

# A HISTORY OF ARCHITECTURE

## Settings and Rituals

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Original Drawings by Richard Tobias

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of wood. The paper architecture of the young modernists, even were it generally acceptable, would have been out of the question technically.

Following the Revolution, the private ownership of land and rented property had been abolished. The workers were installed in town houses and apartments once occupied by the bourgeoisie. The debate among functionalists, whether new towns should be made up of communal houses around industrial plants, or whether city life should be forever renounced in favor of a Russia dotted with individual homes of lightweight structure—all this had little bearing on real events. Only in the second half of the decade did new construction take off, and the modernists given a share. But their practical experience lagged behind their audacious vision, especially in technical matters. And their identification with an international socialist avant-garde proved increasingly antithetical to Soviet policy. Under Stalin Vkhutemas folded, and in 1932, when the competition for the Palace of the Soviets was being judged, the Central Committee of the Communist Party opted for monumentality and a classical style. This was the doctrine of "social realism," and it brought to an end the brief experimental phase of architecture in the USSR.

We can appreciate the reactionary force of social realism if we look at Le Corbusier's scheme for the Palace of the Soviets, and compare it with the one the government elected to build. (Fig. 27.15) Le Corbusier was one of several leading European modernists who took part in the competition. The building was sponsored to celebrate the achievements of the first Five-Year Plan. It was to go up facing the Kremlin, on the opposite bank of the Moskva, and to be used for political meetings and congresses.

Several years earlier, in 1928, Le Corbusier had entered, and won, another Russian competition, for a palace of labor called Centrosoyuz. This was a big triumph for the modernist cause. Progressive architecture was enjoying its day. Russian modernists were busy on housing projects, student hostels, and industrial compounds, and Ernst May of Germany was designing major parts of the giant industrial city of Magnitogorsk. But now the climate was chang-

ing, and not only in Russia. In Germany the reasons for official displeasure were different, but the result was the same. The Nazi administration, once installed, closed down the Bauhaus and attacked its leaders as subversives. Much more mildly but unmistakably, in Italy too Mussolini's regime withdrew its support of young modernists after 1934 and embraced the rhetorical classicism of Stalin and Hitler.

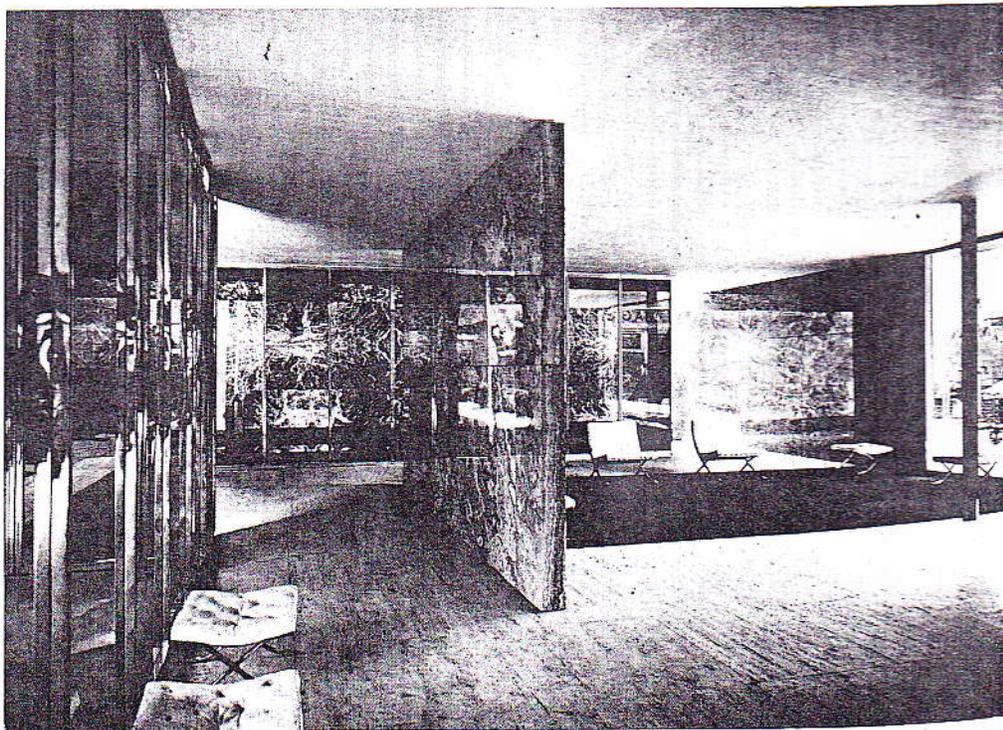
But Le Corbusier's scheme for the Palace of the Soviets also illustrates how far the International Style itself had come in the Twenties. The immense curved facades of the two fan-shaped meeting halls, the ramps and platforms between them capable of holding 50,000 participants, the Freyssinet-inspired roofing system of the larger hall with its colossal girders, all this drama and sculptural energy outdistances, if it does not

altogether contradict, the prior achievement of the International Style, including Le Corbusier's own share in it.

In truth, Le Corbusier was always, as here, a step or two ahead of his confreres. Since 1915 when he crystalized a modernist idea of the time in his so-called Dom-ino system, this Swiss-born, French master had proved the most protean among avant-garde architects. From the start he was interested in reaching trenchant model solutions with general application. The Dom-ino system, for example, was offered as a prototypical housing solution. (Fig. 27.16) The repeatable unit consisted of two horizontal slabs of concrete supported by columns and connected by stairs. The owner would be expected to purchase prefabricated windows and wall sections and fill in this minimal frame. The columns being recessed

Fig. 27.12 Barcelona (Spain), the German pavilion in the International Exposition of 1929, Mies van der Rohe: (a) interior; (b) ground plan. The

building no longer survives. The chrome and leather chairs, also by the architect, became known as "Barcelona" chairs.



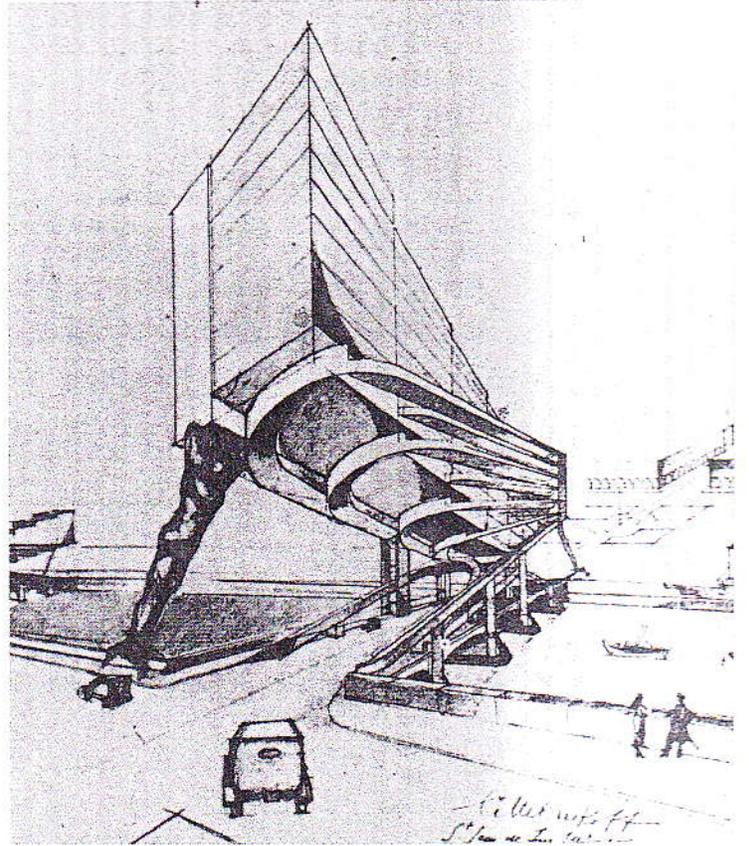
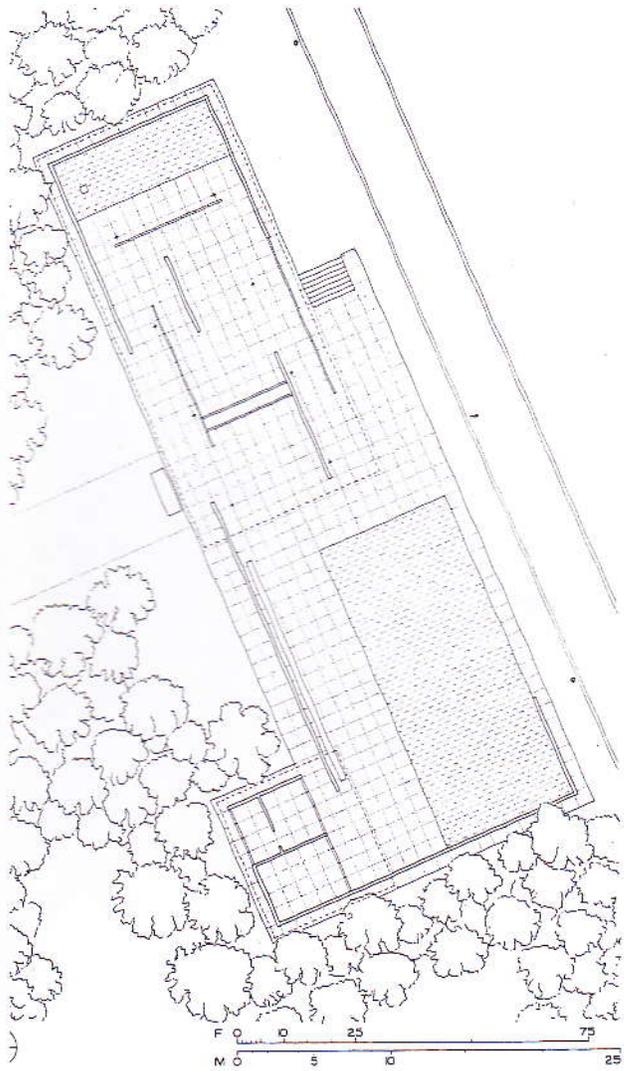
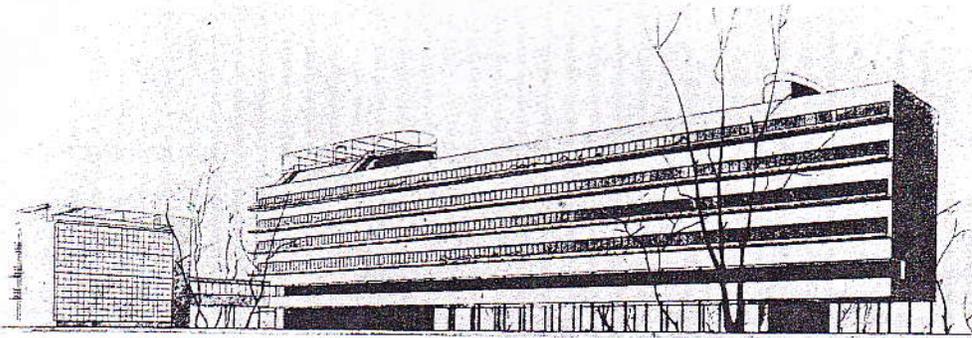


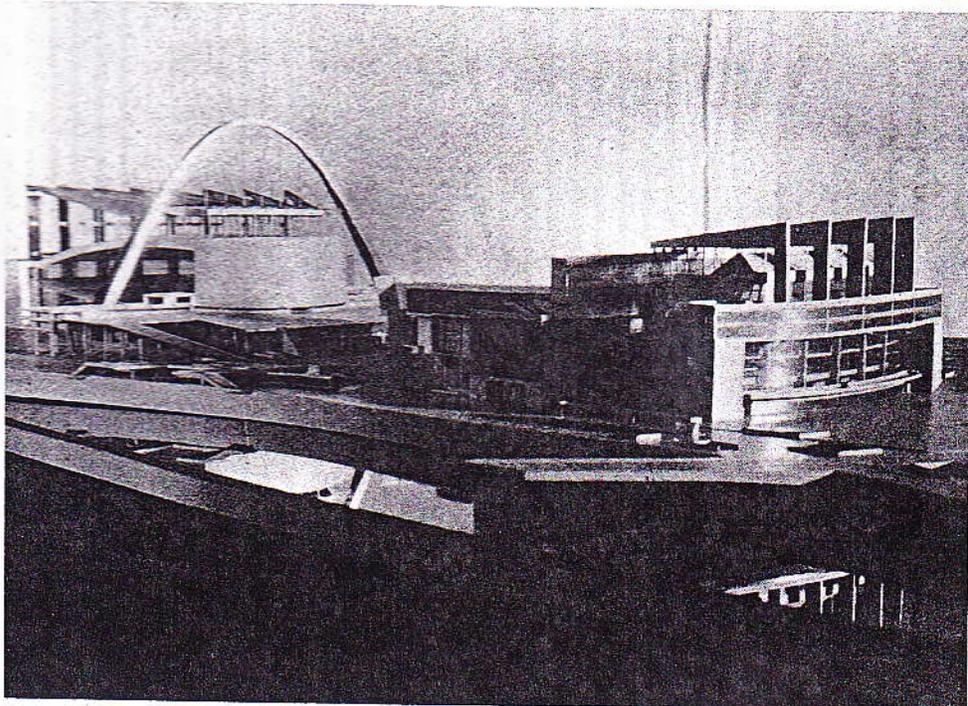
Fig. 27.13 Konstantin Melnikov, project for a parking garage to be constructed over the Seine in Paris, 1925. The arm propping up the building on the left was a humorous addition by the architect in response to criticism that the building was structurally unstable.



27.14 Moscow (Russia), the Narkomfin (stands "People's Commissariat for Finance") apart-

ment building, 1928-9, Moses Ginzburg and I. Milinis.

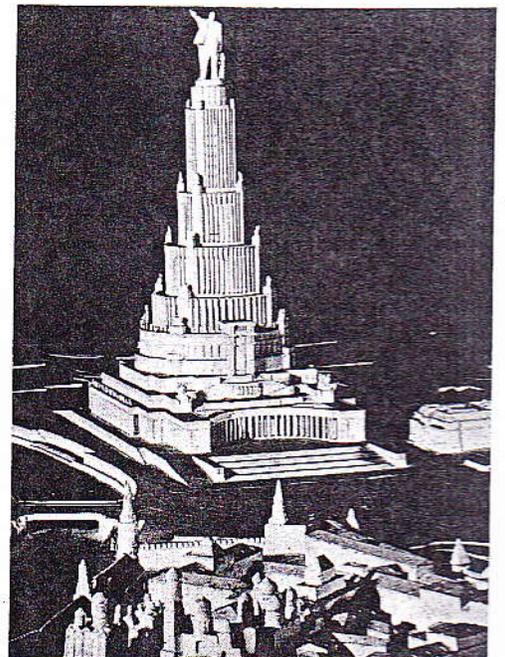
27.15a Le Corbusier, competition project for Palace of the Soviets in Moscow, 1932; model.



with respect to the outer walls, the facade would be structurally independent and could thus be composed freely so as to admit abundant natural light.

This free facade, along with the free plan, pilotis, the roof garden, and elongated windows, became Le Corbusier's syntax. Until about 1930 he applied it to schemes of mass housing, as well as the series of private villas that culminated in the superbly assured Villa Savoye at Poissy. (Fig. 27.17) Controlled by a ground plan that is a perfect square, the villa stands on the familiar Corbusian stilts, in the middle of a field overlooking the Seine valley, with something of the abstract clarity of a Greek

Fig. 27.15b Moscow, the Palace of the Soviets, proposed scheme, 1934, Boris M. Iofan. This was the revised version of the winning design in the competition of 1932 by Iofan, V. Gel'freikh, and V. A. Shchuko. The building was intended to be "taller than the Eiffel Tower and the Empire State Building." It was to be crowned by a colossal statue of Lenin. Construction was interrupted by World War II, and an open-air swimming pool was subsequently built on the foundations.



emple. A two-staged ramp sweeps up into the raised living area, which is arranged long two sides of the square, and then onto a rooftop solarium open to the sky.

More prophetic of the future were Le Corbusier's urbanistic proposals. Characteristically, he took on the city in its totality, and not at the level of piecemeal interventions. The historic European town he considered beyond repair. In his alternative model, the urban landscape was one of rearing skyscrapers lifted above the ground—tall office towers for the business enter whose supremacy Le Corbusier forcefully reaffirmed; and the residential

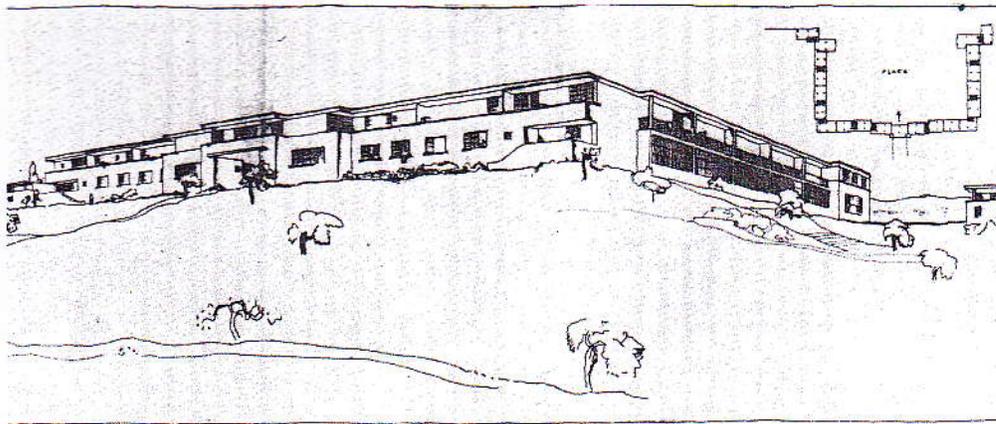
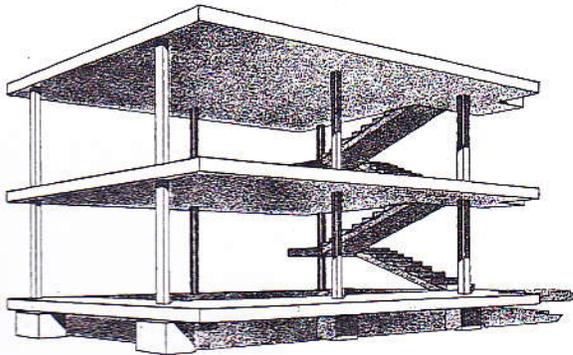
towers further out, which passed from being cruciform in the early proposals, to being Y-shaped, and finally to massive rectangular slabs poised aloft on sturdy pilotis. (Fig. 27.18) A great multilevel transportation spine ran in a straight line through the city and continued beyond its limits as a superhighway. The traditional street with its shopping facilities moved indoors into the residential slabs, and recreation found its place on their roofs. All around and underneath these behemoths was open space, greenery.

This ideal metropolis of modern capitalism is now of course commonplace. We are

familiar with its towers representing the might of multinational corporations. The residential slab as Le Corbusier perfected it—a reinforced concrete cage with independently built, that is, substantially soundproof split-level dwelling units, inserted like bottles in a bottle rack (Fig. 27.19)—will become ubiquitous after World War II, especially in South America and the so-called Third World countries. But for their time, these were astounding inventions. So too his Palace of the Soviets, both as efficient machine and representational symbol, prefigured by two decades the mood of sculptural monumentality that was to seduce modern architecture in the Fifties and Sixties.

Fig. 27.16 Le Corbusier, Maison Dom-ino, 1915: (a) structural skeleton of each unit; (b) units arranged in a series, with cladding. The word "Dom-ino" was meant to evoke *domus*, the Latin word for house, as well as the stacking and stan-

dardized look of dominoes. Le Corbusier developed the idea originally in response to the war damage in Flanders; the unit was seen as a housing kit to aid the rapid reconstruction of the area.



### The Other Side

Le Corbusier did not get to America until 1935. By then the modern European idiom had made its tentative debut here in some West Coast houses and in at least one public building, the offices of the Philadelphia Savings Fund Society (PSFS), which was designed by George Howe and William Lescaze. Less purely than in these designs, it had started to seep into general practice, fostering crossbred designs of particular originality. But that was not what Le Corbusier cared about most. Like other modernists, he had long been in love with America's silos and skyscrapers. Manhattan was the nearest thing to his vision of the metropolis of tomorrow. "The United States is the adolescent of the contemporary world," he said in an interview in 1932, "and New York is her expression of enthusiasm, juvenility, boldness, enterprise, pride and vanity. New York stands on the brink of the world like a hero."

#### Jazz-Age America

The Empire State Building, eighty-five stories high and topped by a dirigible mooring mast, had just been completed on Fifth Avenue. A full 378 meters (1239 feet) high, it was now the tallest building in the world. Several blocks to the north another prodigy, a cluster of skyscrapers called Rockefeller Center, was taking shape—and this in the teeth of the Great Depression that had ground private construction to a virtual halt

all across the country. Up until the market crash of October 1929, the Twenties in America had witnessed one of the biggest building booms in history. It was the time of Art Deco skyscrapers, of fancy suburban homes, of Chinese and Aztec movie theaters. (Fig. 27.20) It was the time when the mass-produced motor car came of age and, with the construction of the first cross-country highway in 1927, the most profound transformation of the American landscape got seriously underway.

There were already more than 20 million automobiles in America. The heyday of the railroads was gone. The West and Southwest thought now almost exclusively in terms of private transportation. Hard-surface, all-weather roads stretched out in all directions at the start of a sensational epic of engineering and design that is not quite over even today. The new freedom from tracks transfigured urban life as well. Fast lanes scarred the evenness of conventional grids. Traffic signals were accepted as a standard element of street furniture. All the while the cluster of cars aggravated downtown congestion, fueling the anti-urban sentiment that is never absent from the American mind. The common belief that suburbs are the right place to raise a family was now reinforced; the means to heed it was at hand.

Suburbs no longer had to be strung along rail lines but could sprout anywhere at all. And they could be any size they chose to be. Railroad suburbs had been forced to huddle around the station. They spread out only within walking distance of it, since there was no other way for the arriving commuter to get home. The car canceled this dependency. Huge tracts could now be developed speculatively at the edge of town. Exclusive suburbs for the well-to-do gathered loosely around country clubs and polo grounds, gobbled up green space, and lounged listlessly.

This escapism was reflected in the architecture. Everywhere the preference was for romantic evocations of the past—Moorish villas in Florida, Spanish revival (or "mission") houses in California, neo-Colonial resurrections of Pennsylvania Dutch and Georgian on the East Coast. Here hard-nosed business executives who spent their

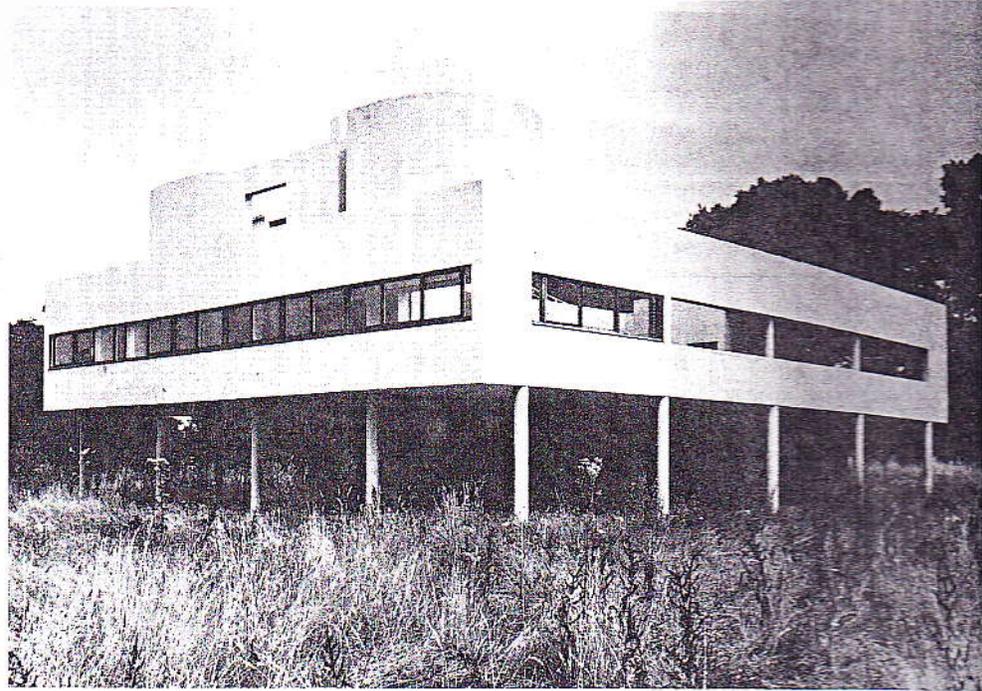
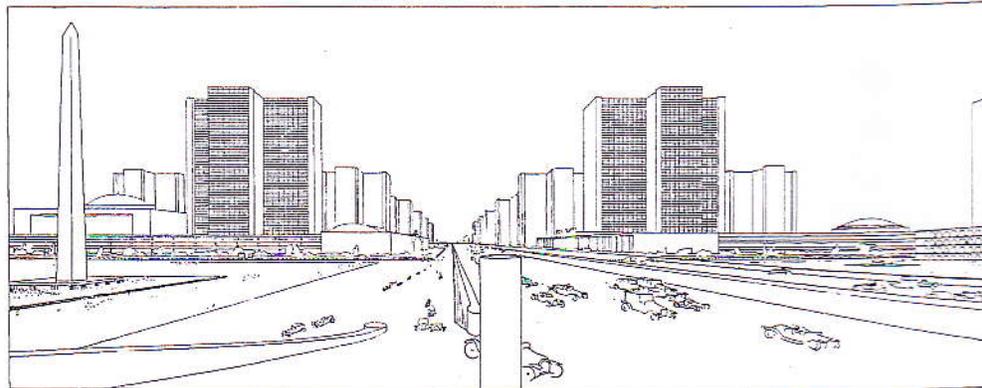


Fig. 27.17 Poissy (France), the Villa Savoye, 1928–9, Le Corbusier.

Fig. 27.18 Le Corbusier, urban project entitled "A Contemporary City for Three Million People" exhibited in Paris in 1922. We can see the straight

axis of the main transportation spine and cruciform office towers in the center of town



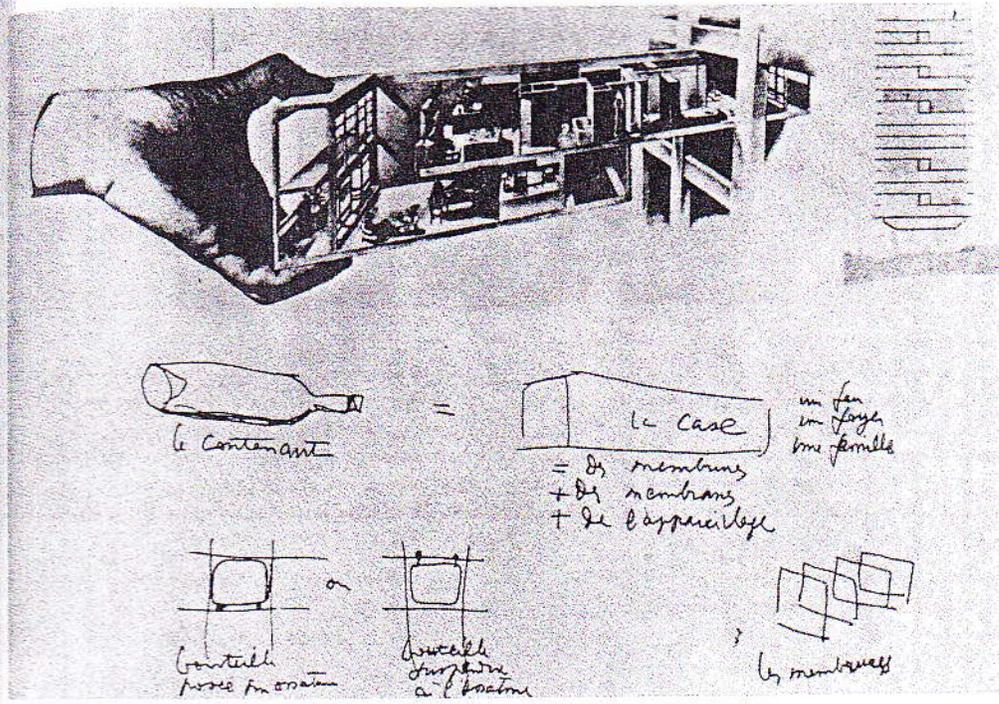


Fig. 27.19 Le Corbusier, sketches showing the principal part of the apartment unit as a drawer, or as a wine bottle inserted in a rack; from the

architect's *Oeuvre complète*, 1946–52. See also the transverse section in Fig. 28.3b.

working days in office towers, and industrialists who expected the most unsentimental functionalism in the design of their factories, took nostalgic refuge and sublimated a driving, competitive life. (Fig. 27.21)

We should stress two things about this golden age of the suburb. First, an often deadly physical conformity. For all the love of personalized design and the rich choice of styles, subdivisions would typically repeat a single house model planted invariably in unfenced open lots. Second, the matching homogeneity of the population. Tight planning rules subscribed to by developers, real estate brokers, and financing agencies blocked the admission of minority groups like Asians, Blacks, and Jews into suburbs.

All along, suburbs had existed as dormitory communities, insulated from the hurly-burly of urban street life. The growing ac-

ceptance of zoning legislation in the Twenties unscrambled customary mixed-use patterns in city centers, while confirming the preponderantly residential character of the new car suburbs. Shopping was grouped into tight nodes. This was the adolescence of the shopping center—that most typical of modern American environments whose origins go back to the store blocks in boom towns of the nineteenth century. (Fig. 27.22)

The premise of the shopping center is simple: it is a congregation of stores with off-street parking. Two early basic types can be distinguished: *strip centers* in which there is an unbroken line of sixteen to twenty stores; and *shopping courts* where the stores turn their back to the approach streets and face inward on a plaza. Regional shopping centers will eventually cover up to fifty acres and have as many as thirty to fifty specialty shops anchored by

one or two major department stores. Regardless of size, suburban shopping centers always included a self-service supermarket, another authentically American invention, and a drugstore.

The style of supermarkets was as varied as that of the suburbs themselves. A number of planning problems were common. The shoppers had to be isolated from delivery activities. Most simply this entailed having display windows and customers' entrances on one side, and service entrances and loading docks at the back. The principal design concern was parking. While curb parking might be adequate for small neighborhood centers, parking lots were soon unavoidable. Two- and three-level parking, rooftop parking, and other ingenious arrangements were hit upon fairly early. Lastly, pedestrian traffic had to be kept separate from the cars. Covered walks and malls were in general use before World War II. Thereafter, the cluster type came in vogue for regional centers. An outer ring road defined the limit, with parking restricted to the periphery within; mall and plaza areas at the core could then be devoted strictly to pedestrians.

While suburbs sprawled complacently, apartment living was gaining acceptance in cities the size of Chicago or New York. Here the skyscraper found one of its specialized uses. Park Avenue in New York was lined with fairly homogenous Neo-Renaissance skyscraper-palaces in brick and limestone, from Forty-sixth Street, where the newly built Grand Central Terminal with its tall tower-block framed the vista, all the way to Central Park and beyond. (Fig. 27.23) A broad green strip ran down the middle of the avenue. This was New York's answer to the Parisian boulevard, but for all its elegance and Beaux-Arts regularity, the premises were poorly lit and ventilated. A partial answer was garden apartments, U- or H-shaped blocks graced with an interior garden court and set back from the property line to allow for some landscaping in front. In both instances, the units varied from small efficiency apartments that made do with a "kitchenette," to spacious duplex or two-floor apartments with private stairways.

But the main role of the skyscraper re-

Fig. 27.20 Hollywood (California), Grauman's Chinese Theater, 1927, Meyer and Holler.

remained commercial. In the Twenties the type went national. It symbolized capitalistic success, and most self-respecting cities built at least one, even when the economic justification for it was not there. The structural system had been worked out for the most part by 1900, but the boldly increasing height and the cost and logistics of construction in restricted urban sites did spark several responses. Fixtures and some exterior elements were standardized. New implements thoroughly rejuvenated construction habits. Steam shovels, hydraulic jacks, pile drivers, mechanical cranes, pneumatic hammers, concrete mixers—these were all in use before World War II. Welding instead of rivetting steel became increasingly common. Tubular steel scaffolding was introduced as early as 1920 to replace timber.

On-site organization advanced in concert. The workshop of the Empire State Building amazed contemporaries. (Fig. 27.24) Steel framing members came by train from Pittsburgh hours after fabrication and were used without delay to obviate storage. Powerful derricks were set up on specially cantilevered platforms. Elevators carried crews, and lighter materials where they were needed, and to save time lunch was prepared on the spot at portable kitchens. The workforce counted 3,500 men in all. And the building rose at an average of five and a half storeys a week. The whole enterprise, from ground-breaking to the moving in of tenants, took no more than a year.

On the technical side, we should mention, first, the so-called buoyant foundation system. To avoid the usual deep, costly pilings a basement was now dug, with a stiff base slab and side walls, that displaced a weight of earth similar to the total weight of the building. Air-conditioning and acoustical tile arrived precociously in the

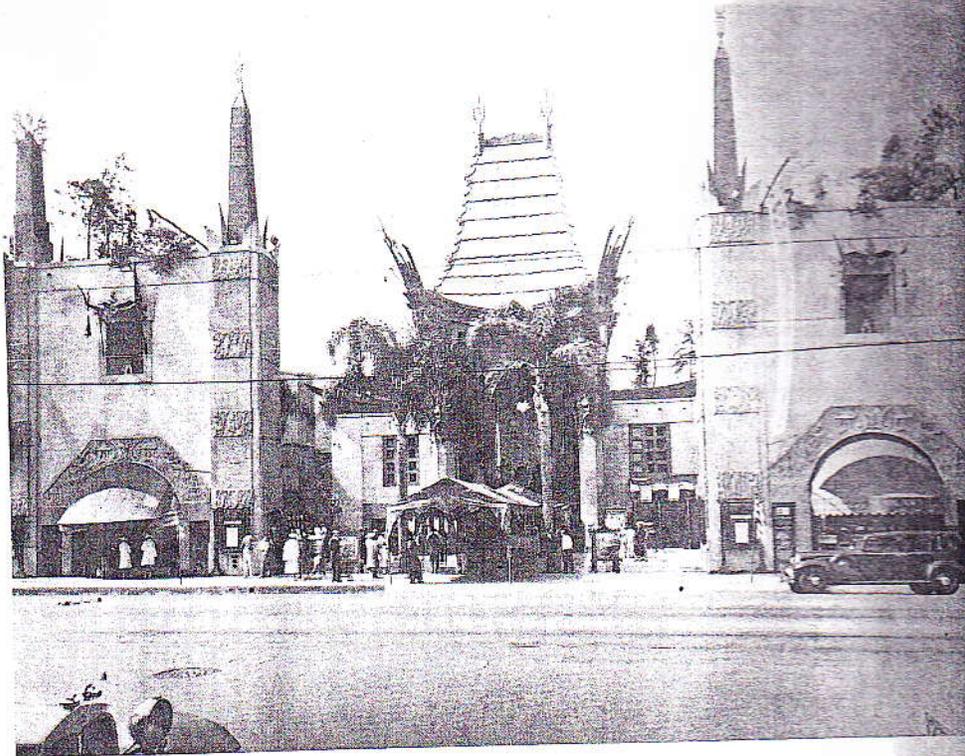


Fig. 27.21 Palm Beach (Florida), the house of Gurnee and Charles Munn called "Louwana," 1919, Addison Mizner; patio.

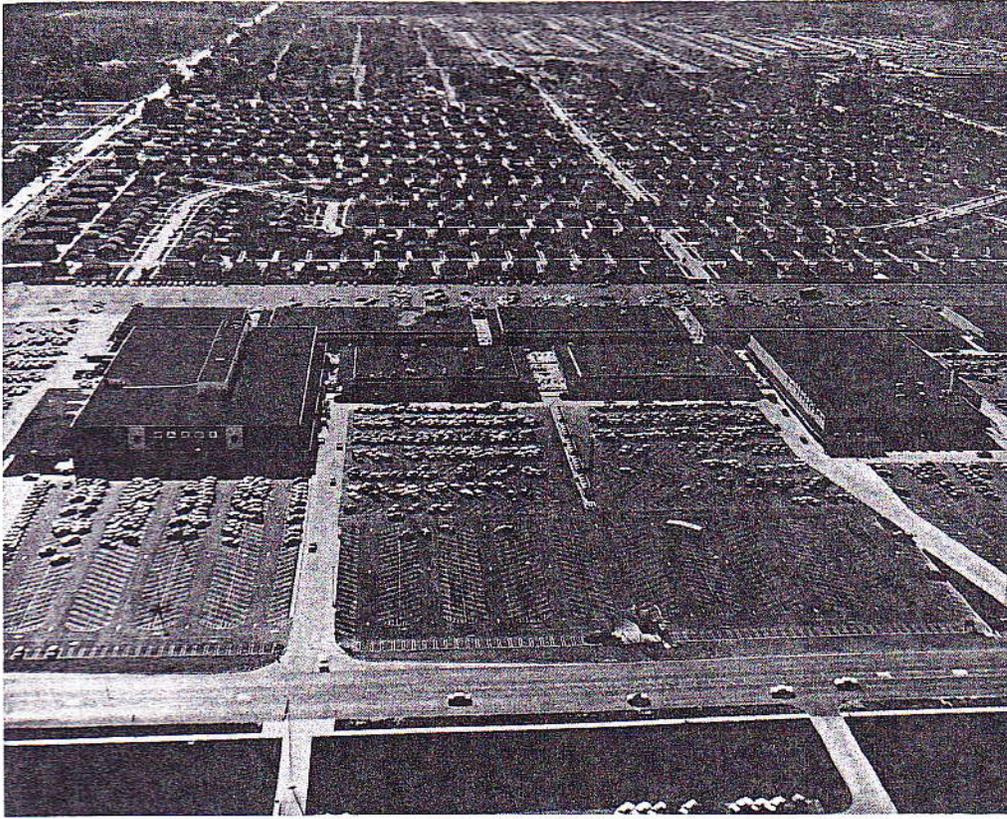


Fig. 27.22 Livonia (Michigan), Wonderland Regional Shopping Center, 1960, Louis G. Red-

stone; aerial view looking south. A suburban subdivision can be seen in the background.

PSFS Building, where their integrated installation along with the electric lights in the ceiling of the banking room anticipated the mechanical, hung ceilings and coffered ceiling slabs of the Fifties. Escalators, first demonstrated in the Paris Exposition of 1900, were no longer exceptional. The architect had at his disposal a whole range of new industrial materials. The PSFS Building featured aluminum windows. This metal, highly finished stainless steel and a heavy black glass called vitrolite pointed the way to the sleek aesthetic of more recent skyscrapers, while the interior suggested the car culture in glossy, glinting details of formica, Monel (a nonrusting copper and nickel alloy), and early plastics like bakelite.

For a corporate client, the skyscraper held two rather conflicting promises—intensive occupancy in a revenue-rich downtown site, and the advertising value of visibility on the

skyline. The one argued for a dense building that could take up all of the land at its disposal; the other pushed toward a tall, strikingly capped building that could stand clear of its neighbors. Since 1900, the free-standing tower with some kind of assertive crown had gained in popularity as one solution to the massing of the skyscraper. This is sometimes called the campanile type. (Fig. 27.25a) In an attempt to have it both ways, another solution combined a massive block with a multistoried tower that soared beyond it. Cass Gilbert's 1913 Woolworth Building in New York is a good example of this type, which had the further benefit, of course, of admitting more light and air both at street level and for the building's occupants. (Fig. 27.25b)

The street-level environment was now a major problem in New York. The irresponsible exploitation of space for offices was

turning streets into sunless canyons and creating inhuman working conditions within. In part to stop this abuse of overbuilding, the city passed the intricate Zoning Ordinance of 1916 we spoke of in the last chapter. For commercial architecture, it prescribed that after rising sheer from the pavement for a certain height, this depending on the size of the lot and the width of the street, the building had to be pulled back in a series of setbacks. (Fig. 27.26) Only then could a tower be lifted as high as the owner wished, provided its area did not exceed about 25 percent of the total area of the lot.

This restrictive legislation was a tonic for skyscraper design. It meant that the massing, and therefore the profile, of tall buildings could be manipulated for dramatic effect. In predetermining the overall shape as a system of setbacks, the ordinance made it easy to abandon the habit of thinking of the skyscraper as affinitive to the classical column—with a distinctive ground-storey treatment for the base, the uniform office floors for the shaft, and the attic topped by a projecting cornice for the capital. The cornice might be given up altogether, or replaced by all manner of fanciful crowning features. Stepped elevations now recalled the ziggurat of old or the craggy, tasseled silhouettes of Gothic cathedrals. The shelflike recessions could be made over as roof terraces or penthouses.

In one spectacular instance, that of Rockefeller Center, the ordinance was brilliantly exploited in a program of group design. (Fig. 27.27) Over three of New York's elongated city blocks, between Fifth and Sixth avenues, a committee of managers and designers planned several skyscraper slabs of different height around a T-shaped plaza. A superb civic space, this plaza started as shopping promenade and sloped down into a sunken court, which in winter was converted into an ice-skating rink. An elaborate underground network included subway connections, unloading and warehousing facilities, and three storeys of a five-storey garage. The long, thin rectangular buildings made possible shallow office space that had maximum contact with window areas. No office was more than 8.5 meters (28 feet) from natural light. Here was the first realization of Le Corbusier's urban

Fig. 27.25b New York, the Woolworth Building, 1911–13, Cass Gilbert.

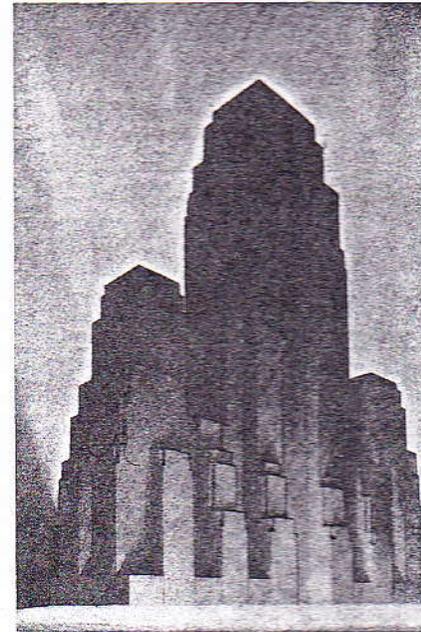


Fig. 27.26 "Evolution of the Set-Back Building Fourth Stage," a schematic skyscraper which refers to New York's 1916 zoning ordinance on building height and volume, 1929 Ferriss; from *The Metropolis of Tomorrow* form is derived by first sketching the maximum mass permissible for the site under the law. The building rises vertically on its lot to a height twice the width of the surrounding streets, above which it slopes inward at fixed angles. The original mass is then cut in "light courts" and the sloping forms are translated into rectangular shapes. The number of setbacks is then reduced in order to make construction more economical. We illustrate the result. Ferriss wrote: "This is not intended of as a finished and habitable building; it still articulation at the hands of the individual designer; but it may be taken as a practical form for large buildings erected under the provisions of zoning law."



Fig. 27.23 New York, neo-Renaissance apartment houses along Park Avenue, 1920s-1940s.

Fig. 27.24 New York, the Empire State Building under construction; a photograph by Lewis Hine entitled "Laying a Beam, Empire State Building, 1931."



Fig. 27.25a Minneapolis (Minnesota), the Foshay Tower on Marquette Avenue, 1927-29, the firm of Magney and Tusler, Inc. The thirty-two sto-

rey skyscraper is modeled on the Washington Monument. This photograph was taken ca. 1966.



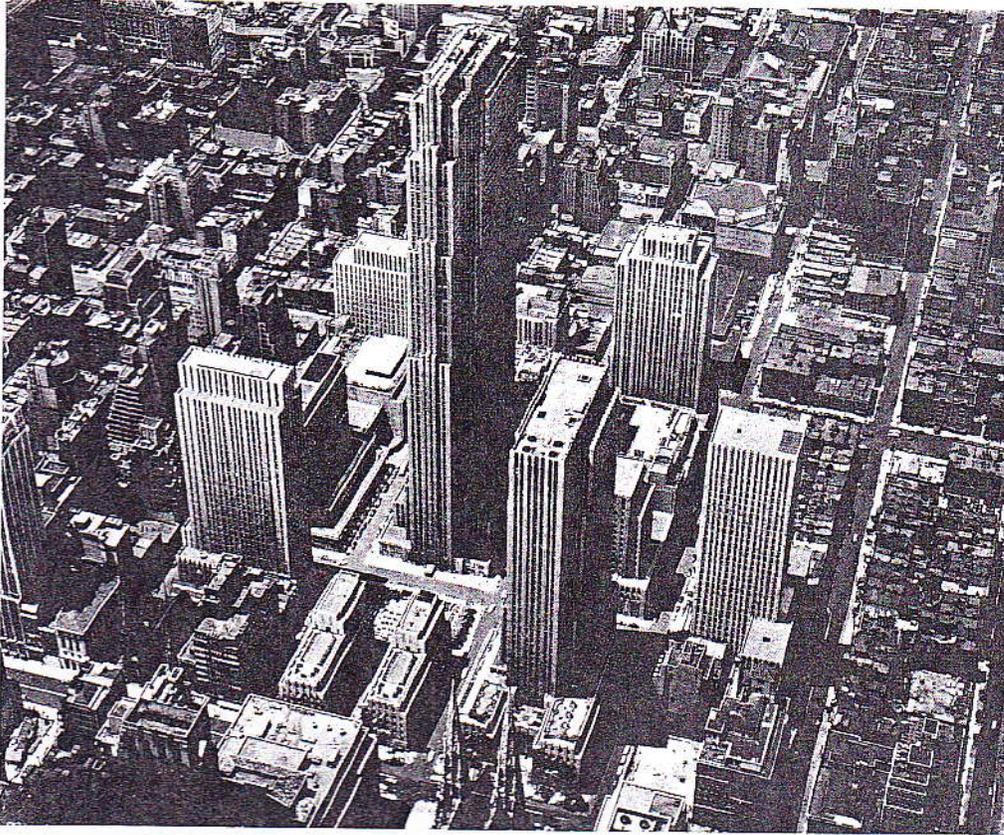


Fig. 27.27 New York, Rockefeller Center, the firm of Reinhard & Hofmeister, with Harvey Wiley

Corbett and Raymond Hood; aerial view of 1948, looking west.

vision—freestanding towers in landscaped open space. (Fig. 27.18)

“Semimodern” is the word sometimes used to describe the external ordering of the Rockefeller Center slabs—semimodern in that the concept at work here stands somewhere between the traditional styles and the “true” modern of the International Style. But in the last quarter of the nineteenth century, as we saw, the first generation of skyscrapers that went up in Chicago had settled on a plain ahistorical aesthetic, something that came out of the frank expression of function and the structural frame. This precocious American modernism, far ahead of Europe’s, had fallen victim to the seductive Beaux-Arts formality of the Fair of 1893. The tall building went back to wearing historicist garb. This was, broadly speaking, of two sorts. With the City Beautiful movement in full

swing, the classical look was to be expected. The Gothic skyscraper, on the other hand, caught on after the popular success of New York’s Woolworth Building and was apotheosized in Chicago itself, home of that spartan Commercial Style of Root and Sullivan, in the winning design of the *Tribune* competition of 1922, which was subsequently built on Michigan Avenue. Since Gothic in its time had stressed the vertical members of its structural skeleton, it was thought a fitting medium with which to convey the expressive height of skyscrapers. The preferred variety was Flemish Late Gothic.

Sullivan and his sympathizers had denounced this seeming regression as a betrayal of national promise, a charge often repeated since. But such moralistic verdicts have a hollow ring today. Historicist skyscrapers, the best among them, are



Fig. 27.28 New York, McGraw-Hill Building, 1929–30, Raymond Hood; close view from Forty-second Street. At the bottom of the picture is the Port Authority Bus Terminal, 1950 (addition 1963, 1982), Port Authority design staff.

possessed of a separate beauty. And, polemics to one side, they soon evolved into stripped-down versions of their own, so that when setback massing took hold even beyond the reaches of New York’s Zoning Ordinance of 1916, a standard elevation prevailed that was both reasonable in terms of the organization of the office space within as well as an elegant celebration of the tall building. The wall was made up of vertically striated piers running through the setbacks with no strong visual interruption, and window bands between them that were only slightly wider than the piers. Raymond Hood’s McGraw-Hill Building in New York, completed in 1930, is the perfect specimen. (Fig. 27.28)

There was little appetite as yet among business giants for the European brand of modernism. For one thing, the International Style had produced no tall buildings of the kind they sought, and what it did produce favored horizontality and a thin exterior skin that emphasized interior volume at the expense of mass. These quali-