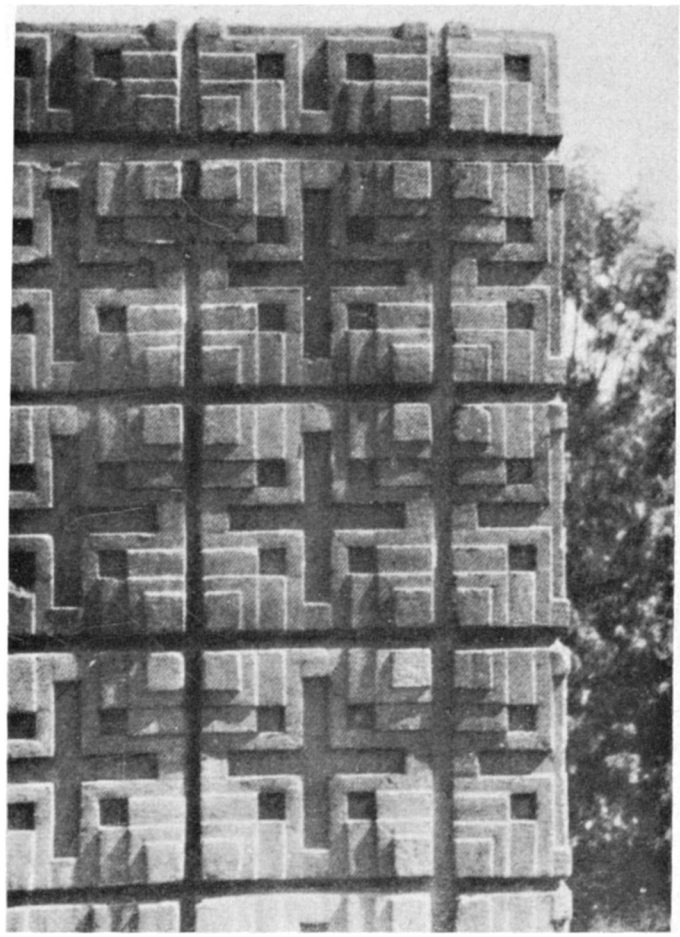

Fig. 11. La Miniatura, Mrs. George M. Millard House, Pasadena, Calif. 1923. Detail of exterior.

geometric components. The immediate surroundings in the meantime become absorbed into the design as a completely controlled site. In reverse of the topographical organicism basic to the Prairie Houses, in which the structural form was largely determined by the regional landscape, the relationship between structure and setting in Wright's late works develops into what might be called an ornamental organicism. Large or small, alone or in a group, a structure opens out with a decorative force that implicates its immediate surroundings as part of an overall design. Furthermore, the large buildings no longer turn inward with elaborate courts shut off from the outside by plain solid walls.

The ornament-building began to take definite form during the twenties in the "teepee" designs for the Lake Tahoe Summer Colony and the Nakoma Country Club projects. But, as already suggested, the key year in this new development seems to have been 1929, a year strengthened in that respect by the St. Mark's Tower project (**Fig. 12**). This New York apartment tower was not to be simply rectangular in plan but a virtual pinwheel "rotating" clockwise. Such an ornamental sensation resulted from an ingenious arrangement of split-level apartments around a central core containing the eleva-

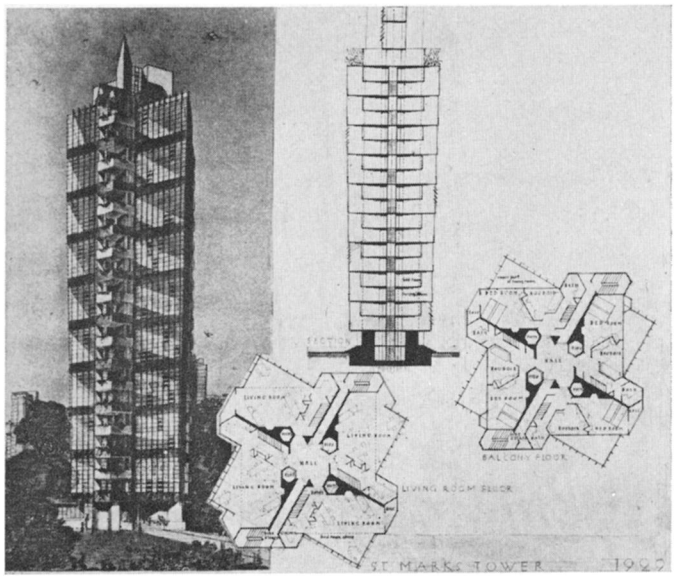

Fig. 12. St. Marks Tower, Project, 1929.

tors, ducts, plumbing lines, and other utilities. Contributing to the appearance of a self-assertive ornament, broad curtains of paneled glass were designated to cage the apartment wings, except for their very tips which were allowed to break through as concrete balconies. These polygonal projections established an horizontality continued by the concrete floor slabs all the way around the building. This action helped to check the strong vertical emphasis established by the continuous linear frames holding the glass in place.

Almost identical towers were clustered together as an apartment complex projected for Chicago in 1930, only to be repeated for the Crystal Heights Hotel Towers project in Washington, D. C. ten years later. But it was not until the early fifties that H. C. Price provided Wright the opportunity to erect a modified version of the tower in Bartlesville, Oklahoma. Meanwhile, Wright contemplated much more elaborate high-rise ornaments in the upward expanding multiple towers on top of the projected Rogers Lacy Hotel for Dallas in 1946, and "The Golden Beacon" for Chicago in 1956. Finally, the imposing mile-high skyscraper, a contradiction to Wright's earlier theme of urban decentralization, was proposed to rise up as a jagged needle to command the Chicago Lakefront and take in the entire Loop as its site **(Fig. 13).**[23]

[23] *The mile-high skyscraper design was anticipated as early as 1903, in a work of sculpture by Richard Bock. For the vestibule of the Dana House in Springfield, Illinois he modeled a nude female figure constructing what appears to be a model for a decorative tower. The similarity between this small-scaled tower and the "Illinois Building" Project seems too close to be completely coincidental. For a photograph of the terracotta figure in the Dana House vestibule see C. R. Ashbee,* Frank Lloyd Wright, Ausgeführte Bauten *(Berlin: Ernst Wasmuth, 1911), p. 5.*

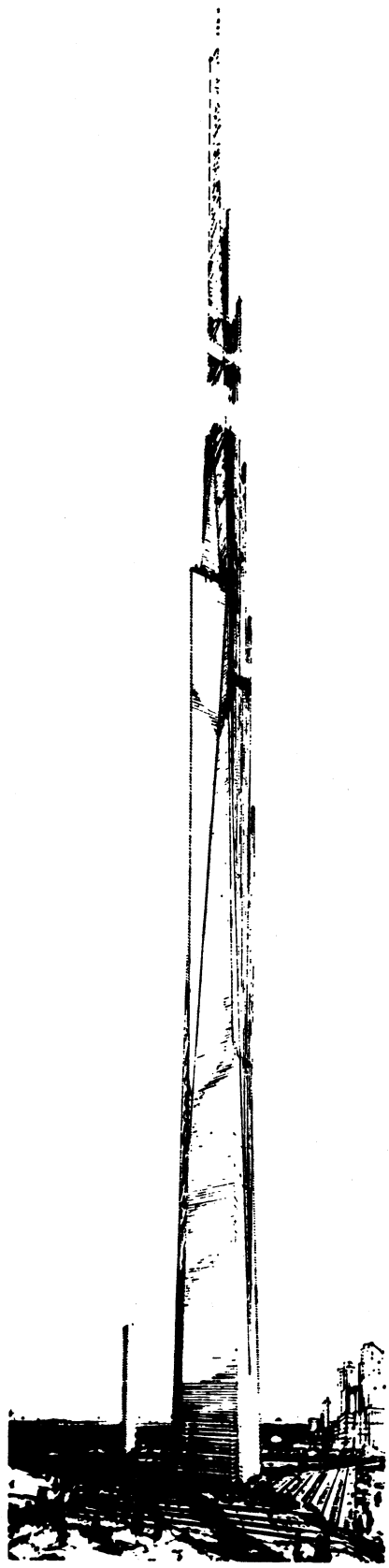

Fig. 13. Drawing for Mile-High Skyscraper Project, "The Illinois," Chicago, Ill. 1956.

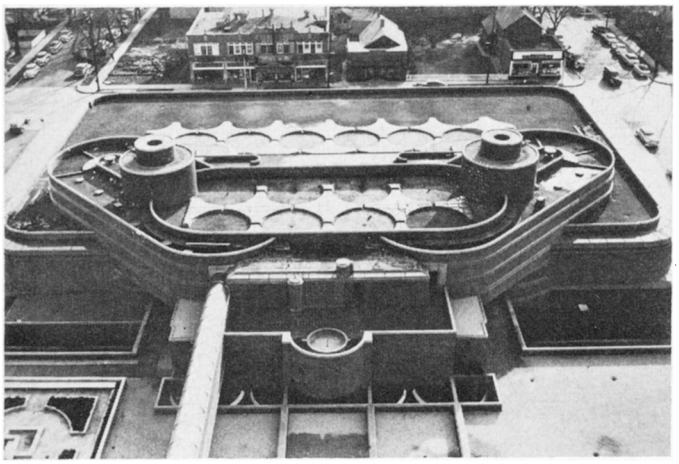

Fig. 14. S. C. Johnson & Son, Inc., Administration Building, Racine, Wis. 1936-39.

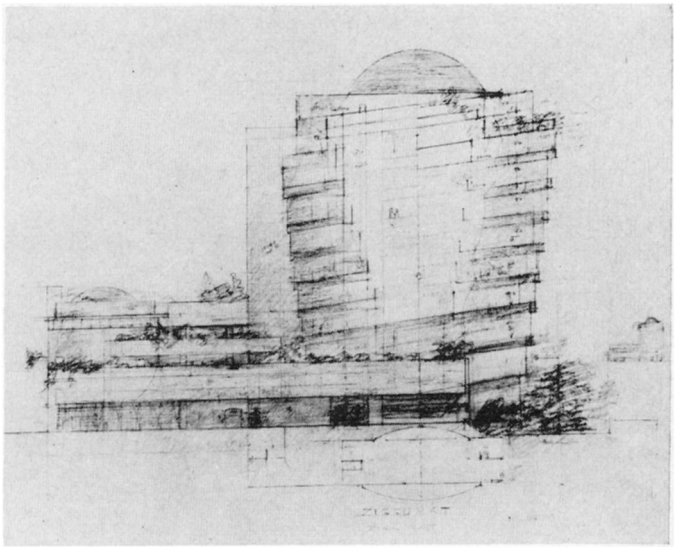

Fig. 15. Drawing for Solomon R. Guggenheim Museum, New York City, N.Y. 1948.

The Research Laboratory Tower erected in 1947 for S. C. Johnson and Son in Racine, Wisconsin is more modest than those towers merely projected. But it must be kept in mind that it was designed to complement the Administration Building completed ten years earlier. Altogether, the brick and glass complex stands as an ornament-building, in that its decorativeness and functional form are integrated as one and the same. The Johnson Administration Building is composed of sweeping curves which wrap loosely around the first story, pull in and tighten about the upper stories, and culminate in the two circular "nostrils" on top of the building (**Fig. 14**). A use of contrasting materials, brick and glass tubing, is as important as the dynamics of motion in establishing this building as an ornament. At night continuous lighting causes the glass tubing to glow like luminous icing on a many-layered cake. In the Midway Gardens the lighting had been "applied" in much the same way as its sculptural ornament. Clusters of globes were hung throughout the interior for decorative purposes as well as for light. The "electric needles," with their bare bulbs, penetrated the night sky like so many Christmas tree ornaments. As such the lighting attracted attention to itself more than to the building it illuminated. In contrast, the lighting of the Johnson Building is carefully integrated within the architectural form. The glass tubing carrying the light follows the shell-like spiral of the building, emphasizing and enhancing its ornamental quality.

More elaborate ornament-buildings were erected in the 1940's and 1950's, some of them spiral in form. The spiral shell as a full-scale structural motive in Wright's architecture can actually be traced back to 1925 where it appears in the initial sketches for the proposed Gordon Strong Automobile Objective and Planetarium.[24] This peculiar building was designed for the crown of Sugar Loaf Mountain, Maryland as a novelty for the newly established Automobile Age. If constructed it would have finally resembled a four-layered wedding cake with the continuous spiral changed to straight segments connected by concealed ramps. While the first sketch called for a decorative spire emerging from the center, this too would have been eliminated. However, applied decoration was still a habit with Wright at this time and the walls of each layer were to receive a decorative treatment of triangular windows and moldings.

Such outward application of ornamentation was later eliminated in the one large spiral structure that Wright was able to complete. The Guggenheim Museum, first sketched out in 1943, was conceived as an upward expanding spiral as opposed to the wedding cake of the Sugar Loaf Mountain project. One drawing bears the label "ziggurat," which is as much as to say that in this age of structural steel and reinforced concrete the Tower of Babel could be constructed upside down (**Fig. 15**). By the late forties the appearance of an inverted ziggurat disappeared with the exterior canting of the concrete ramps and the final flower pot form emerged with its flat dome. The ground floor was girdled with a sweep of curved concrete that extends out beyond the central structure with a general resemblance to the Johnson Wax Administration Building.

The interior of the museum is more ornate as a structure than the smooth surfaced exterior. From below, the balustrades of the descending ramps have a slightly undulating effect resulting from the one convexity necessitated by building struts and other internal necessities. The dome is a lacy spider web of glass. Six parabolic arches intrude a central hexagon surrounding a bull's-eye circle in the middle. The panes of thinly framed glass are fairly large throughout and mainly trapezoidal in shape.

[24] *See Arthur Drexler,* The Drawings of Frank Lloyd Wright *(New York: Horizon Press, 1962), Plates 106 and 107.*

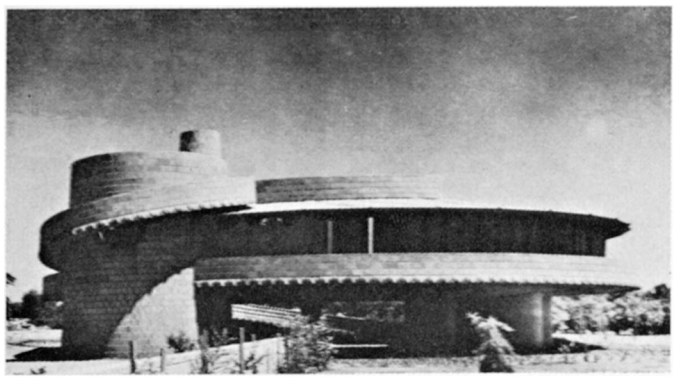

Fig. 16. David Wright House, Phoenix, Arizona. 1952.

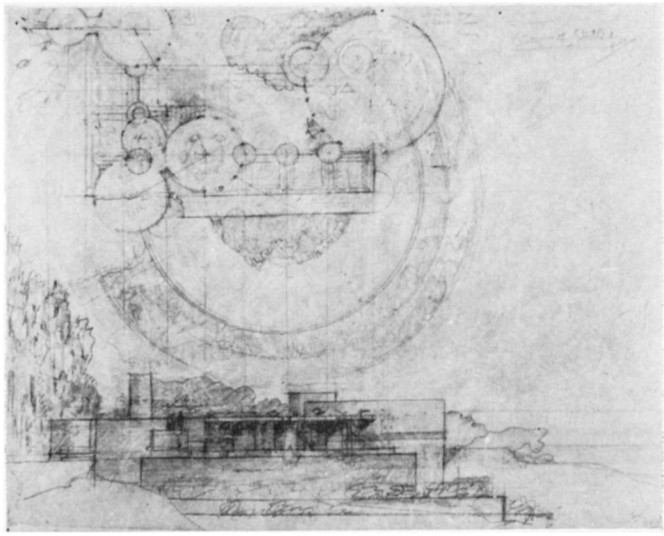

Fig. 17. Drawing for Ralph Jester House, Project, Palos Verdes, Calif. 1938.

The dome, in fact, consists of the only details in the building that might be approached as applied decoration. Outside, the Guggenheim Museum looks like a colossal version of the capitals in the Johnson Wax Building entrance and office. In general, this effect is as sculptural as a *de Stijl* plaster construction and from that point of view it gives the impression of being an overscaled museum piece, enlarged far beyond the dimensions of its original pedestal. Situated on a city sidewalk, however, it does not shut out the passerby but opens up to channel him into its spiral shell.

An audacious accommodation for automobiles was contemplated as a comprehensive community center projected for Point Park, Pittsburgh, in 1947. Including everything from governmental offices to the standard municipal entertainment facilities, it presented a problem in traffic and the spiral was sought as a solution. Fed by two bridges plus the river roadways and a main downtown thoroughfare, a ramp, supported by inward leaning piers, was designed to wind its way ten times to the top. Covering the entire triangular area from river to river the huge centripetal structure was to be topped with a fountain, punctuated by a fanciful tower, and accompanied by a circular boat pavilion at the very point where the rivers join. If constructed, the Community Center with its bridges would have been attached to the so-called "Golden Triangle" of Pittsburgh as an ornamental clasp drawing the main sections of the water-divided city together.

On a modest scale Wright incorporated the spiral for the interior of the V. C. Morris Gift Shop of San Francisco in 1949, and three years later repeated it as a basic form for the David Wright house in Phoenix, Arizona (**Fig. 16**). Once again, concrete block was used for most of the house with mahogany built in as trellises, window frames, ceilings, and furniture. Outside walls are plain, rough-textured concrete except for an ornamental band of blocks that begins with the entrance ramp, encircles the bottom of the cantilevered house, and winds along an upper ramp leading to a roof garden. The pattern of the band is comprised of half circles that curve into interlocking relief. This produces an inverted likeness of the opening seed favored by Louis Sullivan as an ornamental motive. In this case, however, the seed pattern is utilitarian in that its projections are drip points from which water runs off, helping to prevent weather stain. Although a slight return to applied ornamentation, the utility of the border adds a reason for its being. By no means does it distract from the overall unity of the structure. An initial glance may suggest the ancient egg and dart, but closer inspection reveals no connection with the classical. The egg and dart along a lintel halts the eye and helps it adjust from a vertical to a horizontal. The "seed" patterned border is so much a part of the circular scheme that the eye accepts it as a small scaled repetition of the building's basic shape. The circle appears throughout the plan as a pattern for a sidewalk, a rug, a pool, and a utility stack. The border simply contributes to the variation of this geometric theme.

In contrast to other structural motives employed by Wright in his late ornament-buildings the spiral is rather subdued in effect. A much more daring extension of reinforced concrete is the shallow bowl which at times becomes a flying saucer motive. It was first projected in 1947 for a somewhat bizarre building, the Huntington Hartford Play Resort planned for a site in Hollywood Hills, California. This would have been an elaborate ornament crowning a hill in trefoil formation with saucers hovering above a climbing series of three large bowls which were to be used for parking, tennis, and swimming respectively. On top, another saucer, sheltered by a flat dome, was to perch near the peak of a pyramidal structure to which all the bowls and saucers were to be attached. As in the case of so many of Wright's elaborate conceptions, the saucer theme was brought out of the clouds when finally incorporated into a completed build-

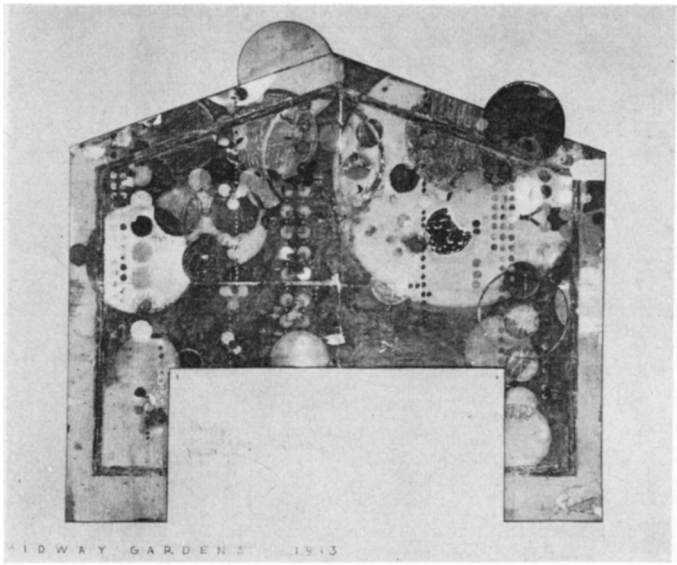

Fig. 18. Drawing for Tavern Room mural, Midway Gardens, Chicago, Ill. 1913.

ing. The Greek Orthodox Church in Wauwatosa, Wisconsin thus consists of one disc covered by another. These are then connected by a border of arches and supported by gracefully curved piers that cross in the center as an open vault on the ground level.

An older structural motive in Wright's quest for the ornament-building is the polygonal tent. It first appeared as an appropriate idea for the Lake Tahoe and Nakoma Country Club projects in the mid-twenties. Then the tent was greatly enlarged to become a proposed Steel Cathedral conceived for a New York City site in 1926. This fantastic device was to include what were termed "minor Cathedrals" and was meant to accommodate a congregation of a million people. When finally constructed in 1959, as the Beth Sholom Synagogue in Elkins Park, Pennsylvania, Wright's steel and glass tent was diminished and altered until it suggests Noah's Ark, if not Mount Sinai. This image succeeded the implication of a boat in the "prow" of the Unitarian Church constructed in Madison, Wisconsin in 1947.

CULMINATION

The last large dream projects of Wright's long career became increasingly incredible as large-scale ornaments spread out upon the landscape. The Arizona State Capital "Oasis," for example, was projected as an hexagonal pyramid with a glassed-in honeycomb roof and a matching segmented spire. Equally exotic is the plan for greater Baghdad laid out in 1957, the same year as the Tucson project. Similar to the Pittsburgh Point project in that the site is bound by rivers, the adjoining university and opera house complexes are also circular. Spiral roadways wind around each and the buildings enclosed consist of domes, discs, and decorative spires. A similar kind of site absorption with interlaced roads, domes, and arcaded buildings that bridge three hills is being achieved in the Marin County Civic Center in California.

That much of Wright's final architecture is characterized by an ornamental organicism in opposition to his early topographical designs is further demonstrated in his late ground plans. While in most domestic architecture the shapes of a house and its loggia, garden, pool, or planted areas evolve as practical parts of the plan, they could be applied as positive determinants to the composition in the abstract. In Wright's ornament-buildings they do become clearly pronounced squares, circles, and triangles carefully composed in the spirit of the Froebel "Gifts." Thus, ground plans are consciously composed as decorative patterns as well as functional divisions of space. In fact, some of the most important plans of the last thirty years bear an amazing resemblance to certain geometric wall panels from the first half of Wright's career. Comparisons suggest that he may even have used examples of such early ornamentation in laying out some of his last ground plans.

This association is witnessed in the original plan for the projected Ralph Jester House of Palos Verdes, California in 1938 **(Fig. 17)**. Placed on a lightly drawn grid of squares, the major portions of three large concentric circles indicate terraces. From a common center a segment of a still smaller circle describes a planting bed. The main portion of the house proper forms a secant which cuts across the circle slightly above its center. Interrupting the three outer terrace circles is the lounge, also a circle with the same radius as that of the planting bed. Three scattered circles for dining, sleeping, and servants quarters are the next smaller in size, while clustered to them are even smaller circles for cooking and bathing All are joined together by rows of round shapes indicating piers placed along a right angle of roof squares. The whole geometric pattern may have lead to the statement by A. Hyatt Mayor that "Wright's drawings catch and hold one by their acrobatic geometry."[25]

The decorativeness of the Jester House plan is easily emphasized by comparing it with a preparatory study for the Tavern Room mural in the Midway Gardens **(Fig. 18)**. A similar design was used for the final version and could well have inspired the ground plan of the late thirties, if only indirectly, as a decorative device lodged in the architect's memory. Both schemes are composed of various sized circles which overlap and intersect each other. Both are dominated by one large circle, but have small circles arranged in rows and centered over the corners of adjoining squares. While the study for the mural is heavily rendered with intense colors, the Jester House plan is done in very light watercolor washes.

[25] *A. Hyatt Mayor, Introduction, Frank Lloyd Wright's,* Drawings For A Living Architecture *(New York: Horizon Press, 1959), p. 21.*

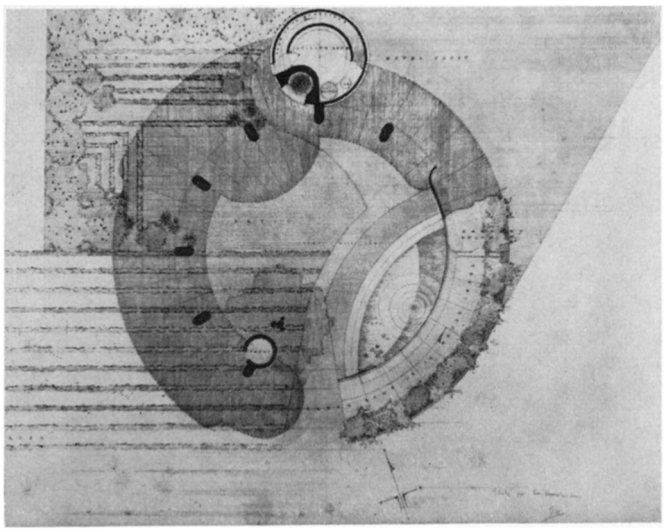

Fig. 19. David Wright House, Phoenix, Ariz. Groundfloor plan. 1952.

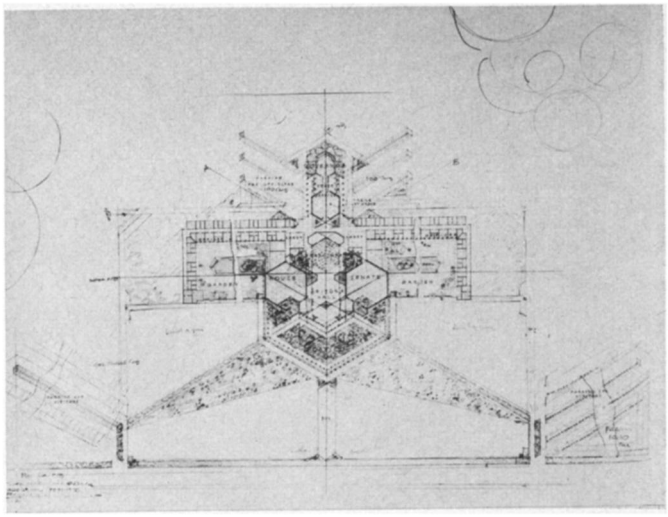

Fig. 20. Arizona State Capitol Pioject, Phoenix, Ariz. Groundfloor plan. 1957.

However, if the earlier colors were applied to the ground plan drawing, it would appear to be a piece cut out of the Tavern Room mural.

Wright's 1952 design of the spiral house for his son, David, at Phoenix, Arizona includes a color drawing of the plan beautiful enough to be displayed as a pictorial composition (**Fig. 19**). This is not just a diagram for construction but it assumes a self-contained ornamental quality. One might ask why the architect bothered to make such an elaborate drawing for his son. This was not a house which had to be sold to a client. Nor was it necessary to indicate ornamentally the planting of the garden or to elaborate the shadows cast by the house. After all, his son, working closely with him, was well acquainted with the possibilities of the site. The only masonry indicated on this plan is the beginning of the ramp to the elevated living quarters, the utility room, the tool closet, plus the seven supporting piers. The rest of the structure is indicated as shadows, with dark green for those over grassy areas, and lavender for those over the motor court. The primary reason for the rendering seems to lie in the lyrical beauty of the pattern, which results from Wright's aesthetic pleasure in reproducing the plan for its ornamental effect.

Circles multiply in Wright's decorative ground plans during the forties and fifties, fulfilling his requirement for a "continual becoming." Clusters of full and segmented circles, varied in size and combined with rectangles into designs similar to that of the Tavern Room mural, were used for the Elizabeth Arden Resort Hotel projected in 1945, and for the plan of a concrete house in Arizona composed two years later for Mrs. Paul Palmer. The latter was obviously based on the Jester House plan. Also, beginning in 1938 with the Civic Center plan for the proposed Monona Terrace in Madison, Wisconsin, complexes of circles came into play for public projects. The Community Center for Pittsburgh's Point Park is prominent among these, and the Guggenheim Museum is the concrete culmination.

Circular plans, however, are not the only patterns that may be traced back to early surface decorations in Wright's architecture. The same could be done with the projected plan for the Arizona State Capitol building and grounds, and it is composed entirely of angular shapes, including triangles, parallelograms, hexagons, squares, and oblongs (**Fig. 20**). The entire scheme resembles the plywood paneling designed for the office of Edgar Kaufmann, Sr. in 1937. But, as a symmetrical arrangement of parallel diagonals turning toward a central axis, it resembles even more a design of 1903 for a fanlight window in the Susan L. Dana House in Springfield, Illinois. Wright called this design a "butterfly wreath" and with the aid of a little imagination basic butterfly shapes do emerge from the pattern. Similarities between the 1903 decoration and the large ground plan of the late fifties are found in the extended or overlapping triangles, and the combination of several shapes to create new ones, for example, two triangles become a diamond shape.

Thus, in the end early surface decorations are, in effect, taken down from the old walls and windows to become extended spatial determinants of Wright's last ornament-buildings. Consequently, a continuity can be traced through the lasting ornamental effect of Wright's architecture. Initiated by Sullivanesque relief decorations and then personalized in the Froebel-inspired geometric patterns, his constant concern with creating ornament for an organic structure is finally asserted through and beyond these early applied means toward a culminating ornamental organicism. ■

JAMES DENNIS is in the Department of Art History at the University of Wisconsin, Madison, Wis. He has been doing research on Wright for many months. Mrs. Wenneker who assisted him is at the University of Pittsburgh.