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NOTE

Frank Lloyd Wright: Plasticity, Continuity, and Ornament

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IN THE WINTER of 1928–1929 Frank Lloyd Wright went into the Arizona desert with a crew of assistants to plan a great resort complex for Alexander Chandler (Fig. 1). Wright's wife, Olgivanna, and their small daughters went with him. He devised ingenious structures in rough boarding and doubled canvas flaps to house this group temporarily in the wilds (Fig. 2). Exhilarated by his environment, Wright took new bearings on architecture. As he motored across the vast expanses of the West he saw in the highways and gas stops the framework of future decentralized communities (Fig. 3). How would architecture evoke the poetry of this new American pattern (Fig. 4)? In the mountains, the cacti, and the desert fauna Wright discovered angularities, combinations of 30, 60, and 120 degrees, offering supple patterns of movement and repose (Fig. 5). These patterns might be traced in dotted sequences of solid material through which space permeated freely, a device Wright had used only sparingly before (Fig. 6). These elements together with his novel inexpensive building system of reinforced concrete shells (Fig. 7) suggested to Wright the outline of a grand architectural potential (Fig. 8).

The euphoria was brief; by the end of 1929 the market crash and the onset of the Depression stopped everything short. Abetted by his wife Wright took to writing and lecturing as a way of life. Already in his 60s, he found people, especially young architects, interested more in what he had accomplished and experienced than in his unfulfilled dreams. Wright recounted his start amid Queen Annery and imperial plaster classicism, then the dawn of clarity in the Prairie School works, leading to his more advanced achievements in Japan and California.

However, Wright felt he should be drawing and building, not talking and writing, and even more he felt that to freeze concepts in verbal formulas would harm his greatest resource, imagination. Wright's statements have character and direction, but he often obscured the underlying thought in turgid, inconsistent phrasing. Nevertheless these early texts reveal Wright's architectural development; how his insight grew can be demonstrated in his own words. I shall attempt this briefly with two of Wright's more puzzling words, plasticity and continuity, often used interchangeably by him, but in the long run conveying a transition from one stage of architectural understanding to another more mature one. As the concepts become disentangled another aspect of Wright's work, his ornament, largely misunderstood today, will appear in its original significance.

The quotations are taken from Wright's publications of the 1930s: lectures at the Art Institute of Chicago and at Princeton; *An Autobiography*; and articles in the Madison, Wisconsin, *Capital Times*.[1] Wright's basic texts may well reach back to 1926 or 1927 when he started *An Autobiography*. To begin with plasticity,

> Plasticity was a familiar term but something I had seen in no building whatsoever. I had seen it in Lieber Meister's[2] ornament only; it had not found its way into his buildings otherwise [Fig. 9]. It might now be seen gradually coming into the expressive lines and surfaces of the buildings I was building.[3]

Wright then turns to the importance of machine produc-

1. Quotations are taken from four sources:
   (a) *Two Lectures on Architecture*, Chicago, 1931.
   (b) *Modern Architecture, Being the Kahn Lectures for 1930*, Princeton, 1931.

References for these two are taken from *The Future of Architecture*, New York, 1954, where they are reprinted.

   (c) *An Autobiography*, 1932, with references as reissued New York, 1943.
   (d) Wright's articles in the Madison, WI, *Capital Times*, February 1934 to October 1937; references are to excerpts reprinted in *An American Architecture*, New York, 1955.

2. Louis Sullivan.
3. *An American Architecture*, 208.

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Figs. 1–4 Wright's experience in the desert.

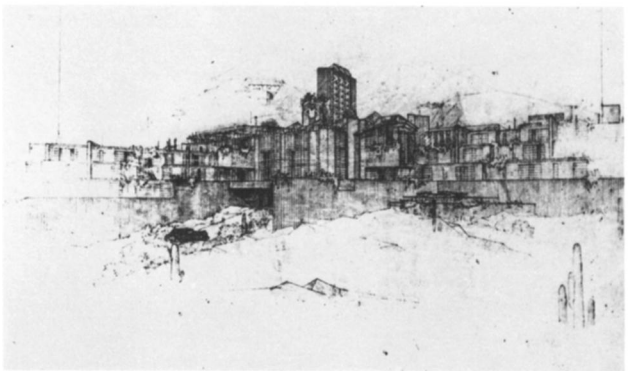

Fig. 1. San Marcos Hotel project, 1927–1929 (*Frank Lloyd Wright, Dessins, 1887–1959*, Paris, 1977).

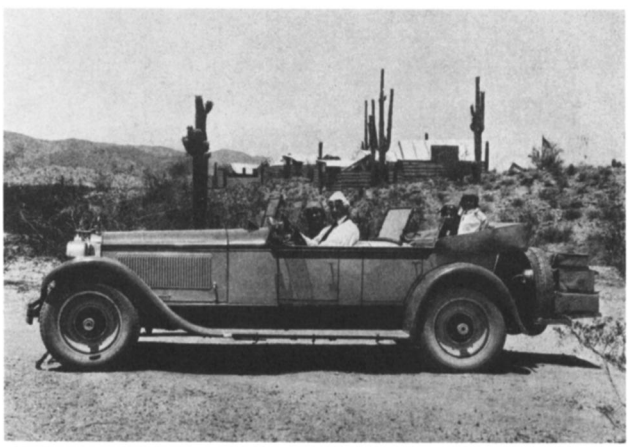

Fig. 2. "We start from Ocatilla," showing the temporary buildings in the desert and the touring car with the Wright family.

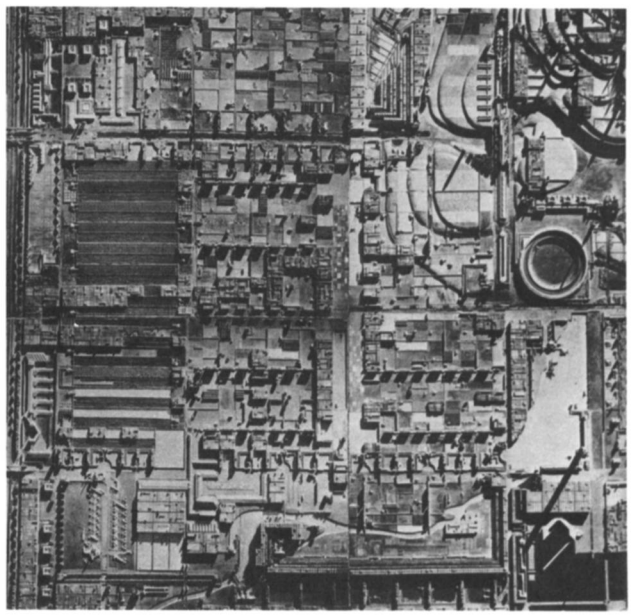

Fig. 3. Broadacre City project, 1934, portion of model. Wright's design for a new pattern of spreading population (Olgivanna Lloyd Wright, *Frank Lloyd Wright, His Life, His Work, His Words*, New York, 1966).

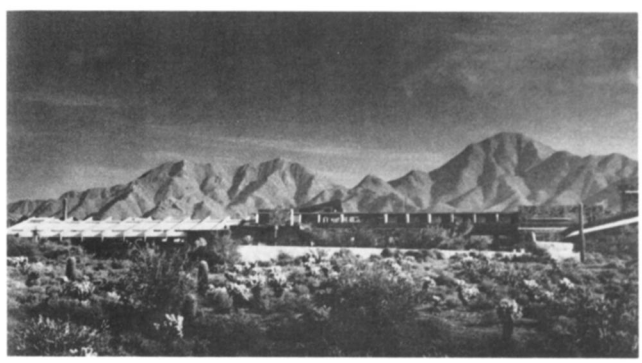

Fig. 4. Taliesin West in its setting; the harmony of building forms with geological formations, 1938 (*Frank Lloyd Wright, His Life, His Words*).

tion in accord with the stand he had taken in "The Art and Craft of the Machine," 1901.[4]

The machine resources were so little understood that extensive drawings had to be made merely to show the "mill-man" what to leave off. But the "trim" finally became only a . . . flat, narrow . . . wood band . . . around the room . . . [Fig. 10].[5]

I did make the "trim" plastic, . . . continuously flowing, instead of the prevailing heavy "cut and butt" carpenter work [Fig. 11]. . . . The machine could do it all perfectly well as I laid it out.[6]

When the interior had thus become wholly plastic . . . a new element . . . entered architecture [Fig. 12]. Strangely enough an element that had not existed . . . before. . . . this revolutionary sense of the plastic whole, an instinct with me at first, began to work more and more intelligently and have fascinating, unforeseen consequences.[7]

Perhaps the most remarkable consequence can be seen in Wright's treatment of the piers inside Unity Temple. At first each pier was ornamented elaborately and equally on all four faces. The final decision was to use a simple band of dark wood and color wrapped around only the two interior faces of each pier.[8] Thus the ornament which originally emphasized the entity of each of the piers came to accent the

4. Reprinted in Edgar Kaufmann and Ben Raeburn, eds., *Frank Lloyd Wright: Writings and Buildings*, New York, 1960.

5. *Future of Architecture*, 140.

6. *An Autobiography*, 143.

7. *Future of Architecture*, 140.

8. The earlier treatment in Arthur Drexler, *The Drawings of Frank Lloyd Wright*, New York, 1962, pl. 34; the final version in Henry-Russell Hitchcock, *In the Nature of Materials*, new ed., New York, 1973, fig. 120.

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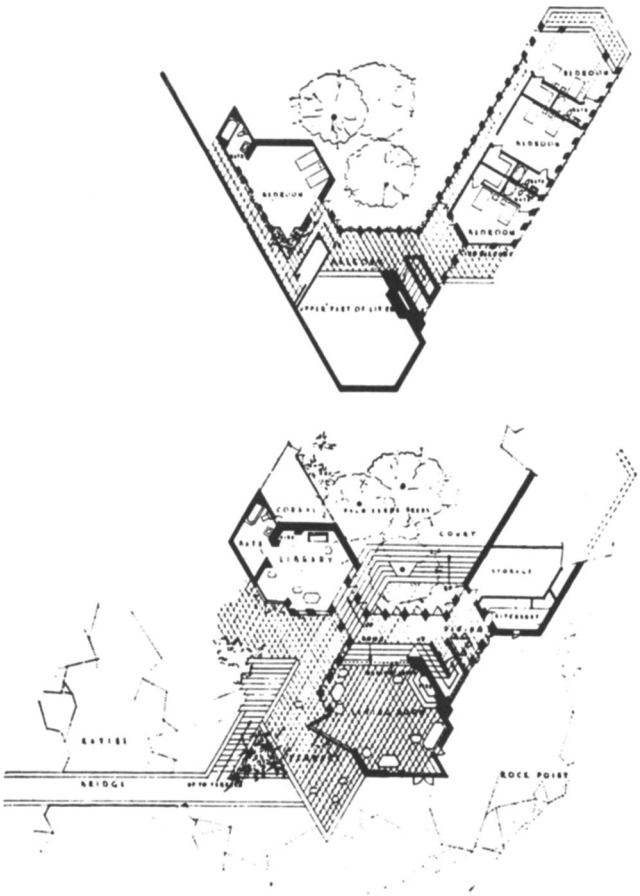

Fig. 5. Plans for a residence in the San Marcos complex, 1927–1929; the Cudney project. One of Wright's earliest essays in 30–60 angles (Henry-Russell Hitchcock, *In the Nature of Materials*, new ed., New York, 1973).

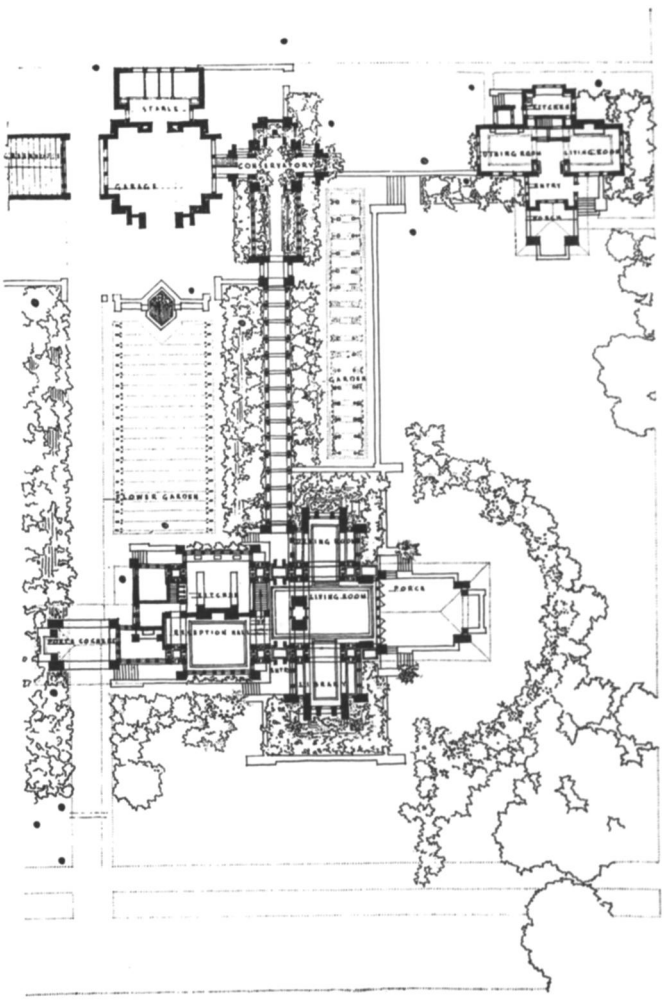

Fig. 6. Plan of the D. D. Martin house, Buffalo, 1904. Wright's interest in planning with dotted sequences rather than unbroken lines awoke early (*In the Nature of Materials*).

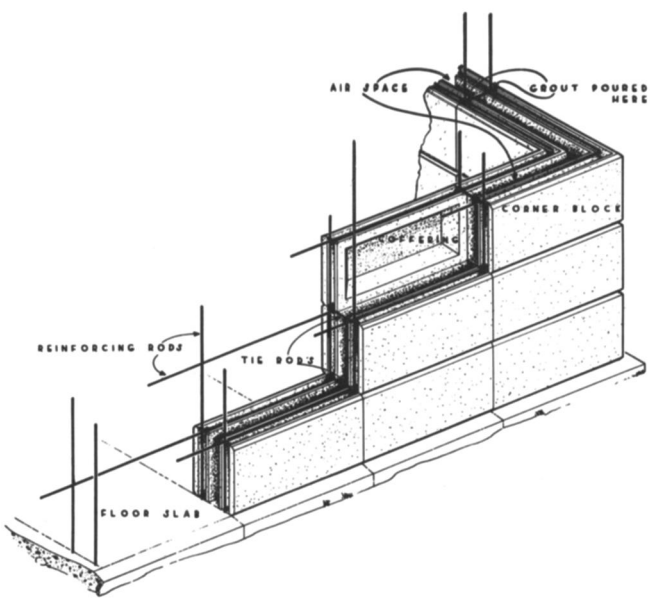

Fig. 7. "Textile blocks," Wright's inexpensive system using cast shells of concrete joined vertically and horizontally with grouted reinforcing rods (*The Natural House*, New York, 1954).

Figs. 5–8 Novel angularities and a system of construction.

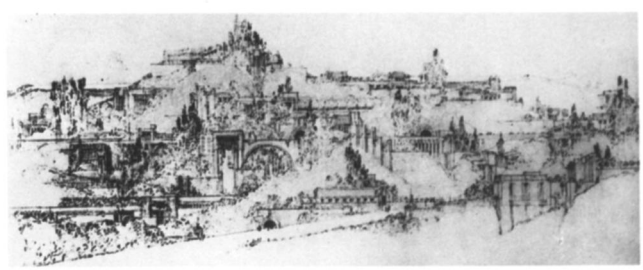

Fig. 8. Doheny Ranch project, 1921. Wright had planned an ideal development in "textile blocks" for the mountains before exploring the desert (*An American Architecture*, New York, 1955).

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Figs. 9–13 Wright used ornament to clarify spatial relationships. In late works he made structure itself at once clear and ornamental.

Fig. 9. Louis Sullivan's sketch for an interior ornament in the Auditorium Building, Chicago, 1887–1889, made when Wright was his assistant (Avery Library, Columbia University).

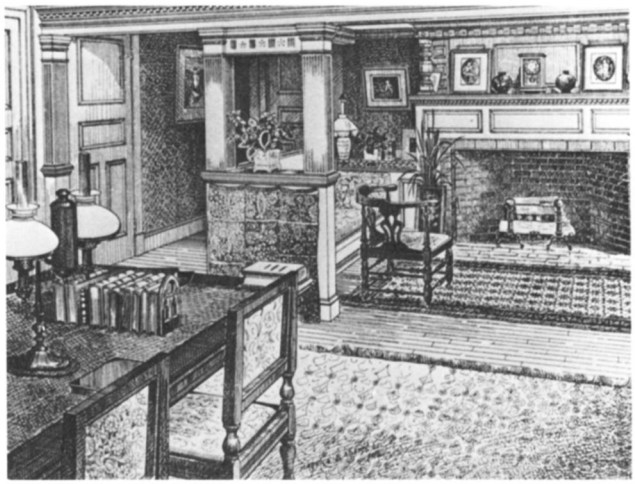

Fig. 11. Portion of an interior by Arthur Little, 1880–1881. Trim similar to this persisted through the century (Vincent Scully, Jr., *The Shingle Style*, New Haven, 1955).

Fig. 12. Corner of the living room, Taliesin, Wisconsin, ca. 1916. The congruence of major and minor details gave Wright a desired sense of unity (*In the Nature of Materials*).

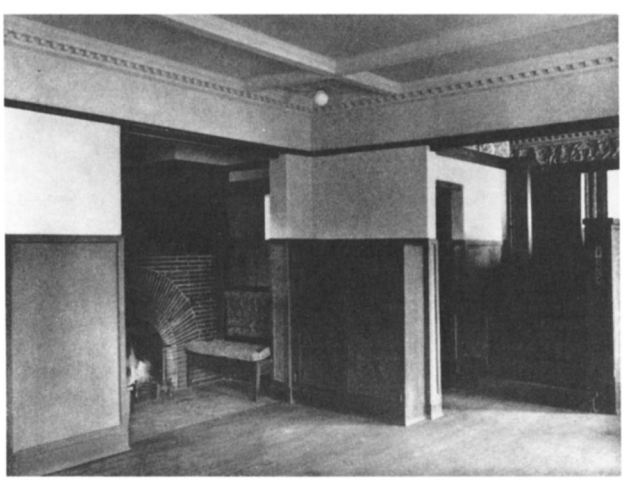

Fig. 10. Interior of Wright's own house, Oak Park, 1895–1911. Wright began early to simplify the wood stripping he substituted for conventional molded trim (Grant C. Manson, *Frank Lloyd Wright to 1910: The First Golden Age*, New York, 1958).

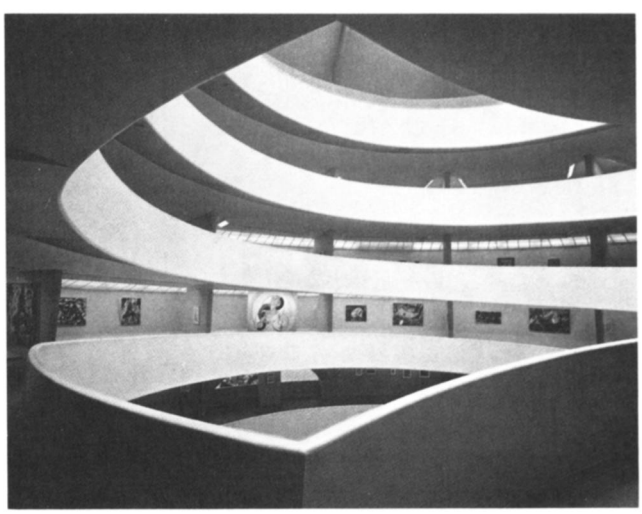

Fig. 13. Interior view, Guggenheim Museum, New York, 1945–1959. Here the unity of structure yielded a pattern which needed no elaboration (Guggenheim Museum).

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importance of the central space. This was Wright's clear declaration of the primacy of space over matter.

Now why not let walls, ceilings, floors become *seen* as component parts of each other, their surfaces flowing into each other [Fig. 13].[9] . . . why not throw away entirely all implications of post and beam construction? Have no posts, no columns, no pilasters, cornices or moldings or ornament; no divisions of the sort nor allow any fixtures whatever to enter as something added to the structure. Any building would be complete, including all within itself. Instead of many things *one* thing. I promoted plasticity as conceived by Lieber Meister to *continuity* in the concept of the building as a whole.[10]

Wright next explains how working "in the nature of materials"[11] facilitates continuity.

Glass as we use it now is a miracle. Air to keep air out or keep it in [Fig. 14]. Light itself in light, to diffuse or reflect, or refract[12] light itself. . . . Open reaches of the ground may enter . . . the building and the building interior may reach out and associate with . . . the ground. Ground and building will thus become more and more . . . directly related to each other in openness and intimacy. Walls . . . because of glass will become windows and windows as . . . holes in walls will be seen no more. Ceilings will often become as window-walls too [Fig. 15]. Sunlit space . . . becomes the servant of . . . the human spirit.[13]

Of course . . . primitive post-and-beam construction will always be valid, but both support and supported may now by means of . . . welded steel . . . or . . . woven filaments of steel and modern concrete castings be . . . united as one physical body: ceilings and walls made . . . into one another [Fig. 16]. This Continuity is made possible by the tenuity of steel. . . . The cantilever is the simplest one of the important phases of this . . . new structural resource. . . . It has yet had little attention in architecture. It can do remarkable things to liberate space [Fig. 17].[14]

An earlier author admired by Emerson, E. L. Garbett,[15] in his *Rudimentary Treatise on the Principles of Design in Architecture*, 1850, had predicted that tensile construction (in his day limited to trusses and braced frames) would give rise to "the architecture of the future." The *Treatise* was reissued often. If Wright did not know Garbett's ideas firsthand he probably encountered them among the thoughts of friends and associates in the early days in Chicago. However, Wright leads smoothly from the nature of materials to what he calls nature-pattern, i.e., the pattern latent in a material and in its appropriate use.

Figs. 14–18 The nature of materials as employed in structure was Wright's main resource for an ornament intrinsic to his buildings, that is, free of associations, symbols, and decorative supplements.

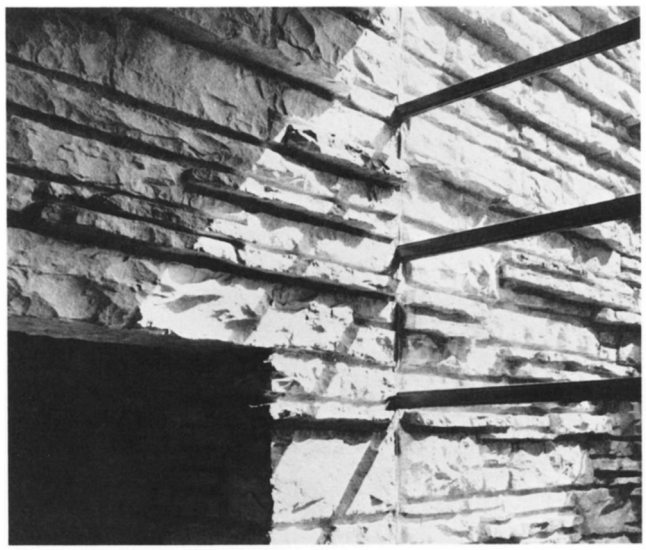

Fig. 14. Glass shows the continuity of wall inside and out; Fallingwater, 1936 (W. Galen Barton).

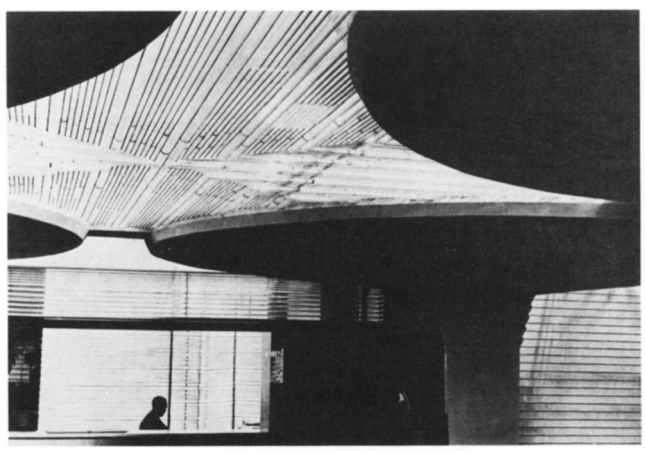

Fig. 15. Glass in the Johnson Wax administration building, 1936. Refraction through parallel tubes; the roof is open to light between the caps of mushroom columns (*An American Architecture*).

. . . as many fascinating . . . properties as there are different materials . . . will . . . naturally qualify, modify, and utterly change all architectural form. . . . the architect must begin again at the very beginning. . . . now he must sensibly go through with whatever material may be at hand . . . according to the methods and sensibilities of a man in this age. . . . I mean inherent *structure* seen always by the architect as a matter of complete design. It is in itself, always, *nature-pattern*. It is this profound internal sense of materials that enters in as Architecture now. . . . Heretofore, I have used the word "pattern" instead of the word ornament to avoid confusion or to escape the passing prejudice. But here now ornament is in its place. Ornament meaning not only *surface qualified by human imagination* but imagination giving

9. *An Autobiography*, 146.

10. *An American Architecture*, 209. The sentence sequence has been changed for emphasis.

11. This phrase was chosen as the title of H.-R. Hitchcock's indispensable book.

12. Wright became interested in refracted light in the 1890s when he held a franchise for Luxfer Prism glass blocks.

13. *An Autobiography*, 338–340. The sentence order has been changed.

14. *An Autobiography*, 341.

15. For a sampling of Garbett's ideas see Edward R. De Zurko, *Origins of Functionalist Theory*, New York, 1957.

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Fig. 16. Continuous structure in reinforced concrete; the folded plane, the circular form with compression on the inner circumference, and minimal uprights (not visible in the photograph) make this a splendid demonstration of cantilevering. Fallingwater, 1939 (Paul Mayén).

Fig. 17. Trellis in front of guest wing, Fallingwater, 1939. Here the extended cantilever gives shape to space without impeding the passage of movement or of sight (W. Galen Barton).

natural pattern to structure [Fig. 18]. Perhaps this phrase says it all without further explanation.[16]

It has been possible to trace Wright's growing awareness of the power of continuity, first on surfaces, then in structure, in space, and in the expression of these architectural factors working together. Wright begins this development with the plastic ornament fluently created by his master, Louis Sullivan, and terminates it with his own quite different sense of ornament as the requisite refinement of the natural pattern of structure.

16. *An Autobiography*, 344, 345, 347.

Fig. 18. Structural stone and concrete are made ornamental without recourse to supplements; Fallingwater, 1936 (Paul Mayén).

Wright's ornament (in architectural trim, art-glass windows, furniture, and other decorative adjuncts) usually is trivial when isolated. It reaches significance as the obbligato accompaniment to some specific architectural composition that Wright was orchestrating. Then it takes its place in Wright's prolonged search for ever more inclusive continuity.

What led Wright into this preoccupation with continuity? I believe he saw human life as one of the processes of nature, not as some exceptional form of creation. Within nature people are active, adapting nature to suit their wants; they contribute feedback within the natural system. Similarly he saw architecture as a natural process of human life, in turn feeding back to its parent system. Thus to Wright architecture, mankind, and nature were joined in a grand dynamic continuity, and continuity within architecture indicated that people were aligning themselves—as he believed they should—with the natural forces of life.

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