Frank Lloyd Wright and Michelangelo

Hilary Ballon

Henry-Russell Hitchcock issued a warning in 1948 at a symposium on the question: What is Happening to Modern Architecture? After commending Frank Lloyd Wright's "capacity for variety of expression," Hitchcock cautioned, "With Mr. Wright there is a danger, for he is obviously the Michelangelo of the twentieth century. Michelangelo was not good for his contemporaries, and, least of all, for his students." A year later, Philip Johnson echoed the view: "Frank Lloyd Wright is our Michelangelo."[1]

The comparison may not seem like a putdown, but the parallel with Michelangelo was barbed and reflected ambivalence toward Wright at mid-century. As Neil Levine has shown, Hitchcock and Johnson, among other critics in the 1940s, intended the comparison to marginalize Wright. Even while conceding his genius, they isolated Wright from his time, denied his influence and, implicitly, questioned his place in history.[2] I would like to historicize the comparison in another way by asking if Wright thought of himself in relation to Michelangelo as did critics during his lifetime. How did the Renaissance master enter into Wright's thinking? Behind this question is the broader issue of Wright's connection to history—not only the history of modernism, but also the venerable humanist tradition of architecture that conceived of built form in relation to man and nature through the mediating language of geometry.

Such a line of inquiry is complicated by Wright's largely successful effort to locate himself outside of history. The irrelevance of history was a predicate of Wright's mission, which broke with the imitation of historical styles and envisioned an organic architecture responsive to specifically American conditions. Driven by an ambition to revolutionize architecture, Wright repudiated the value of the past even as he aspired to enter the pantheon of peerless "poet builders" and achieve immortal recognition. Wright found no fellowship among architects of the past; indeed, he rarely mentioned a pre-modern architect by name. The one figure to whom he generously paid tribute was Louis Sullivan, whose life ended in professional and personal collapse and who posed no risk to Wright's claims of originality. The kind of historic architecture Wright freely praised was vernacular architecture, "humble buildings . . . with which architects were seldom concerned,"[3] or architecture without architects. "I find very annoying . . . his contempt . . . for all architecture that preceded him," Philip Johnson grumbled. "Was he born full-blown from the head of Zeus that he could be the only architect that ever lived or ever will?"[4]

In view of his nameless history of architecture, the rare occasions when Wright singled out an architect carry a special charge. One such occasion occurred in 1930 when Wright began a lecture by attacking Michelangelo and the dome of St. Peter's. The attack yielded one of the longest, if not the longest, passage about an old master in Wright's writings. My gloss on the text seeks to understand Wright's judgment of Michelangelo which, I submit, was not what it appeared to be, and to speculate about the way one titanic figure in the history of architecture grappled with another.

"Michelangelo built the first skyscraper I suppose, when he hurled the Pantheon on top of the Parthenon. The

Pope named it St. Peter's and the world called it a day, celebrating the great act ever since in the sincerest form of human flattery possible. As is well known, that form [the dome] is imitation."[5] So begins "The Tyranny of the Skyscraper," the fifth in a series of six lectures that Wright delivered at Princeton University in May 1930 and published in 1931 as *Modern Architecture Being the Kahn Lectures for 1930*. The book is important for two reasons: it responded to critics who challenged Wright's credentials as a modern architect; and it made Wright aware of the role books might play in shaping his critical reception. *Modern Architecture* was Wright's first book and launched his career as a prolific author.[6]

The flamboyant opening quoted above encapsulates Wright's view of Renaissance architecture as barren imitation. Siding with Victor Hugo, John Ruskin, and Eugène Viollet-le-Duc, nineteenth-century romancers of medieval art, Wright posited the Renaissance not as rebirth but as decline, a compilation of dead styles: "The freedom from the yoke of authority which the Renaissance gave to men was seemingly a great gain; but it served only to bind them senseless to tradition and to mar the art of the Middle Ages past repair . . . [Architecture] will not live again until we break away entirely from adherence to the false ideals of the Renaissance."[7] This passage comes from Wright's most extended commentary on the Renaissance, which was written in 1910 while he was living in Florence and discovering the art of the quattrocento and cinquecento. Wright did not pause to comment on individual artists in his sweeping dismissal, but the 1930 lecture has a different edge. Personifying the problem of the Renaissance, Wright cast Michelangelo as antihero.

Wright made Michelangelo's failings mirror those of modern architects. First, Wright accused him of thinking the biggest building is the best. After praising the low, "deep seated" domes of Persia, the flat vaults of ancient Rome, and even one big dome, Hagia Sophia, Wright projected the skyscraping ambitions of the 1920s onto the Renaissance architect: "Buonarroti got his dome up higher than all others—got it out of the building itself up onto stilts."[8] Wright either did not remember or chose to ignore Giorgio Vasari whom he had read in 1910 while living in Florence and who explained that Michelangelo placed no premium on height. In fact, Michelangelo lowered the profile of St. Peter's compared to alternative schemes by designing a hemispherical dome.[9]

Michelangelo's second failing was his ignorance of structure. In Wright's paragone of the arts, architecture reigns supreme because it links form with structure and utility. Thus he condemned Michelangelo for approaching architecture as pure form-making: "Buonarroti, being a sculptor himself (he was painter also but, unluckily, painted pictures of sculpture), probably thought Architecture, too, ought to be Sculpture. So he made the grandest statue he could conceive out of Italian Renaissance Architecture."[10] In short, Michelangelo designed a dome he could not support.

> History relates . . . that a hurry-up call had to be sent in at the last moment for the blacksmith. A grand chain was needed, and needed in a hurry, too, to keep this monumental grandeur, up there where it was, long enough for it to do its deadly work. While they were getting this grand chain fastened around the haunches of the grand dome, in jeopardy on its stilts, our hero, the truly great sculptor, deeply, or rather highly, in trouble with Architecture, must have known some hours of anguish such as only Architects can ever know.[11]

The facts did not interest Wright. Not only was the dome of St. Peter's built after Michelangelo's death and according to a revised design, but the story of emergency repair was pure fiction. True, metal reinforcements were used in the dome, but this was common building practice in arched construction. Vasari emphasized

Michelangelo's knowledge of vaulting and structural issues, even if he initially rejected the papal commission because "architecture was not his vocation."[12]

Wright regarded the dome of St. Peter's as an abstract idea, not a three-dimensional structure. It is uncertain if he had seen the church during his European sojourn in 1909-10. In any case, Wright was not prepared to recognize the creativity of Michelangelo's solution—the brilliance of the double-shell construction, the orchestration of forms into a coherent mass, the drama of the domed interior space. He only saw a "scrap-pile of reborn posts, pilasters and mouldings of the Graeco-Roman sort," a "magniloquent waste" (an inconsistent complaint from the designer of the Larkin Building's monumental atrium) and a form "empty of meaning or of any significance whatever except as the Pope's mitre has it."[13] Michelangelo's dome set the terms of its own wanton imitation. "From general to particular the imitation proceeds," Wright explained. "The world saw it, accepted and adopted it as the great symbol of great Authority. And so it has flourished as this symbol ever since, not only in the great capitals of the great countries of the world, but, alas, in every division of this country, in every State, in every county, in every municipality thereof . . . Everywhere the symbol leaves us, for our authority, in debt to Michelangelo for life."[14] One such dome he knew well; it dominated Madison, Wisconsin, not far from his Spring Green home.

However illogical it was to hold Michelangelo responsible for St. Peter's progeny, the accusation has the effect of magnifying his crime and achievement.

> Domed or damned was and is the status of official buildings in all countries, especially in ours, as a consequence of the great Italian's impulsive indiscretion. But no other individual sculptor, painter, or architect, let us hope, may ever achieve such success again, or Architecture at the end of its resources may pass out in favor of something else.[15]

Thus concludes Wright's evaluation of Michelangelo, "the greatest artist who ever lived." Wright then turned to skyscrapers, the proper subject of the lecture, and paid tribute to Louis Sullivan's design of the Wainwright Building, "a greater achievement than the Papal Dome, I believe, because here was utility become beauty by sheer triumph of imaginative vision."[16]

Why did Wright demonize Michelangelo? Early drafts of "The Tyranny of the Skyscraper" omitted Michelangelo and the lecture began more logically with an anecdote about real estate values and congestion.[17] Granted, Michelangelo's dome vividly illustrated what Wright opposed—the classical canon, historical styles and academic values which Princeton after all embodied. But arguably other local examples would have made these points more forcefully, such as a decorated skyscraper in Manhattan or a historicist building on the Princeton campus. Outside the lecture hall stood two masquerade Greek temples, Whig and Clio Halls (1823, remodeled 1893), and Ralph Adams Cram's brand-new Gothic chapel (1925-28).

Nothing in Wright's earlier work accounts for the ad hominem attack on Michelangelo in 1930. Wright had previously mentioned his name only in passing; half-formed references to "Angelo" are embedded in lists of names along with respectful references to his "magnificent pictorial sculptures" which Wright had "the privilege" of studying in Florence.[18] Wright set small casts of the David in several Prairie houses. The insertion of Michelangelo in "The Tyranny of the Skyscraper" was unexpected, even digressive, and therefore meaningful. If Wright abandoned the impersonal terms of his standard historical critique, personalized the problem with classical architecture, and celebrated Michelangelo as antihero, it was because in 1930 he needed Michelangelo.

Wright projected his anxieties and ambitions onto the Renaissance master. Denouncing the fabled artist was in part a provocative way to start a speech, but more significantly, it positioned Wright in opposition to Michelangelo. The antagonistic pairing served to reaffirm Wright's achievement and relative importance in the history of architecture.

Princeton invited Wright to give the Kahn Lectures at a difficult moment in his career. Worse than unemployed, he was, in some quarters, deemed outdated, as good as dead. Wright was fighting for his place in history as a pioneer of modern architecture, a role Le Corbusier had usurped after the English translation of *Vers une architecture* was published in 1927 to critical acclaim. Hitchcock, for example, championed Le Corbusier as a "new Pioneer" and damned Wright as a "new traditionalist."[19] Wright challenged the critic, belittling the redundancy of the term "new pioneer." "Why new?" Wright asked. "A pioneer is a pioneer, *n'est-ce pas*? However that may be found to be, all Monsieur Hitchcock has to say or can see done in "Towards a New Architecture" was here at home in our own country, at work with Mr. Sullivan in his field and with myself in mine more than 25 years ago." This is a reference to his advocacy of the machine, which went back to the turn of the century. Wright made the same point in a cooler tone in his own review of *Towards a New Architecture* published in 1928: "The fact that all Le Corbusier says or means was at home here in architecture in America in the work of Louis Sullivan and myself—more than 25 years ago and is fully on record in both building and writing here and abroad—has no meaning for him."[20]

It should be noted that Le Corbusier celebrated Michelangelo in *Towards a New Architecture*: "Michelangelo is the man of the last thousand years as Phidias was the man of the thousand years before . . . The work of Michael Angelo is a *creation*, not a Renaissance, and overshadows the classical epochs." Le Corbusier included eight illustrations of St. Peter's and lavished praise on the church, including Michelangelo's idea of the dome. "To construct such a dome in stone was a *tour de force* that few men would have dared," but Le Corbusier correctly notes that Michelangelo only built the drum. "The rest fell into barbarian hands; all was spoilt. Mankind lost one of the highest works of human intelligence."[21] Wright's shrill attack on Michelangelo in 1930 may have carried some displaced contempt for his modern champion, Le Corbusier.

Bristling at his perceived rearguard position, Wright used the Princeton lectures to redefine himself as a pioneer. *Modern Architecture*, the plain but pithy title of the book, staked out his ground. The Kahn Lectures were a rejoinder to Le Corbusier's *Towards a New Architecture*, a counter-manifesto to reclaim the mantle of modernism. Rather than inaugurate the Kahn Lectures with a fresh statement of his ideas, Wright shamelessly reread an old lecture, "The Art and Craft of the Machine" of 1903, to demonstrate that he had posed the problem of the machine aesthetic long before Le Corbusier, echoing the theme of Lewis Mumford's essay "Frank Lloyd Wright and the New Pioneers" of 1929. Mumford challenged Hitchcock's "underlying thesis of a cleavage in form between the generation of Wright and the generation of Le Corbusier and Oud" and argued that "the glorification of the machine by people who are just learning to use it, is 'modern' in Europe today precisely because it is forty years behind our American experience."[22]

The issue of Wright's historical standing also explains the unusual illustration program of *Modern Architecture* (Fig. 1). Five of the six published drawings adopt a hard-edged, planar graphic style that Wright uniquely employed in 1929 to mimic the look of renderings by European modernists.[23] The drawings visually suggest that buildings from Wright's Oak Park years were forerunners of the International Style.

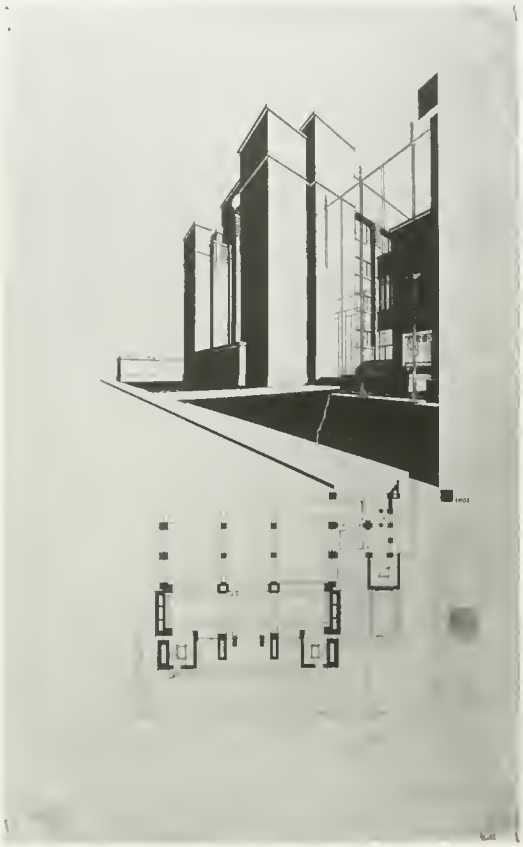

Figure 1. Frank Lloyd Wright, Larkin Building (1903), rendered by Heinrich Klumb, 1929-30. Frank Lloyd Wright Foundation 0403.002.

Figure 2. Frank Lloyd Wright, view of the Towers at St. Mark's in-the-Bouwerie, New York City, project, 1929. This rendering does not include the fourth tower proposed for a site across the street. Frank Lloyd Wright Foundation 2905.004

The complete argument of *Modern Architecture* need not be traced out here. Suffice it to say that Wright presented his ideas about the skyscraper, the modern building type par excellence, for the first time in his Princeton lecture. In a two-pronged argument, Wright mounted a social critique of the skyscraper as an instrument of real estate values and dehumanizing congestion, and an architectural critique of the standard system of steel-frame construction with masonry cladding in assorted historical styles. In Wright's analysis, the skyscraper is the modern analogue of Michelangelo's dome; both are structurally deficient, fixated on height, imitative in style, and widely imitated. Skyscrapers, "these Machine-made solutions with an ancient architectural look," Wright lamented, are "like the Buonarroti dome . . . foolishly imitated out on the western prairies and in the desolate mountain States."[24]

* * *

While Wright did not discuss specific designs in the Kahn Lectures, "The Tyranny of the Skyscraper" was closely related to two contemporary projects that informed his discourse and translated his principles into designs. Both projects were designed for the Reverend William Norman Guthrie, rector of the church of St. Mark's in-the-Bouwerie in New York City and dated from 1928-29. The designs were linked to the skyscraper lecture by chronology, geography, and typology.

In 1929, Wright designed a series of four towers to flank St. Mark's church, on Second Avenue at 10th Street, and at the time of the Princeton lectures, was campaigning to get them built. Guthrie went to Princeton both to see the tower model in the exhibition of Wright's work accompanying the lectures and to confer with Princeton faculty about the architect's revolutionary idea for a cantilever tower. The St. Mark's project was one of Wright's most ambitious and inventive designs. In a radical rethinking of the high-rise building type, Wright proposed a cantilever structure in lieu of a skeletal frame, and duplex apartments with free-flowing, sunlit space enclosed by curtain walls of glass and copper rather than masonry cladding (Fig. 2). The towers were set in a park, one of several ways they reconnected the city dweller with nature. Although unmentioned in the Princeton lecture, the St. Mark's Towers gave concrete expression to Wright's ideas.[25]

Wright understood the appeal of skyhigh verticality. Height was not a salient feature of the St. Mark's Towers; the tallest rose only eighteen stories, diminutive by New York standards. But his other design for Guthrie was a soaring "star tickler." In 1927, Guthrie asked Wright to illustrate an article on a "modern cathedral." Guthrie was leading a well-publicized, one-man crusade against St. John the Divine, the monumental building project that the Episcopal Bishop of New York William T. Manning was determined to complete. (He did not succeed; the cathedral remains unfinished to this day.) Guthrie objected to St. John the Divine on both artistic and religious grounds, and proposed a counter-project, modern in style, ecumenical in practice. On Easter Sunday 1928, in a sermon provocatively titled "The Resurrection of Our Dead Christianity, Clothed with the Body of an Impossible Cathedral," Guthrie laid out his vision of "a 1,500-foot star tickler, seating 25,000, thirteen-sided and built of steel and stained glass."[26]

Granting Guthrie's request, Wright made three drawings of the theoretical project in 1928.[27] They are a tribute to his intimate friendship with Guthrie, their common ideals, and above all, Wright's interest in the architectural problem that was posed. Wright conceived a centralized structure based on a hexagonal plan with a soaring tee-pee-like enclosure supported by a tripod of steel girders (Fig. 3). Wright called it the Steel Cathedral: a historic building type reinvented with modern materials of steel and glass and a new structural system based on a tripod.

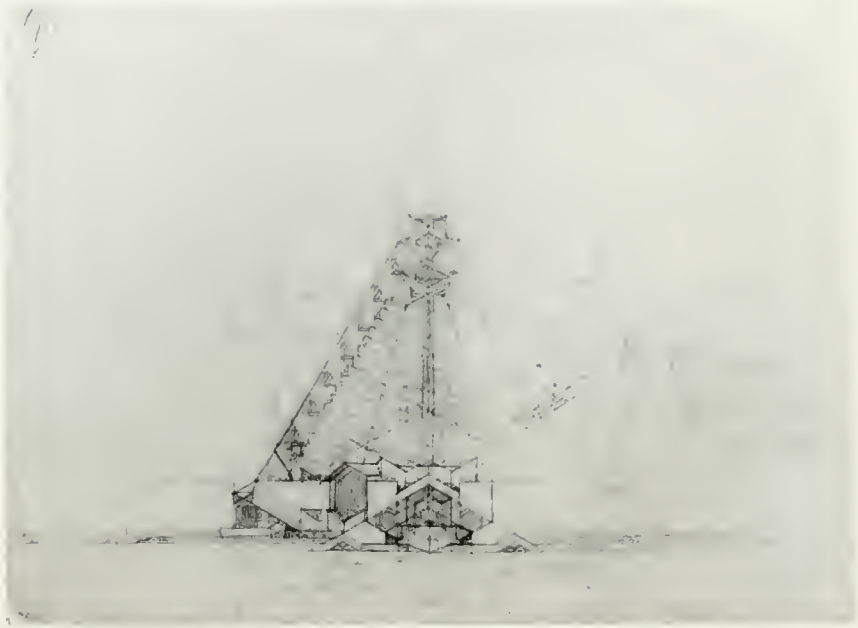

Figure 3. Frank Lloyd Wright, elevation of the Steel Cathedral, project, 1927. Frank Lloyd Wright Foundation 2602.003.

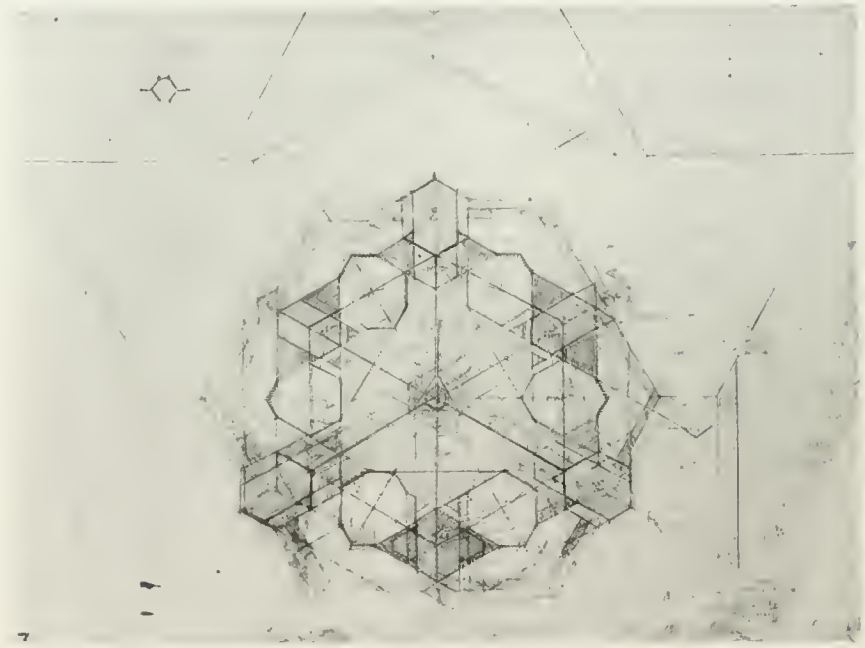

Figure 4. Frank Lloyd Wright, elevation of the Steel Cathedral, project, 1927. Frank Lloyd Wright Foundation 2602.002.

A canopy of glass is suspended from three structural girders, delineated in red on the plan, and an intermediate tripod of subordinate supports that Wright called pendants. The six lines radiating from the center of the plan are not axes; they reflect the plan of structural elements and demonstrate the integration of form and structure in Wright's approach to architecture.

The spire of the Steel Cathedral peaked at 2100 feet. At Unity Temple, Wright had rejected the image of a steeple church, its "finger" pointing to God, and instead designed a cubic meeting house. By contrast, the Steel Cathedral is a pointing finger of unprecedented height. The sketches of the Eiffel Tower and the Pyramid of Cheops appearing beside the Steel Cathedral on an elevation drawing emphasize the cathedral's height as well as the historic roots of the tripod structure.

An essay in centralized planning, the plan is Wright's first exploration of the hexagonal form (Fig. 4). A hexagon delimits the outer walls of the structure, which is raised on a rotated hexagonal podium. At the corners of the hexagon are diamond-shaped spaces, colored in yellow pencil. Between them are polygonal spaces, colored in white; generated from hexagons, they have exterior projections colored in blue that may indicate skylights. These peripheral spaces serve as chapels and form an outer ring of highly plastic, faceted volumes in contrast to the steep planes of the central pyramid. The chapels surround a central hexagonal space that steps down, like an amphitheater, to a fountain in the middle called the Fountain of the Elements. The placement of a fountain in the center and altars at the periphery, which suited the multi-denominational program of the Steel Cathedral, in effect resolved a problem that had vexed Renaissance architects: whether to place the main altar of centralized churches in the center or in the apse. Wright's design establishes an equilibrium between vertical and centrifugal forces, and plane and volume, with the geometric clarity of an ideal plan.

In terms of its scale, inventiveness, and architectural ambition, the Steel Cathedral begs comparison with archetypal religious buildings: Gothic cathedral and Renaissance domed church. The Gothic cathedral resonates in the name of Wright's design and in the circumstances of its commission, in opposition to the cathedral of St. John the Divine. Yet the design has stronger affinities to the tradition of centrally planned Renaissance churches.[28] Renaissance theorists regarded the circle as the ideal form, and its symbolic meaning devolved onto polygonal shapes derived from the circle. The hexagon came after the circle in the hierarchy of forms. Alberti stressed its affinities with nature, which "delights in the hexagon. For bees, hornets, and insects of every kind have learned to build the cells of their hives entirely out of hexagons." He also stressed its geometric properties: "Half the diameter of the circle will give the length of the sides of the hexagon;" other polygons are derived from it.[29] Serlio deemed the hexagon "close to perfection."[30] Although both treatises illustrated a hexagonal church plan, the form was more admired in theory than in practice. With his hexagonal scheme, Wright resurrected a form that the Renaissance had idealized but did not develop. The most widely adopted centralized plan during the Renaissance was the Greek cross, which reached its culminating expression in Michelangelo's design for St. Peter's. The Steel Cathedral is bound to St. Peter's as rival, heir and twin.

The Steel Cathedral is akin to Renaissance solutions governed by symbolic geometry. The geometric basis of the design is shown in diagrammatic form at the top of the plan and reinforced by the style of the drawing, unusual in Wright's oeuvre, with color coding to highlight the geometric pattern. The "spatial mathematics" and "organic geometry" that Rudolf Wittkower described in the centralized Renaissance church are also qualities of the Steel Cathedral.[31] In the Renaissance world view, geometry carried symbolic meaning; the circle is ideal, and by extension, centralized plans partake of that meaning. In Wright's world view, geometry also carried symbolic

and spiritual resonance: "Geometric shapes through human sensibility have thus acquired to some extent human significance as, say, the cube or square, integrity; the circle or sphere, infinity; the straight line, rectitude . . . ; the triangle . . . aspiration."[32] In Renaissance architecture, the centralized church mediated between God and man, between macrocosm and microcosm. For Wright, nature stood in for God, and geometric forms mediated between man and nature. A work of architecture is "the highest, most subjective, conventionalization of Nature known to man, and at the same time it must be organically true to Nature when it is really a work of Art."[33] When Wright wrote these words in 1900, he used the example of the lotus, which Egyptians turned into a column capital. Thirty years later, Wright expressed this concept in two recent designs that embody his idea of architecture as an abstracted expression of nature: St. Mark's Towers, whose cantilever structure he related to a tree; and the Steel Cathedral, where the basic hexagonal form and central placement of the Fountain of the Elements, among other features, inscribe the idea of Nature.

Although Wright condemned the Renaissance, he was its theoretical heir in an important respect. The link emerges in the close connection he drew between music and architecture, and his concept of geometry and nature. Whether Wright knew Michelangelo's plan of St. Peter's is beside the point; the Steel Cathedral and Michelangelo's Greek-cross scheme bear a conceptual rather than a formal similarity. The two designs are quintessential essays in centralized planning and stem from a common view of geometry as the symbolic language of architecture. Wright would have been loath to acknowledge the connection; nevertheless, the Steel Cathedral and St. Peter's were companionate designs, rooted in a common tradition of humanist architecture. As much as any design in his oeuvre, the Steel Cathedral expresses the idea of architecture as "an image or mirror of a pre-ordained mathematical harmony of the Universe," as Wittkower discerned in centrally planned Renaissance churches.[34]

In 1930, with his historical reputation on the line and his creativity resurgent, Wright issued a challenge in "The Tyranny of the Skyscraper," not just to the "new pioneers" but also to the "the greatest artist who ever lived." Wright had just conceived two brave and wholly original ideas: one for a cantilevered tower, the other for a skyscraping tripod truss structure, both of which were implicitly drawn into the contest with Michelangelo and his triumphant dome. Wright was awestruck by Michelangelo's historical impact. He tried to imagine Buonarroti's reaction to the Grand Canyon, wondered what he would think of America's "dome-istic" imitations, and stressed Michelangelo's unparalleled influence. Whereas Hitchcock saw Michelangelo as lacking influence and standing outside history, Wright conjured the reverse: "Probably every other sculptor who ever lived would like to have done or to do the thing that Michelangelo did."[35]

Michelangelo was revered by Wright's mentors: Dankmar Adler regarded him as a divine artificer; he was Sullivan's "Super-Man," "first great Adventurer," "first mighty Craftsman," and Sullivan makes clear that he identified with the Renaissance master.[36] In a transfiguration of their hero worship, Wright offered up Michelangelo as antitype in the Princeton lecture of 1930 because he experienced a strong connection—a combination of admiration, envy and contempt. At this creative turning point in his career, Wright measured his achievement against "the greatest artist who ever lived" while tapping into the humanist tradition of architecture with renewed force, clarity and invention.

This essay is offered in tribute to Henry Millon, whose combination of exacting scholarship, depth of knowledge, and insight into the design process and architectural drawing has illuminated so many aspects of the history of architecture, including Michelangelo at St. Peter's.

1. Cited by Neil Levine, *The Architecture of Frank Lloyd Wright* (Princeton, 1996), 423.
2. Levine, 423.
3. Frank Lloyd Wright, "Ausgeführte Bauten und Entwürfe von Frank Lloyd Wright" (1910), in *Frank Lloyd Wright Collected Writings*, ed. by Bruce Brooks Pfeiffer (New York, 1992), vol. 1, 103.
4. Levine, 424.
5. Frank Lloyd Wright, *Modern Architecture Being the Kahn Lectures for 1930* (1931; Carbondale, Illinois, 1987), 83.
6. *The Japanese Print* appeared in 1912, but was pamphlet-length. *Modern Architecture* is discussed more fully in Hilary Ballon, *Frank Lloyd Wright's Towers* (W.W. Norton, in press).
7. "Ausgeführte Bauten und Entwürfe von Frank Lloyd Wright" (1910), in *Collected Writings*, vol. 1, 105.
8. *Modern Architecture*, 84.
9. Wright described his reading program during his six-month residency in Florence (Mar.-Aug. 1910) in a letter to Charles Ashbee, dated July 8, 1910. It is cited by Anthony Alofsin, *Frank Lloyd Wright The Lost Years* (Chicago, 1993), 53, in a penetrating analysis of the Florentine sojourn.
10. *Modern Architecture*, 83.
11. *Ibid.*, 84.
12. Giorgio Vasari, *Lives of the Artists*, trans. by George Bull (New York, 1965), vol. 1, 385.
13. *Modern Architecture*, 83-84.
14 *Ibid.*, 83.
15. *Ibid.*, 84.
16. *Ibid.*, 85.
17. There are six drafts of "The Tyranny of the Skyscraper," each one rigorously edited by Wright; see Frank Lloyd Wright Foundation Archives, Taliesin West, Manuscript file 2401.066.
18. For early references to Michelangelo, see "Ausgeführte Bauten und Entwürfe von Frank Lloyd Wright" (1910), and "The Japanese Print" (1912), in *Collected Writings*, vol. 1, 103, 122.
19. For his view of Wright as a "new traditionalist," see Henry-Russell Hitchcock Jr., "Modern Architecture," *Architectural Record* 64 (Apr.-May 1928), 337-349, 453-460; Hitchcock, *Frank Lloyd Wright* (Paris, 1928); and Hitchcock, *Modern Architecture: Romanticism and Reintegration* (New York, 1929).
20. Frank Lloyd Wright, "In the Cause of Architecture: Purely Personal" (unpublished, 1928), and "Toward a New Architecture" (1928) in *Collected Writings*, vol. 1, 255, 317. Wright's review of Le Corbusier's book originally appeared in an unexpected and obscure outlet: *World Unity*, the journal of the Baha'i faith. The editor Horace Holley was a friend of Wright's and a vestryman at the New York City church of St. Mark's-in-the-Bouwerie where Wright's design for a group of towers was under consideration. Wright was counting on Holley to champion the project.
21. Le Corbusier, *Towards a New Architecture*, trans. by Frederick Etchells (1927; New York, 1960), 156, 158.
22. Lewis Mumford, "Frank Lloyd Wright and the New Pioneers," *Architectural Record* 65 (Apr. 1929), 414-416; reprinted in H. Allen Brooks, ed., *Writings on Wright* (Cambridge, Mass., 1981), 149-154. Mumford restated his position in a review of Hitchcock's *Modern Architecture* in *The New Republic* (Mar. 19, 1930), 131-32. Ironically, Princeton originally chose a "new pioneer," J.J.P. Oud, to give the Kahn Lectures. Unbeknownst to Wright, he was the backup selection when Oud withdrew due to illness. On Oud's selection, see Department of Rare Books and Special Collections, Princeton University, "Report of the School of Architecture for the Year 1929-30," 17.
23. The drawings were rendered by Heinrich Klumb and Takehito Okami on roll-up window shades. They were displayed in the traveling exhibition of Wright's work that opened at Princeton University at the time of the Kahn Lectures. On the drawings, see Donald Leslie Johnson, *Frank Lloyd Wright versus America. The 1930s* (Cambridge, Mass., 1990), 101.
24. *Modern Architecture*, 87.
25. For an in-depth analysis of the St. Mark's Towers, see Ballon, *Frank Lloyd Wright's Towers*.
26. Lucien Arthur Jones, "Super-Cathedral, 1,500 Feet High, Seating 25,000, Is Urged by Guthrie," *San Francisco Examiner* (Apr. 13, 1925), 1; cited by Richard Joncas, "Buildings for Worship," *Frank Lloyd Wright and the Living City*, ed. by David G. De Long (Milan, 1998), 103. For further analysis of the Steel Cathedral, see Ballon, *Frank Lloyd Wright's Towers*.
27. The drawings were modified at a later point to serve as the Broadacres Cathedral and to accommodate a commercial arts festival; see Frank Lloyd Wright Foundation Archives, Taliesin West, Manuscript file 2602.001-.003.
28. George Hersey links the Steel Cathedral plan with Borromini's dome of S. Ivo alla Sapienza, a comparison that requires him to ignore the outer ring of chapels as well as the hexagonal basis of Wright's design. S. Ivo is based on two superimposed equilateral triangles. See Hersey, *Architecture and Geometry in the Age of the Baraque* (Chicago, 2000), 208-209.
29. Leon Battista Alberti, *On the Art of Building in Ten Books*, trans. by Joseph Rykwert et al. (Cambridge, Mass., 1988), 196.
30. Sebastiano Serlio, *On Architecture*, trans. by Vaughan Hart and Peter Hicks (New Haven, 1996), 406.
31. Rudolf Wittkower, "The Centrally Planned Church and the Renaissance," *Architectural Principles in the Age of Humanism* (New York, 1971), 1-32.
32. Frank Lloyd Wright, "An Autobiography" (1932), in *Collected Writings*, vol. 2, 213.
33. Frank Lloyd Wright, "A Philosophy of Fine Art" (1900), in *Collected Writings*, vol. 1, 43.

34. Wittkower, ii.

35. *Modern Architecture*, 83.

36. On the responses of Adler and Sullivan to Michelangelo, see Dankmar Adler, "The Influence of Steel Construction and Plate Glass Upon Styles," *The Proceedings of the Thirtieth Annual Convention of the American Institute of Architects* (1896); reprinted as "Function and Environment," in *Roots of Contemporary American Architecture*, ed by Lewis Mumford (New York, 1972), 247-248; and Louis Sullivan, *The Autobiography of an Idea* (1924; New York, 1956), 234-236, 287.