CHAPTER TWENTY-SEVEN

ARCHITECTURE:

THE FIRST GENERATION OF MODERNISM, 1900–40

As the new century opened, the United States claimed a prominent position on the stage of world affairs. It became involved in the Boxer Rebellion in 1900, and mediated in the Russo-Japanese War. In 1900, Walter Reed discovered that yellow fever was carried by mosquitoes. Three years later, William Gorgas was sent to Panama to eliminate the mosquito and the disease so work could begin on a canal connecting the Atlantic and Pacific oceans. On 15 August 1914, under American protection and management, the Panama Canal was officially opened.

This was the era of Teddy Roosevelt's (president 1901–9) "speak softly, but carry a big stick" philosophy of foreign affairs. In 1907–9 he sent the great white fleet of American naval vessels on a tour around the world, just to remind the world of America's military might. American interests were no longer isolationist and selfcontained, but assertively international and global.

In domestic affairs, President Roosevelt attacked the mammoth industrial monopolies and financial combines in an effort to impose regulation upon a capitalism that had been running rampant. Herbert Croly became the spokesman for the Roosevelt assault when he published *The Promise of American Life* (1909), in which he declared that "... the prevailing abuses and sins, which have made reform necessary, are all of them associated with prodigious concentration of wealth, and of the power exercised by wealth, in the hands of a few men."[1] And Croly struck true to the mark in forecasting the direction in which American government would generally move in the ensuing century when he continued, "The American state will in effect be making itself responsible for a morally and socially desirable distribution of wealth." Armed with the Sherman Anti-Trust Act of 1890, both Roosevelt and his successor William Howard Taft (president 1909–13) took on J. P. Morgan, John D. Rockefeller's Standard Oil Trust, and the American Tobacco Company. Here was a federal government as ready to intrude into the world of business as it was into world affairs.

Political tensions had been mounting on the Continent well before 28 June 1914, when Archduke Ferdinand was assassinated at Sarajevo. Germany and Austria-Hungary immediately declared war on France, England, Russia, and Belgium. Warfare itself was now changed by the use of submarines, airplanes, and poison gas, all producing devastating results. The Russian Revolution erupted on 15 March 1917, Tsar Nicholas abdicated, and Russia was essentially out of the war. By early November, the Bolsheviks had overthrown the provisional government, placing Lenin and Trotsky in power.

Although the main concern of President Woodrow Wilson (president 1913–21) was to avoid being drawn into the conflict, the United States was angered by the repeated sinking of American ships by German U-boats, and so was inexorably drawn into the vortex of war. In April 1917, President Wilson asked Congress for a declaration of war against Germany and Austria. It was given at once.

By June, the first American expeditionary troops had landed in France, singing "It's a long way to Tipperary" as they disembarked. By October they were in the trenches of the Western Front, and the dreadful slaughter had begun. The high-spirited singing had stopped by then, and even with the signing of the armistice on 11 November 1918, a state of profound revulsion swept the world as total casualties were tabulated: An estimated ten million dead—of whom 130,000 were Americans—and twenty million wounded. John McCrea, a Canadian poet, wrote his famous poem while under fire on the front lines, and the opening words have a haunting melancholy about them, even to this day: "In Flanders fields the poppies blow/Between the crosses row on row ...."

Insight into the scarred souls and nihilistic psychosis of those who were in the war and survived is expressed by authors such as Erich Maria Remarque in *All Quiet on the Western Front* (1929) and Ernest Hemingway in *The Sun Also Rises* (1926) and *A Farewell to Arms* (1929). In Remarque's novel, Paul Baumer is little more than a boy in a German uniform, huddled with others like him in the trenches of the Western Front. He is no hero, and war is not romantic. In place of valor he knows only fear, hunger, and pain; he hears men crying in the night and sees his friends killed or dismembered by exploding shells. Amid the rats, dysentery, typhus, and influenza of the trenches—where he is slightly gassed—a profound disillusionment sets in, a conclusion that life is meaningless. On an October day in 1918 (only a couple of weeks before an armistice would be reached), despite a communiqué reporting that all is quiet on the Western Front, a stray bullet hits Baumer and kills him. The story ends there, on a note of utter futility.

Similarly, Hemingway's *The Sun Also Rises* involves a group of spiritually war-wounded American and British expatriates living in Paris about three years after the Great War. Jake Barnes, more a nonhero than hero or antihero, has been wounded in the war and is physically incapable of making love, which is frustrating for both him and Lady Brett, who seeks escape in alcohol and consolation in meaningless affairs. Jake and his friends drink constantly and heavily, move from place to place, from party to party, and all but Jake make love easily but rather emptily with prostitutes, bullfighters, or whoever. It, too, is a story of despair, disillusionment, and aimlessness in the wake of unprecedented horror. Hemingway himself had been in Paris soon after the war. Once, when he visited Gertrude Stein's apartment, she reportedly told him that his was a "lost generation."

In the United States, the decade following the war became known as the Roaring Twenties—a time of seemingly endless bibulous gaiety. In 1919, Congress passed the Eighteenth Amendment, and from January 1920 Prohibition was the law—or the lawlessness—of the land. In response, gangs fought for control of the bootleg booze business, while flappers frenetically danced the Charleston in "speakeasies." It was a time of hipflasks, raccoon coats, and sleek Bugatti automobiles speeding along the highways. On 4 December 1927, twenty-eight-year-old Duke Ellington opened a five-year run at the Cotton Club in Harlem, a high point of society's Harlemania.

The supreme chronicler of the Roaring Twenties—supreme because he lived it so fully himself—was F. Scott Fitzgerald. His trilogy—*This Side of Paradise* (1920), *The Great Gatsby* (1925), and *Tender is the Night* (1934)—chronicles the frivolity and abandon of the Jazz Age. *The Great Gatsby* was Fitzgerald's masterpiece. Like other novels written by the "lost generation," it has main characters who find life empty, fraudulent, or illusory.

Despite an underlying mood of depression, it was an exciting, productive era in commerce and industry, as well as in the arts. Business became a foremost patron of architecture, and the skyscraper came of age with the designing and construction of such milestones as the Flatiron Building and the Woolworth Building in New York City. The latter, called "The Cathedral of Commerce," was in 1913 the world's tallest building, reaching to a height of nearly 800 feet (244 m).

A dynamic style of architecture rose above the skylines of the major cities—the Philadelphia Savings Fund Society, the Empire State Building, the Chrysler Building, and the vast complex of Rockefeller Center in New York City. It was a time when the established Beaux-Arts Revival styles were challenged by the new, clean lines of modernism.

BEAUX-ARTS ARCHITECTURE: A LAST HURRAH

The old historic styles, however, died hard. As late as 1922, when a competition was held for the design of a major skyscraper, an entry in the Gothic mode won. That same year, a Greek Doric temple was erected at one end of the Mall in Washington, D.C.—a gleaming white marble shrine to Abraham Lincoln. Indeed, the Ecole des Beaux-Arts style was yet to have a number of triumphs. Foremost among these was Carrère and Hastings's New York Public Library. The use of a Renaissance-Baroque Revival style for such an important commission clearly demonstrated that the influence of the Ecole was alive and well. Carrère and Hastings used a similar French classicism in 1912 for the Henry Clay Frick residence, now the home of the Frick Collection, New York City.

John Merven Carrère (1858–1911) and Thomas Hastings

27.1 Carrère and Hastings, New York Public Library, New York City, 1897–1911.

(1860–1929) had been students together at the Ecole in Paris in the early 1880s, and after returning to the United States they both worked for the firm of McKim, Mead, and White before forming their own partnership in 1887. They won the competition to design the library in 1897, only a few years after the World's Columbian Exposition at Chicago, itself a Beaux-Arts extravaganza (Fig. 27.1).

The influence of the Beaux-Arts style was also felt at the Panama-Pacific Exposition, held in San Francisco in 1915 (Fig. 27.2). The City by the Bay was anxious to show the world it had survived the disastrous earthquake of 1906, which had leveled two-thirds of the town, and the Beaux-Arts style was a conscious choice for the architecture of the fair. The Palace of Fine Arts was designed by Bernard R. Maybeck (1862–1957), who graduated from the Ecole des Beaux-Arts, and worked for a while in the firm of Carrère and Hastings in New York City before going to the San Francisco area in 1899.

Further evidence of the Beaux-Arts style is found in the Lincoln Memorial, designed in the Greek Doric Order by Henry Bacon (1866–1924) (Fig. 27.3). Within the temple sits the colossal marble image of Abraham Lincoln by Daniel

27.2 Bernard R. Maybeck, Palace of Fine Arts, Panama-Pacific Exposition, San Francisco, California, 1915. Wayne Andrews/Esto.

27.3 Henry Bacon, The Lincoln Memorial, Washington, D.C., 1922.

Chester French (Fig. 26.9). Bacon did not attend the Ecole, but adopted the Beaux-Arts style while working in the offices of McKim, Mead, and White in the 1880s and 1890s.

The Beaux-Arts style remained viable throughout the next decade, being used especially in federal, state, and municipal buildings. One of its leading practitioners was John Russell Pope (1874–1937), who left his imprint on such buildings as the Jefferson Memorial (1936) and the National Gallery of Art (1937–41). Through buildings like these, nineteenth-century French Beaux-Arts classicism was transformed into what is loosely referred to as the Federal style of the 1930s.

Paul Cret (1876–1945), a native of France and trained at the Ecole des Beaux-Arts, came to the United States in 1903 and established a successful practice in Philadelphia. His success was due in part to his ability to transform Beaux-Arts classicism into a quasi-modern idiom, as in his designs for the Indianapolis Public Library (1914), the Detroit Institute of Arts (1919–27), the Rodin Museum in Philadelphia (1926–30), and the Folger Shakespeare Library (1930–7) in Washington, D.C.

THE SKYSCRAPER: HIGHER AND HIGHER

The path of modern architecture was, of course, developing contemporaneously. Soon after the new century opened, buildings began to soar high above the five- and six-storied urban skyline. The skyscraper posed the greatest challenge to the progressive architects of the day. Passing first through a Beaux-Arts stage, the design grew into a towering glass box. Stripped almost totally of decoration, it relied purely on proportion and the character of the building materials for aesthetic content. The economic expediency of eliminating carved and other costly decoration was not lost on corporate executives, who often viewed architecture as a commercial, rather than a fine-art, venture.

A FORM FOR THE TALL BUILDING

When it was completed in 1903, Daniel Burnham's Flatiron Building towered above everything else in New York City (Fig. 31.5). It was soon challenged, however, by Ernest Flagg's Singer Tower of 1908, which rose to a height of forty-seven stories, and was, for a few years, the tallest building in the world. Flagg (1857–1947) had been trained at the Ecole in the early 1890s. To cap his towering giant, he devised a variant of the French Baroque style, thus terminating his achievement in a grand stroke of historicism.

If the Singer Tower was a rather heavy-handed solution to skyscraper design, the Woolworth Building by Cass Gilbert (1859–1934) was a much more elegant answer to the problem, although it, too, employed an historic style (Fig. 27.4).

27.4 Cass Gilbert, Woolworth Building, New York City, 1911–13. Courtesy The New-York Historical Society, New York City.

Gilbert had been trained at the Massachusetts Institute of Technology (MIT) before going to Europe, where he studied Gothic and Renaissance buildings as he traveled about. He worked briefly for McKim, Mead, and White around 1880, but then settled in St. Paul, where his neoclassical design for the Minnesota State Capitol (1895–1903) brought him national recognition. Soon after, Gilbert received the important commission to design the Woolworth corporate headquarters. Frank W. Woolworth, with a successful and growing chain of five-and-ten-cent stores, set out to displace the Singer (of sewing machine fame) Tower in setting a new world record for height. Woolworth was reportedly impressed by a photograph of the Victoria Tower of the nineteenth-century Houses of Parliament in London, executed in the Gothic mode.

Rising from a lower block, the Woolworth Building reached a height of fifty-five floors (760 ft, 232 m) to become the world's tallest inhabited structure. Its exterior is a glistening white terracotta veneer, applied to the steel frame of the structure. Each vertical member culminates in a Gothic canopy or finial of exquisite detailing. With the refined vertical reach of the Woolworth Building, the tall building had at last achieved a form consistent with its towering mass. The solution, however, was still as dependent as ever upon an historical style.

CITY VERSUS CITY

In those early decades of the twentieth century, New York City and Chicago competed with each other in the development of the skyscraper. While the Midwestern city developed out of the school of William Le Baron Jenney, Louis Sullivan, Daniel Burnham, and the like, the eastern metropolis asserted its claim through the designs of Ernest Flagg, Cass Gilbert, and others. Each city evolved its own form. For example, many Chicago skyscrapers consisted of a single blocklike structure capped with a great cornice, while in New York City, the preferred design was a tall, slender tower—with more of a finial than a cornice—rising out of a lower block, as in the Woolworth Building.

The skyscraper, however, created problems from the beginning. When façades rose to twenty and more stories, the streets below became dark canyons that the sun seldom reached. Skyscrapers also created congestion and traffic problems, as well as fire hazards. Legislation addressing such problems came in 1916, with New York City's setback laws, which required that buildings literally be set back from the edges of their lots and that they be designed in the stairstep form if taller than a given height.

If the Woolworth Building was New York City's first thoroughly successful solution to the problem of skyscraper design, Chicago's first full realization of the form came with the Wrigley Building, the creation of the firm of Graham, Anderson, Probst, and White (Fig. 27.5, left). Here again,

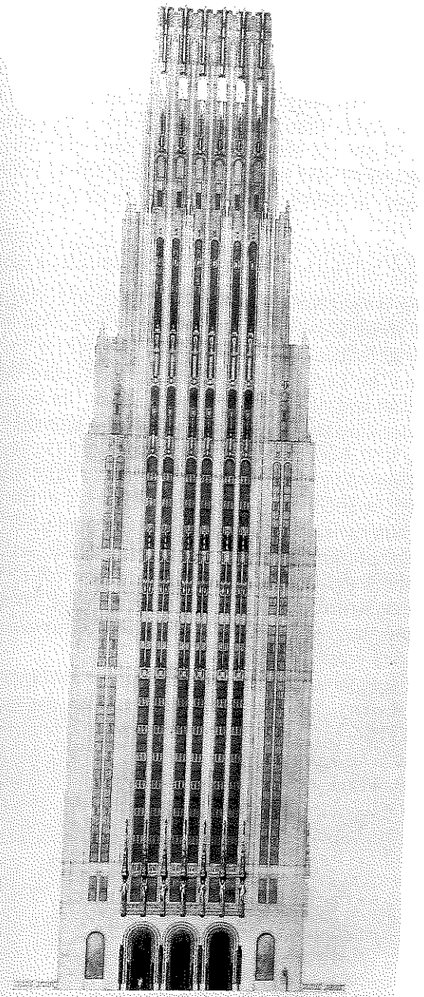
27.5 Graham, Anderson, Probst, and White, Wrigley Building, Chicago, Illinois, 1921–5.

27.6 Howells and Hood, Tribune Tower, Chicago, Illinois, 1922–5.

the pier form was used to stress the vertical axis of the tall building, with stronger piers defining the corners and running the full height of the tower section. The ornamentation—wrought in glazed white terracotta—in the friezes, cornices, and finials is Palladian and French Baroque. The tripartite design of a multifloored base section, followed by the towering midsection, and capped by a crown, reveals the influence of the Woolworth Building. The portion of the Wrigley Building to the right of the original block was added in 1924.

Just across North Michigan Avenue from the Wrigley Building stands the Tribune Tower (Fig. 27.6). The 1922 competition for the building created great interest throughout Europe and America, attracting over 200 entries from an international array of architects. The competition was of great importance because of the variety of solutions proposed. The only stipulation the competition committee set forth was that the Tribune Tower should be the "world's most beautiful office building." The design that was selected was by John Mead Howells and Raymond Hood, who produced a skyscraper in the Gothic mode, with slender, vertical piers accentuating its height and culminating in a flamboyant display of Gothic tracery, finials, and flying buttresses.

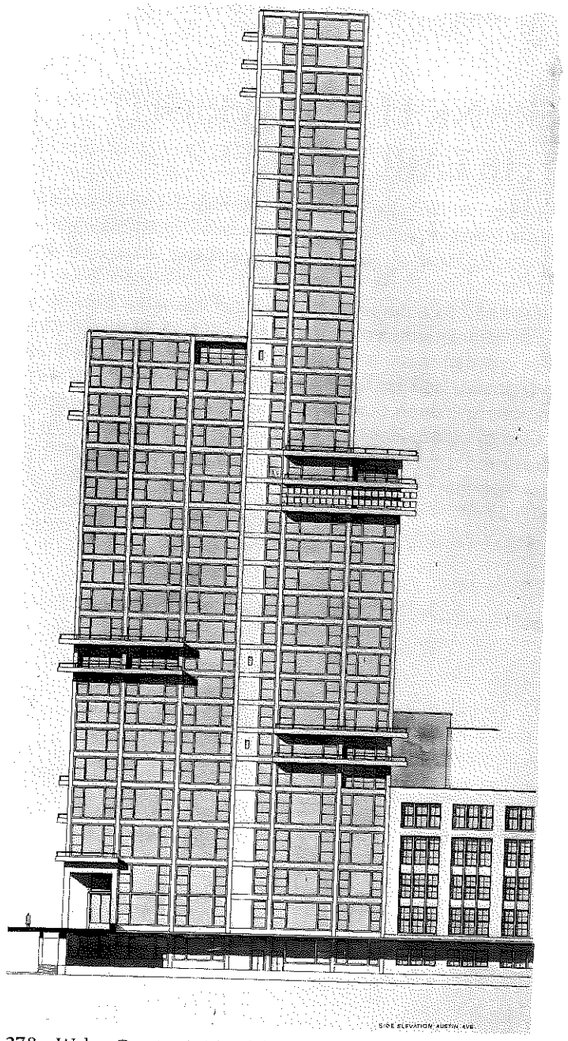
The Tribune Tower was one of the most eclectic skyscrapers ever made, for it looked backward to Beaux-Arts historicism, as one might expect from Howells and Hood at this stage of their careers. Howells (1868–1959) had studied at the Ecole des Beaux-Arts before joining the New York City firm of I. N. Phelps Stokes. Hood (1881–1934) also had



27.7 Eliel Saarinen, Competition drawing for the Chicago Tribune Tower, 1922. Plate 14 from *The International Competition for a New Administration Building for the Chicago Tribune* (Chicago, 1923). Morris Library, University of Delaware, Newark, Delaware.

studied at the Ecole and had observed the sensitive use of Gothic style when he worked for the successful Boston architect Bertram Goodhue.

Howells and Hood may have won the competition for the Tribune Tower, but the design submitted by Eliel Saarinen (1873–1950) of Helsinki attracted greater critical attention and had a greater influence on the development of modern architecture. Saarinen's entry (Fig. 27.7), which won second prize, also had Gothic features, but the series of gradual setbacks as it rose to its full height was entirely new and would influence the design of buildings such as the Empire State Building, the Chrysler Building, Rockefeller Center, and the Daily News Building. The reception accorded his



27.8 Walter Gropius (with Adolph Meyer), Competition drawing for the Chicago Tribune Tower, 1922. Elevation. Ink and gray wash, 60 × 30in (152 × 76.2cm). Busch-Reisinger Museum, Harvard University, Cambridge, Massachusetts.

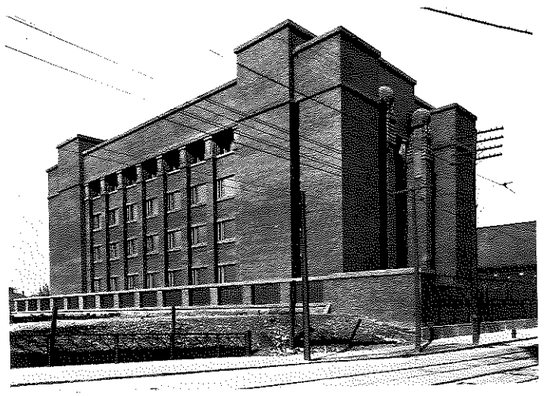
design caused Saarinen to leave Finland in 1923 to settle in the United States.

Other strains of modernism turned up in the Tribune Tower competition. From Holland came an entry submitted by Knud Lonberg-Holm (b. 1895), executed in the De Stijl manner, with flat planes and primary colors, and devoid of any historicism. Walter Gropius (1883–1969), of Bauhaus fame (see pp. 419 and 504), submitted a design that derived its aesthetics largely from the steel frame itself (Fig. 27.8). Such designs, however, were too progressive for American taste in 1922, and it would be nearly a decade before such work made a serious inroad into architectural design.

FRANK LLOYD WRIGHT: THE EARLY CAREER

As a boy on the family farm near Spring Green, Wisconsin, Frank Lloyd Wright (1867–1959) learned about the organic interrelatedness of nature's systems. Later, he would see that architecture, too, was subject to similar organic laws.

In 1887 Wright went to Chicago, where he became a draftsman with the firm of Adler and Sullivan. In this way he was exposed to the most advanced architectural thought of the period, and he learned much from Sullivan. Another important influence on Wright was Oriental art, which he began to collect—especially Japanese prints. At the World's Columbian Exposition, held in Chicago in 1893, he saw the Japanese house that was a part of Japan's exhibition. Its intimate scale and the use of natural materials, open, free-flowing spaces, and screen walls made a strong impression on Wright. In 1905 he made his first visit to Japan.



27.9 (above) Frank Lloyd Wright, Larkin Company Administration Building, Buffalo, New York, 1903 (destroyed).

LARKIN BUILDING AND UNITY TEMPLE

By then Wright had opened his own office and designed two of his most important early works—the Larkin Building (1903) in Buffalo and Unity Church (1904–6) in Oak Park, Illinois. The Larkin Building was an innovative departure from standard office-building architecture. Its bold, block-like, simplified masses reveal the influence of Louis Sullivan (see p. 309), but carried a step beyond (Fig. 27.9). Because of the surrounding unpleasant urban area, Wright turned the building in upon itself—it had few windows in the exterior walls, and a large, central, open court permitted light to reach all portions of the building. Historicism was purged from the design, the form of the building evolving from its use and structure. The large blocks at the corners, for example, housed stairwells, while the buttresslike forms contained ventilation shafts.

In Unity Church (1904–6) Wright experimented further with abstract geometric form and building materials (Fig. 27.10). The larger block houses the sanctuary, while the smaller is a social hall. Again, the exterior is an arrangement of bold masses, beautifully interrelated. Eaves are reduced to horizontal planes, which are cantilevered over the windows. There is a Cubist quality, an appreciation for form in the abstract.

27.10 Frank Lloyd Wright, Unity Church, Oak Park, Illinois, 1904–6.

To control costs, he used poured concrete for the walls: Forms were built, concrete was poured into them, and then the forms were removed. Pebbles provided texture and a natural quality to the surface. The use of poured concrete for aesthetic purposes would become an essential feature of Wright's work.

The interior of Unity Church is a symphony of abstract geometric forms, planes, and lines wrought in masterly restraint. At the time, the total absence of details associated with historical styles must have been startling, and Wright's work at that moment was as inventive and original as anything being done in Europe or America.

THE PRAIRIE HOUSES

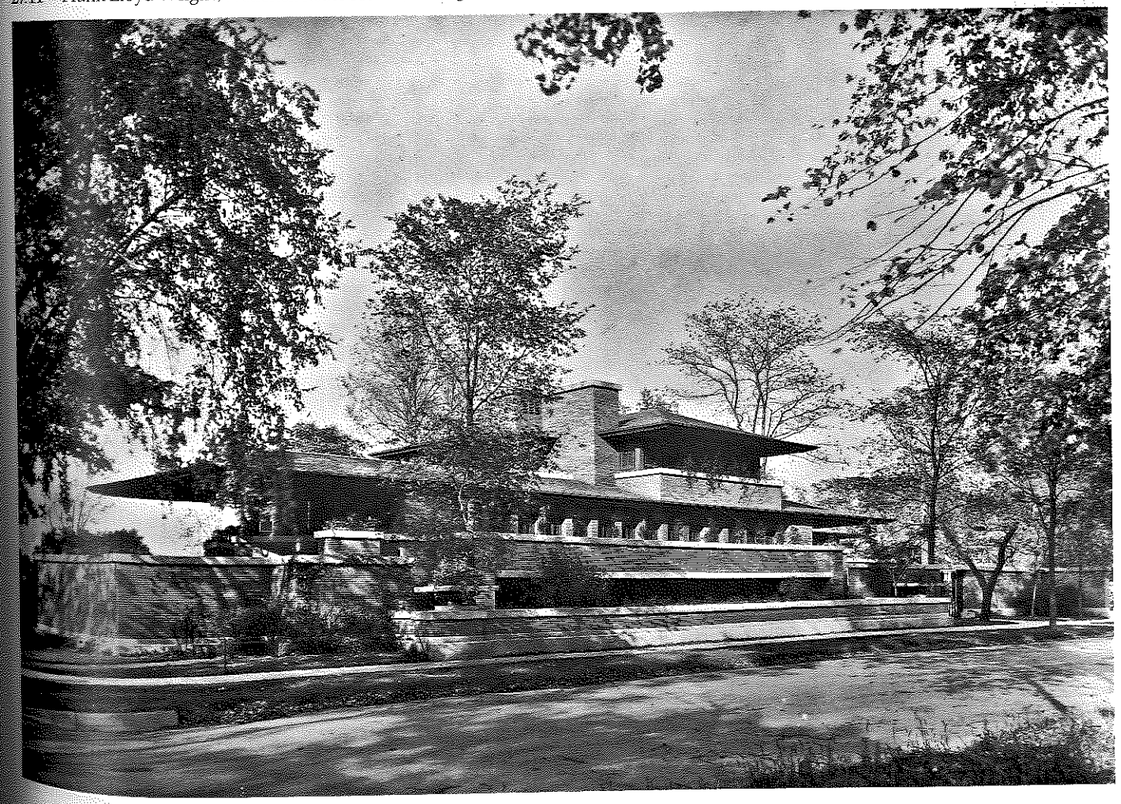
Early in his career, Wright arrived at a new form of domestic architecture. The Prairie House was so called because most of the early examples were erected in prairie states, and because they seemed to grow organically out of the land itself. That a structure should be an integral part of its environment was essential in Wright's theory of design. The importance of that quality in architecture was articulated by Wright some years later in a book called *An Organic Architecture* (1939).

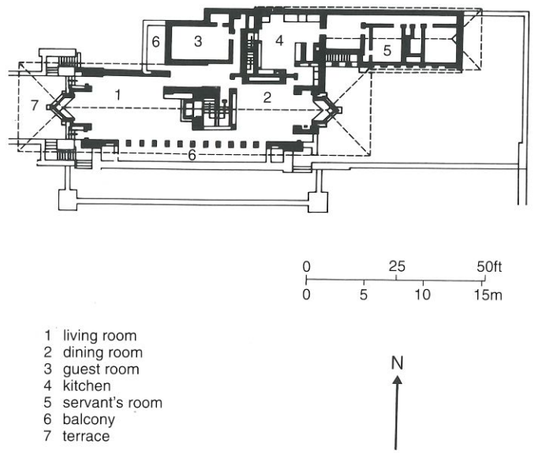
The Prairie Houses evolved in early residences such as the Willitts House (1900–2, Highland Park, Illinois) and the Cheney House (1904, Oak Park, Illinois). But it was in the Frederick Robie House in Chicago, completed in 1909, that all of the essential features coalesced.

The exterior of the Robie House is dominated by powerful horizontals that mirror the horizon of the prairie, thus uniting the building with its natural environment and achieving the desired organic quality (Fig. 27.11). Even the large, central chimney does not create a vertical strong enough to interfere with the prevailing horizontality. The horizontal axis is emphasized by the cantilevered forms and the extremely low pitch of the roof. These became cardinal components of Wright's work, as did the projecting eave, which contributes to the feeling of shelter, a quality Wright believed a house should possess.

Wright frequently eliminated basements because he found them dark, damp, and unpleasant. Buildings such as

27.11 Frank Lloyd Wright, Frederick Robie House, Chicago, Illinois, 1908–9.





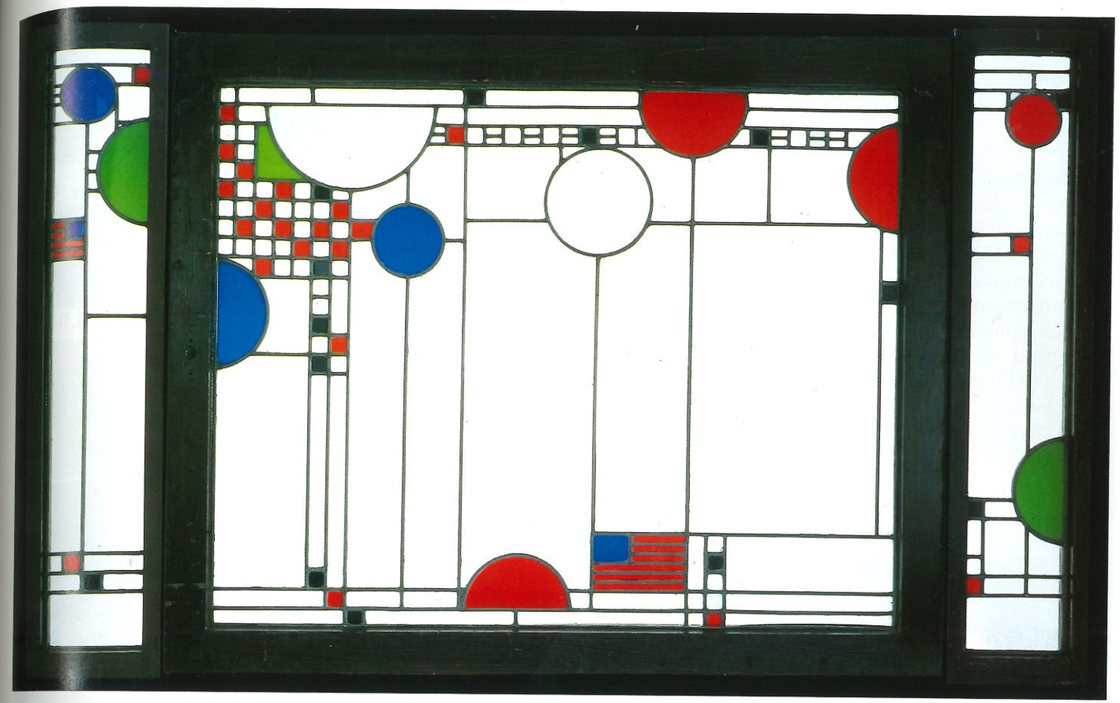
27.12 Frank Lloyd Wright, Frederick Robie House, Chicago. Plan.

27.13 Frank Lloyd Wright, Dining Room, Frederick Robie House.

the Robie House were placed upon a concrete platform and raised slightly above ground level.

The interior of the Robie House is equally innovative, with the elimination of the "box" form—the rejection of the concept of interior space as a cluster of boxes (Fig. 27.12). Instead, in Wright's plan, internal space is organized around the central core of the large fireplace, and flows freely from the living room into the dining room—a quality that arose from Wright's interest in Japanese domestic architecture.

For Wright, each architectural project was a totality that included the surrounding landscape externally, and the furniture and furnishings internally: All must come under one dominating mind. For his interiors he designed built-in bookcases, seating units, and storage drawers and shelving, and, as we see in the dining room, even tables and chairs, their rectilinear forms coordinating with the rectilinear character of the architecture (Fig. 27.13). Even the design of windows fell under Wright's purview, and he gave them, too, a thoroughly modern and original character, as seen in a window from the Coonley Playhouse, Riverside, Illinois (Fig. 27.14).



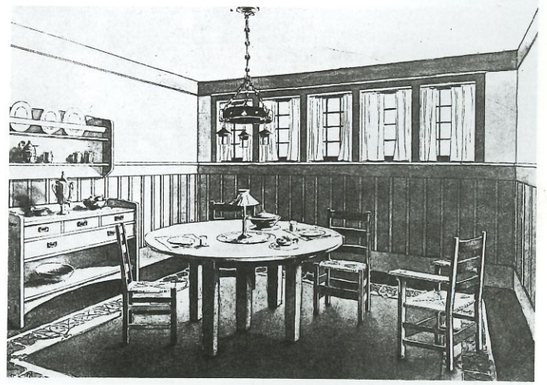
27.14 Frank Lloyd Wright, Window from the Avery Coonley Playhouse, Riverside, Illinois, 1912. Clear and colored leaded glass in wooden frame, 35 × 43in (88.9 × 109.2cm). Art Institute of Chicago.

ARTISTIC INFLUENCES

Wright was influenced by the contemporary Arts and Crafts Movement. About 1901 he had met Charles Ashbee (1863–1942), a leading figure in the English movement, when the Englishman had visited the United States. Wright had also long been interested in the work of William Morris (1834–96), the founder of the movement in England. Morris's American counterpart was Gustav Stickley (1848–1942), who championed the cause of finely crafted handmade objects for use in daily life. Between 1901 and 1916 Stickley published *The Craftsman*, which promoted the ideology of the movement. Its issues regularly contained articles on artistic styles that had a profound effect on design—articles on mission architecture (early Spanish-influenced architecture in the American Southwest), for instance, or on Oriental art, or bungalow design. An example of the kind of illustrations *The Craftsman* carried is seen in Figure 27.15, which bears many similarities to the interiors by Wright.

Wright's treatment has much in common stylistically with the De Stijl movement in Holland. In the vertical and horizontal linear patterns and in the use of geometric patches of primary colors, one is reminded of the paintings of Piet Mondrian (1872–1944), but also of the work of other Dutchmen, such as H. P. Berlage (1856–1934) or Theo van Doesburg (1883–1931). Indeed, Wright's innovative work was widely respected among the most advanced of the European art community. He was wellknown partly because of *Ausgeführte Bauten*, a handsome portfolio of his designs, published in Berlin in 1911. Walter Gropius and

27.15 Dining Room, from *The Craftsman*, vol. 6, April 1904. Morris Library, University of Delaware, Newark, Delaware.



Mies van der Rohe (1886–1969), for example, were quite taken by the fresh new architectural ideas they found illustrated in the book.

FRUITFUL YEARS

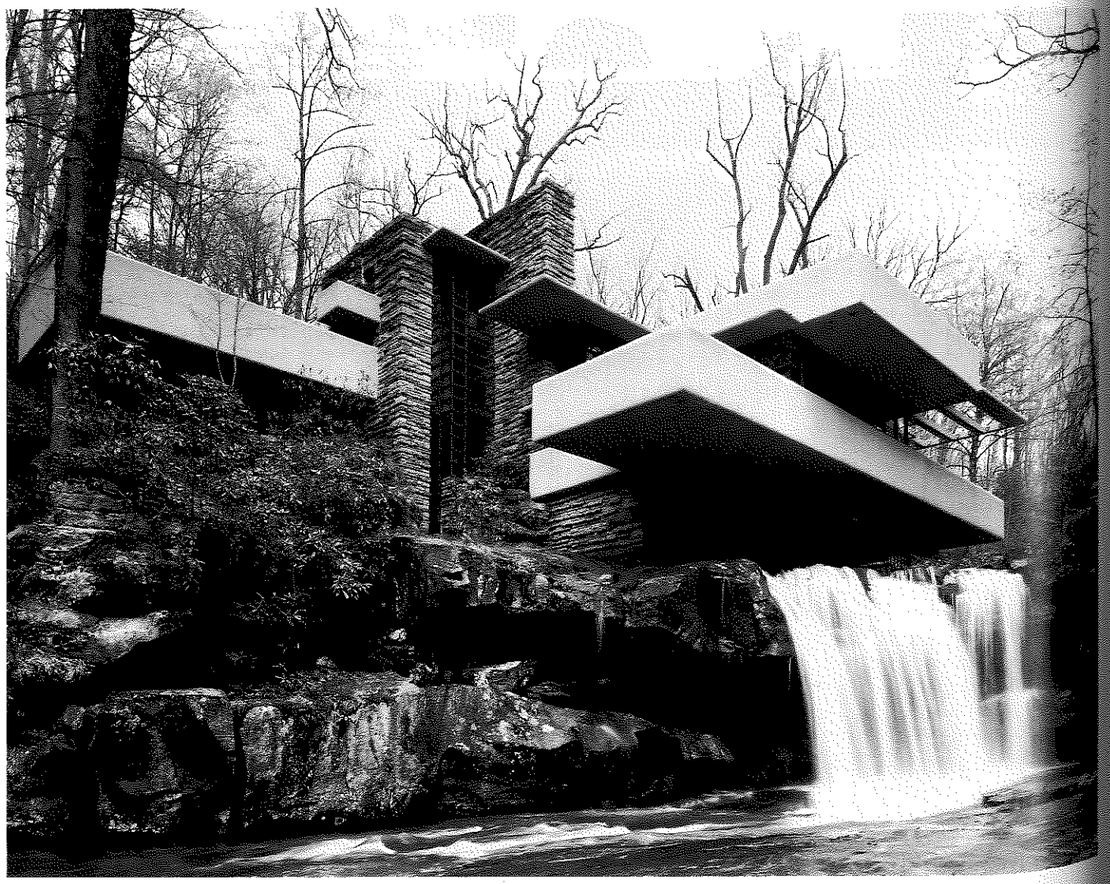
Wright settled on the family farm, near Spring Green, Wisconsin, and in 1911 began to build his often-remodeled home and studio, Taliesin. In Chicago he erected Midway Gardens (1913), a kind of pleasure arcade, and a few years later he was occupied with designing the earthquake-resistant Imperial Hotel for Tokyo. In the 1920s, Wright produced a number of homes in California, working there as he stopped off on his return trips from Japan. The Millard House (1923) in Pasadena, with its walls treated as decorative screens, is perhaps the bestknown of these. In the mid-1930s, Wright was concerned with the development of what he called his Usonian homes—modest and relatively inexpensive residences in which parts were often prefabricated and assembly was a do-it-yourself project. The first Herbert Jacobs House (1936) in Madison, Wisconsin, is a good example.

FALLINGWATER

In spite of the generally stultifying effect of the Great Depression of the 1930s, the career of Frank Lloyd Wright experienced a resurgence in 1937 with the creation of Fallingwater—or the Kaufmann House—one of his masterpieces.

Rising beside Bear Run Creek, an outcropping of natural bedrock emerges in front of the fireplace in the living room, emphasizing the organic quality of the house (Fig. 27.16). Around a huge, central fireplace made of local stones, open spaces sweep freely. Texturally, the natural stone of the fireplace offers an interesting contrast to the concrete forms.

27.16 Frank Lloyd Wright, Fallingwater, or the Kaufmann House, Mill Run, Pennsylvania, 1937.



27.17 Frank Lloyd Wright, S. C. Johnson Wax Administration Building, Racine, Wisconsin, 1936–9. Interior

Walls of glass give a feeling of oneness between the interior of the house and its wooded environment. While a decided horizontality of lines, geometric planes, and concrete forms anchors the building to its site, a rich interplay of architectural form and space is created through cross-axes and cantilevering. Cantilevered balconies jut out into the wooded space so that one feels as if one were standing in the woods or above the little waterfall, while still within the structure of the house.

There were few other houses in America that departed so radically from traditional house designs, and seldom had such a mature form of the modern house been achieved. The warm, humanistic quality of Wright's work becomes evident if, for example, Fallingwater is compared to a Bauhaus design of the 1930s, or with Le Corbusier's "machine for living" in the Villa Savoye (1929) at Poissy-sur-Seine in France.

COMMERCIAL INNOVATION

In commercial architecture, Wright's triumph of these years was the S. C. Johnson Wax Administration Building in Racine, Wisconsin, erected in 1936–9. As in the Larkin Building and Unity Church, the outside world is ignored and the building is turned in upon itself. The most distinctive feature of the interior is the large, open secretarial section with its unique, tapering "toadstool" columns (Fig. 27.17). The geometric shape of the circle became the leitmotif of the design, as seen in the flaring disks that crown each column. Indirect lighting from skylights positioned between the great disks fills the room. Wright designed the steel furniture as well, and to achieve his desired unity of building and furnishings he made desks with rounded ends, echoing the rounded corners of the exterior of the building (Fig. 33.2).

By the late 1930s, Frank Lloyd Wright was recognized

internationally as one of the primary luminaries of modern architecture, and he began to have a considerable following. By 1940, architecture was significantly changed from when Wright had started his career nearly sixty years earlier, and he had played a major role in effecting this change.

THE CALIFORNIA SCHOOL

RESIDENTIAL ARCHITECTURE

Just as a school of American architecture arose in and around Chicago, another appeared in California, the early leaders of which were Bernard Maybeck and the brothers Charles and Henry Greene. While there was no single master to act as a unifying catalyst, a distinctive style evolved in response to the lifestyle, climate, and local building materials of California.

Maybeck—whose work for the Panama-Pacific Exposition at San Francisco in 1915 we have already seen (Fig. 27.2)—worked mainly in the San Francisco Bay area from about 1890. While studying in Paris he had learned much from theories on the use of new materials, structural systems, and technologies propounded by the nineteenth-century French architect Viollet-le-Duc.

Maybeck's residential architecture is a curious combination of Beaux-Arts historicism and progressive design, while his use of materials ranged from exposed native redwood columns to reinforced concrete. His houses appear to be a combination of "medieval-hall" design and California materials, such as redwood timbers and mission-type roofing tiles. There is also an innovative, informal openness about the houses that makes them particularly suitable for California life.

Two brothers—Charles Sumner Greene (1868–1957) and Henry Mather Greene (1870–1954)—formed the firm of Greene and Greene, which created the epitome of the California house in this early phase.

In a manual training school in St. Louis, the brothers had gained the skills of woodworking, and were also introduced to the theories of William Morris and the Arts and Crafts Movement. At MIT they had been exposed to the tradition of the Ecole des Beaux-Arts, and, while in the Boston area, to the Shingle style of H. H. Richardson. On their way to California in 1893 to join their parents, the brothers visited the World's Columbian Exposition in Chicago. There, like Frank Lloyd Wright, they were struck more by the Japanese house than by the grandeur of the Beaux-Arts buildings.

By the first decade of the new century, the Greene brothers were designing a type of residence seen in the David B. Gamble House (Fig. 27.18). Critics agreed that they had perfected the bungalow type. This was a one-floor, rambling, lowroofed house, with projecting eaves and jutting porches: The exterior environment and interior space were commingled and built of beautiful woods that were exquisitely finished and joined. The Californian climate invited the incorporation of terraces, pools, porches, gardens, and patios into the design, to permit living out of doors nearly as much as indoors. A house such as the one designed for the Gambles stands in marked contrast to the earlier fine houses built in California, like the William Carson House in Eureka (Fig. 20.8). Here, the influences are no longer French Beaux-Arts, Victorian, or Italianate, but rather Japanese, the Arts and Crafts Movement, Spanish mission—and the southern California region itself.

27.18 Greene and Greene, David B. Gamble House, Pasadena, California, 1909. Wayne Andrews/Esto.

27.19 Irving Gill, Walter L. Dodge House, Los Angeles, California, 1914–16.

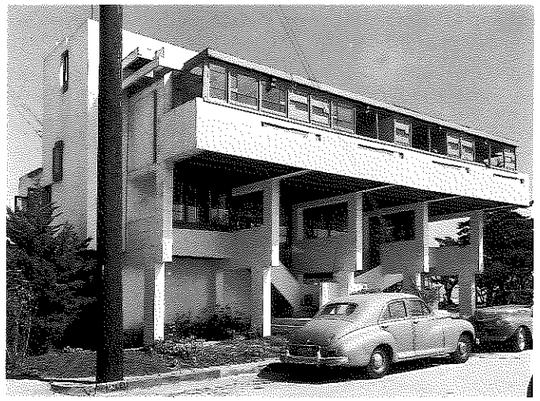
THE NEXT GENERATION

With the next generation of California architects came a noticeable change in style. The leading figures in this severe, hardedged, machine-age style were Irving Gill (1870–1936), Rudolph Michael Schindler (1887–1953), and Richard Neutra (1892–1970). The new style is already obvious in Gill's Walter L. Dodge House in Los Angeles (Fig. 27.19). Gill, son of a Quaker carpenter, found early employment in the Chicago offices of Adler and Sullivan when that firm was working on the Transportation Building for the Columbian Exposition of 1893. Later in 1893 he moved to San Diego, where he became interested in yet another of the non-Beaux-Arts styles that so affected his generation of California architects: The mud-walled mission architecture.

Using concrete to replace the mud, Gill became one of the leading experimenters in the application of poured concrete for residential architecture. In allowing the material to dictate a form of its own, he achieved a result that was an arrangement of cubic forms with sheer walls, precise edges, no moldings or decoration, and a flat roofline. In the severity of the design, the utter simplification of all form, and its rectilinearity, there is a pronounced austerity. This is relieved by careful attention to landscaping and by making outdoor patios and porches integral extensions of the interior spaces.

R. M. Schindler and Richard Neutra were both Viennese, and while they were young men they both came under the influence of the progressive architects Otto Wagner (1841–1918) and Adolf Loos (1870–1933). Each heard Loos lecture in praise of machinemade, prefabricated components, attack the use of ornament, and extoll life in America. Both were also greatly affected by the German publication in 1911 of Frank Lloyd Wright's work.

Schindler left for Chicago in 1914, and four years later he was working in Wright's office. In 1919, Wright sent him to Los Angeles to supervise construction of the Aline Barnsdall



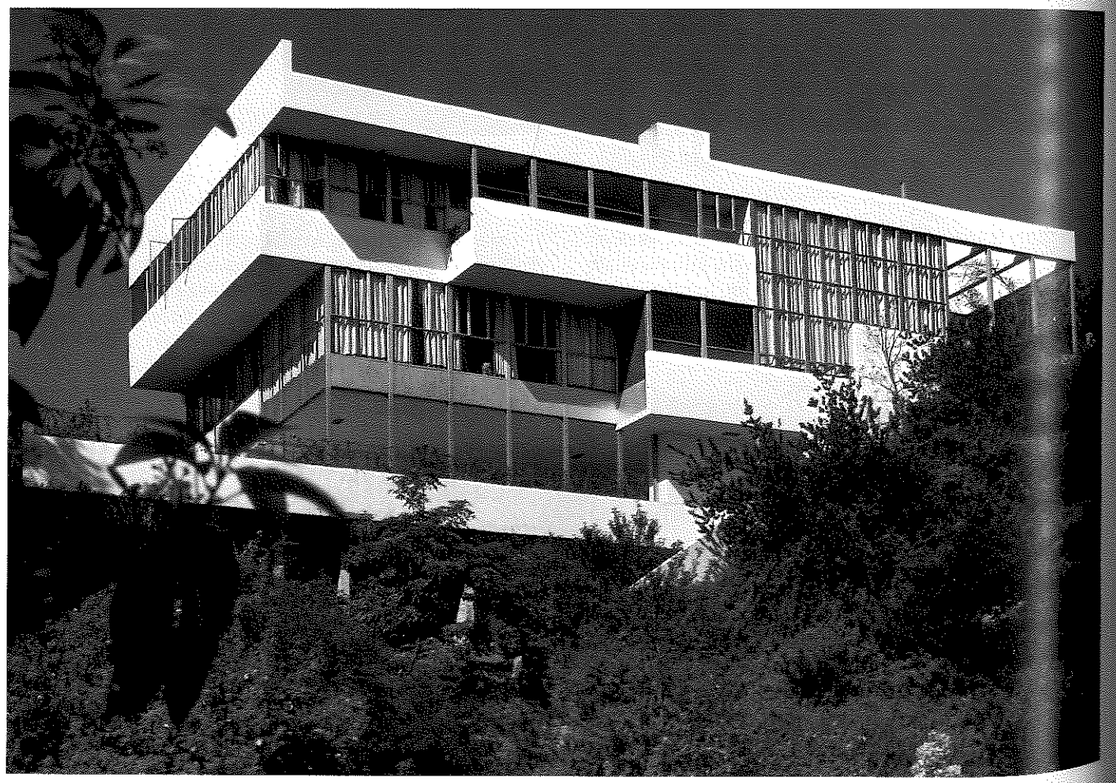
27.20 R. M. Schindler, Philip Lovell Beach House, Newport Beach, California, 1926. Wayne Andrews/Esto.

House, a poured-concrete structure. Schindler was already familiar with the material from buildings erected in Austria by Adolf Loos. After the Barnsdall House was completed, he remained in California, where he established his own office.

During the 1920s, concrete became Schindler's primary building material. His exploitation of its possibilities is seen, for example, in the Philip Lovell Beach House (Fig. 27.20). Five rows of concrete piers raise the house well above the beach, and, with the vertical piers, the horizontal balconies create a form suggestive of the machine age in their precision. In many areas, broad membranes of glass replace external weightbearing walls, for the structural system is now largely internal. If the Lovell House lends itself to comparison with anything, it would be with some of the contemporary experiments in design being conducted at the Bauhaus (see pp. 419 and 504).

Richard Neutra came to America from Vienna in 1923 and, like Schindler, worked for Wright briefly. By 1925, he had settled in Los Angeles, where he and his fellow Viennese friend had an informal partnership for a while. In Neutra's work, too, one sees the influences of both Loos and Wright. His Jardinette Apartment Building (1927) in Los Angeles is one of the earliest examples of the International style of architecture (see chapter 33) in the United States.

27.21 Richard J. Neutra, Philip Lovell House, Los Angeles, California, 1928.



Constructed of reinforced concrete, it has long rows of prefabricated, metal-frame ribbon windows, cantilevered balconies, and a flat roof.

For Dr. Philip Lovell, Neutra designed a Los Angeles house (Fig. 27.21) which has an even more severe, machine-age quality to it than Schindler's Lovell Beach House. Neutra's house has a steel frame that is enclosed with poured concrete and glass. The aesthetics of a structure such as this arise from the clean, sharpedged lines and forms, the precision, careful proportioning, and the open flow of spaces. Many of the components of the building were ordered from a manufacturer's catalogue. This, too, was a part of the revolution that had occurred, for now machinemade, prefabricated parts replaced the earlier handcrafted, custommade work that had been produced by artisans on the building site. When completed, the Lovell House was as advanced in design as anything then being done in Europe by Gropius, Le Corbusier, or Jacobus Oud (1890–1963), and at that moment Neutra had reached parity with Frank Lloyd Wright.

Soon after, Neutra embarked on a trip around the world that included a visit to Japan and a period in Germany, where he was a guest lecturer at the Bauhaus. Back in Los Angeles, in the 1930s he designed a number of private residences and a school that became the model for many others in the area. Neutra remained active after 1940, especially in the designing of houses in southern California.

THE SKYSCRAPER: ART DECO AND THE INTERNATIONAL STYLE

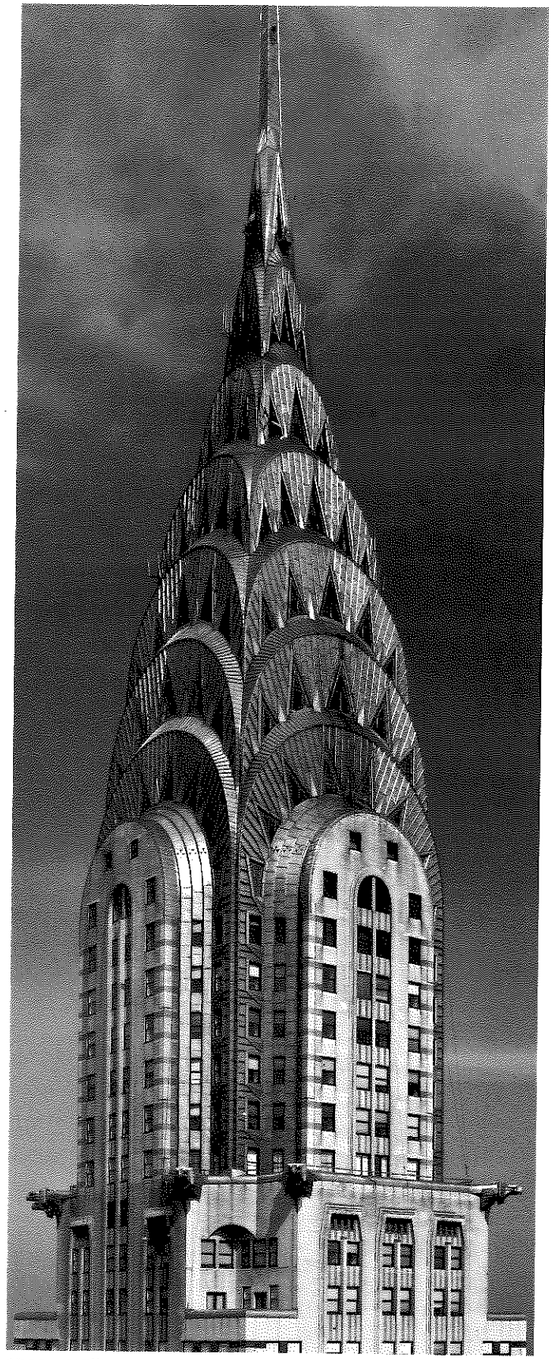
Having left off in the early 1920s with the Tribune Tower—that skyscraper in the Gothic mode—we return now to the challenge posed by the tall office building.

The march of modernism was relentless, and its advocates were determined to purge architecture of all traces of historicism. Around 1930, two attempts were made to find some solution other than historicism for the skyscraper, which now rose to unprecedented heights.

THE CHRYSLER BUILDING AND THE EMPIRE STATE BUILDING

Both the Chrysler Building (Fig. 27.22), designed by William van Alen (1883–1954), and the Empire State Building (Fig. 27.24), by the firm of Shreve, Lamb, and Harmon, were designed in three sections: A base, a shaft that is set in from the base, and an elegant, spirelike top. In each building, slender ribs extend heavenward from the street level to the spire, creating the pronounced vertical axis that is appropriate to the form, while at the same time suggesting the structure of the reinforced steel frame.

27.22 William van Alen, Chrysler Building, New York City, 1928–30. Peter Mauss/Esto.



27.23 William van Alen, Chrysler Building, New York City, 1928–30. Detail of top. Peter Mauss/Esto.

The crowning glory of the Chrysler tower is its Art Deco spire, the result of a conscious effort to create some form other than Beaux-Arts historicism (Fig. 27.23). The lovely, innovative composition of decreasing, wheel-like motifs with radiating triangles is encased in aluminum, a metal that suggested sleekness and the streamlined forms of the machine age.

Art Deco had only a temporary life in the late 1920s and the 1930s. The designs tended to be geometric, in keeping with the severe geometry of the new architecture, which in turn seemed to many to need some kind of decorative relief. Art Deco could also be based on natural form. Whether floral, animal, or human, this usually was simplified and stylized until it worked agreeably with the surrounding architecture. In the end, however, it was decided that no decoration was best of all, which stripped architecture of one of its richest artistic heritages.

The Chrysler Building rose to a height of just over 1000 feet (305 m). For a brief moment it was the tallest building in the world—until the Empire State Building topped out at 1250 feet (381 m) one year later (Fig. 27.24).

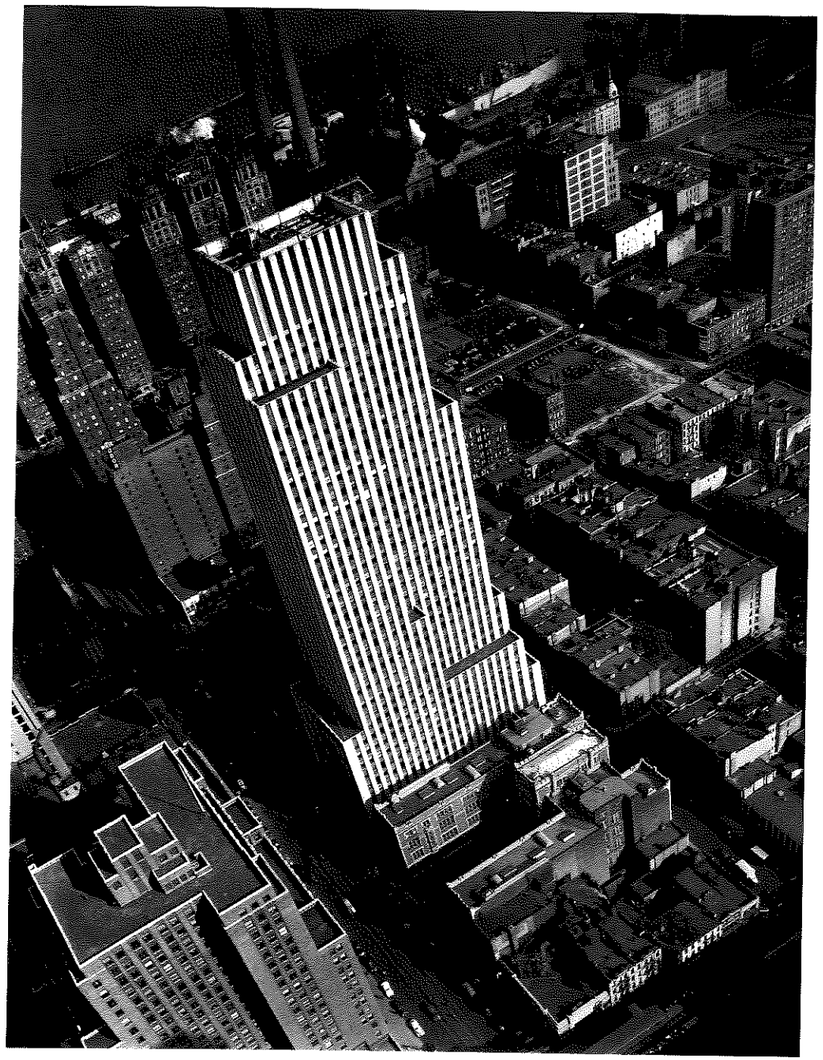
The Empire State Building is an archetypal but successful example of the commercialism that beset corporate architecture at the time. William F. Lamb (1883–1952), one of the designers, freely admitted that all handwork was eliminated because it was cost-effective to do so. Nevertheless, the building proved that the skyscraper did not need decoration such as that found on the Tribune Tower to be successful. In fact, it showed that the beauty of a building can reside in its design, exquisite craftsmanship, and materials, rather than in applied decoration.

27.24 Shreve, Lamb, and Harmon, Empire State Building, New York City, 1929–31.

The Empire State Building, constructed of stone and steel, is of a simpler, bolder, more massive form than the Chrysler Building. From its base, a tasteful setback scheme allows a fine transition into the shaft of the tower. At the very top, the spire is itself an extension of the architectural form. The vertical accent is carried the full height of the eighty-five-story building by the rib system used on all four sides.

THE TRIUMPH OF MODERNISM

Raymond Hood, co-winner of the competition for the Tribune Tower (Fig. 27.6), soon realized that the Gothic style was not the key to the future in skyscraper design. Accordingly, in his Daily News Building in New York City, he imposed an excruciating simplicity upon a slablike, vertical-ribbed tower with squared-off top (Fig. 27.25). This abrupt termination of the roofline set a pattern that was to be followed in subsequent skyscraper design. There is not even a lingering trace of a cornice to remind us of a Renaissance heritage, or a grand arched doorway to suggest the triumphal arch of the Romans. Instead, an aesthetic emerges from



27.25 Raymond Hood, Daily News Building, New York City, 1929–30. Ezra Stoller/Esto.

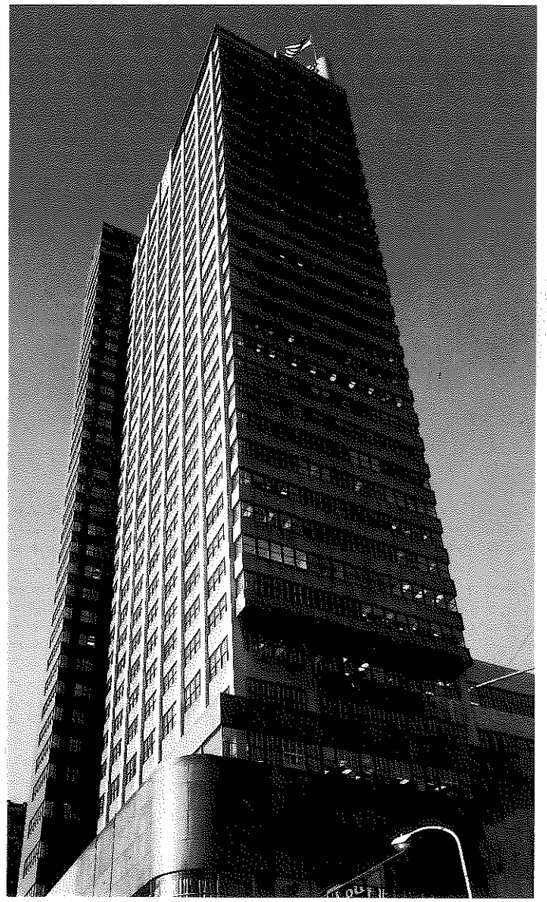
the technology of the structural system in the clean lines of the vertical ribs, the grid system formed by the horizontals, and the bold simplicity of the masses.

Although new in form, the Chrysler Building and the Empire State Building were still connected to the past by their stone exteriors. In Hood's next important skyscraper—the McGraw-Hill Building—stone is eliminated. Here, the exterior walls become horizontal bands of glass hung upon a steel frame, separated by bands of terracotta, which, like the glass, are tinted blue-green, asserting that this twentieth-century ziggurat is definitely not made of stone.

THE INTERNATIONAL STYLE

The next step in the evolution of the skyscraper came with the Philadelphia Savings Fund Society (PSFS) Building (Fig. 27.26). Here one finds evidence of those powerful influences from European modernism that led to the International Style, namely, a steel skeletal frame for a slablike tower; a glass-sheathed exterior; and a rejection of all historical decorations and traditions. Severe in its simplicity, precise in form, and expressive of the machine age, the building is distinguished by the exquisite refinement of its details and materials.

27.26 Howe and Lescaze, Philadelphia Savings Fund Society (PSFS) Building, Philadelphia, Pennsylvania 1929–32.



It is called the International Style because it transcended national boundaries, even oceans. Its leaders were also international: Walter Gropius and Mies van der Rohe in Germany; Le Corbusier (or Charles Edouard Jeanneret, 1887–1965) in France; and, in the United States, men such as Gill, Schindler, Neutra, Hood, and Howe and Lescaze. Some scholars have seen the PSFS as a counterpart to Gropius's Bauhaus building in Dessau, Germany.

George Howe (1886–1955) had lived a cosmopolitan life abroad before he attended Harvard College and then the Ecole des Beaux-Arts. After settling in Philadelphia, his eclectic, historical-style houses brought him a very successful practice. Then, about 1928, Howe made a remarkable conversion to the International Style. The PSFS was the result of his first effort in that vein.

Just as work began on the PSFS design, Howe joined in partnership with the Swiss modernist architect William Lescaze (1896–1969), who was influential in introducing the International Style not only to Howe, but to the United States generally. Upon completion of his training in Zürich, Lescaze worked briefly in Cleveland, and in 1923 started his practice in New York City. His partnership with Howe lasted until 1933, and the PSFS—which came as a startling revelation of the new modernism to most Americans—was their greatest triumph.

ROCKEFELLER CENTER

The most ambitious project of this era was Rockefeller Center in New York City (Fig. 27.27). Occupying several city blocks and consisting of a complex of fourteen buildings, its focal point is the seventy-story RCA Building, approached by way of a handsome pedestrian mall. At the foot of this central structure is a sunken outdoor café, which in winter becomes an iceskating rink. In this way the Center created something amenable to the public in the midst of corporate slab-towers.

Not since the World's Columbian Exposition of 1893, the redesigning of the Mall in Washington, D.C., and the plan for the campus of Columbia University around the turn of the century had an architectural complex such as this been undertaken. With the financial backing of John D. Rockefeller, Jr., the first plans for Rockefeller Center were made in 1927. A small army of architects, designers, engineers of all types, and consultants was involved. The firm of Reinhard and Hofmeister was in charge, with assistance from Raymond Hood and Harvey W. Corbett. Rockefeller Center was truly an expression of corporate America, for Rockefeller and a host of other businessmen and lawyers sat on the design committee.

27.27 Raymond Hood and others, Rockefeller Center, New York City, 1927–39. © The Rockefeller Group.

The basic design of the several buildings of Rockefeller Center was the work of Hood. Their relationship to his Daily News Building is evident. Here was an effort to organize urban commercial life in a vast complex of buildings; below ground all buildings are connected through a system of shoplined passages, and the Center has its own subway entrance at that level. A lower level allows for deliveries by trucks.

Each building is a slab type, sheathed in light-gray limestone, with subtle setbacks and squared-off tops. There is a visually pleasing unity in the overall design.

Work on the initial phase of Rockefeller Center ended with the close of the 1930s. Two more buildings were later added—the Time-Life Building in 1961, and the Sperry-Rand Building five years later. These were designed to harmonize with the existing complex, although post-war architecture had already developed a new brand of modernism.

Architecturally, the period from 1900 to 1940 had been an extremely important one: A new type of house had been created in response to twentieth-century life, and a successful solution had been found for the commercial skyscraper.