



Simon Henley

The Architecture of Parking

Thames & Hudson



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with photographs by Sue Barr



Thames & Hudson

To Eve and Tom

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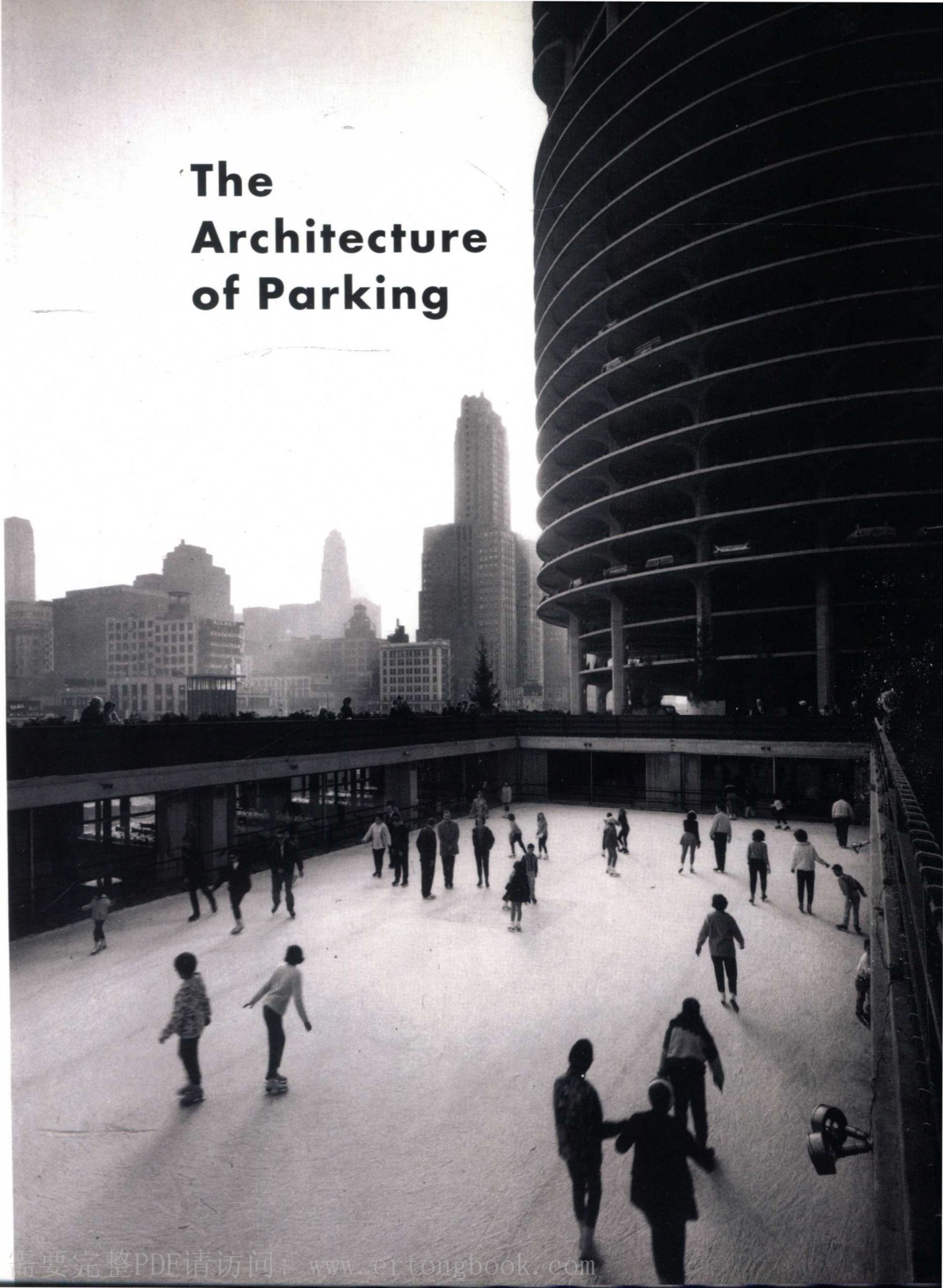




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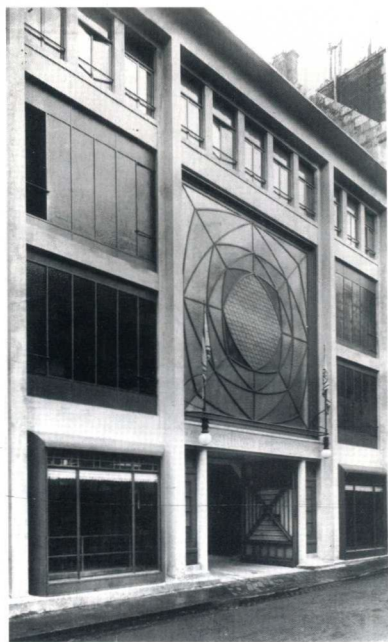
The parking structure has captured the imagination of novelists, photographers and film-makers,¹ and yet it remains peripheral to our culture, best understood as a forbidding fictional setting or as an often imposing, silent building that we encounter on the way to work or shop. As a child I thought of these places as dynamic but secret, where the rules did not apply, and as an

introduction

adult I have grown to enjoy their mysterious, inhumane beauty, born out of an extreme obligation to the car. This book seeks to explain the unique aesthetic of these radical structures, and their uncanny ability to distil and project ideas about building. Above all, the culture of the car park seems to have made a lasting impression on contemporary architects.



Auguste Perret, Garage de la Société Ponthieu-Automobiles, Paris 1905 (interior)



Auguste Perret, Garage de la Société Ponthieu-Automobiles, Paris 1905 (exterior)

Despite our dependency on the car (a trend that shows no sign of reversing), its physical by-products, in particular roads and multi-storey parking garages, have become increasingly unpopular. Somehow the very mobility of the car ensures that it largely eludes criticism. Criticisms of parking garages, unlike those of the car, are not abstract concepts, such as the impact of the combustion engine on global warming and the health risks of pollution, but concern the very real imposition that these structures place on our physical environment. For much of the last quarter of the twentieth century the environmental lobby sought to halt the influence of the car, and although the out-of-town shopping centre proliferated and acres of tarmac were laid for surface parking, the parking structure itself fell into disrepute. Then, in the mid-1990s, it re-emerged as a practical solution to the congested city, particularly in continental Europe. A new, more technically perfect and mischievous architecture of planes, ramps, spirals, folds and continuous landscapes surfaced. The sincerity of the 1950s and 1960s had been replaced by playfulness, or a search for the sublime.

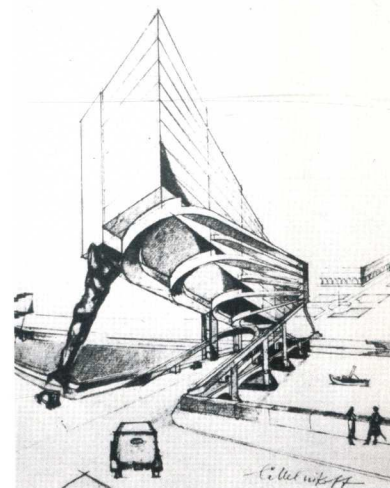
Today there are two clear trends: the first emphasizing the importance of technique, and the second delirious in its search to create new typologies and to generate new landscape forms. But when and where did this definition of the car park as a distinct building type begin? Can we pinpoint the moment when the parking structure ceased to mimic other buildings, such as the warehouse, office block, or department store, and became identified in its own right? J.B. Jackson's description of the evolution of the domestic garage provides a good starting point. He identifies the car's role at the beginning of the twentieth century as that of 'a pleasure vehicle and a toy, costly, exciting, and of extraordinary elegance'.² It was driven and maintained by an expert, the chauffeur. In towns and cities the car was stored in livery stables, and in the suburbs and in the country, the stable or coach house. Initially, the expeditionary nature of motoring was a pastime, and an end in itself. This and the low numbers of automobiles limited the impact of the static (parked) vehicle on the city.

But when the vehicle became a tool rather than a toy, the need to park en masse arose. Only a few notable parking structures existed before the 1920s, the earliest examples in both Europe and the US predating World War I. These included Auguste Perret's garage in the rue de Ponthieu (1905) in Paris, Marshall & Fox's Chicago Automobile Club (1907),³ and Marvin & Davis's garage for Palmer & Singer in New York, completed in 1908, a date that coincides with the launch of Henry Ford's Model T. At rue de Ponthieu, Perret employed his unique knowledge of concrete construction, although the internal order was concealed from the outside by a symmetrical façade with a central 'rose' window. This generation of buildings had appropriated the warehouse idiom, and indeed Jackson noted that the word 'garage' is derived from the French word for 'storage space', i.e., 'warehouse'.⁴

In 1925, the Russian architect Konstantin S. Melnikov forecast the three-dimensional internal landscape form to which we have grown so accustomed. The warehouse model was shattered by the abstract beauty that Melnikov brought to his designs for two unbuilt car parks, both for 1,000 vehicles, in Paris. The first, a bridge over the Seine, expressed the ramped decks and oblique geometry with a dynamic structure; the second, to be built on land, described a building in which the pure geometry of a cube was overlaid with the rotational dynamic of four ramps that wound through the structure. In each case, the car park would afford the driver both fantastic views over the city and a meaningful relationship with the immediately surrounding public space. It is hard to imagine the idealism with which these enigmatic proposals were conceived. Although technically flawed, they illustrate clearly the characteristics that would emerge in built form in the 1940s: the deep plan, compressed section, inclined planes and skeletal structure.

Built projects, however, remained stylized, or, at least in their external appearance, derivative of other building types. Buildings such as Robert Mallet-Stevens' for Alfa Romeo (1928) in the rue Marbeuf, Paris, which combined car park, repair shop, showroom and offices, had a symmetrical rendered façade with ramped access. By the late 1920s there were many such structures in the US, although there were less to be found in England and on the Continent. As was noted in *The Architect & Building News* of 1928, many garages in Paris were 'adaptations of existing buildings' (the same was true in London), but there were 'several schemes for circular ramp garages, a type which has also been favoured by German architects'.⁵ In Venice, the gargantuan cream form of Eugenio Miozzi's 2,500-space Autorimessa (1931–34) established the model of the multi-storey car park as a terminus in the city, quite literally the end of the road for visitors arriving at the Piazza de Roma by car. Although Miozzi's scheme gave an idea of what was to come in its sheer scale and use of helical ramps, its symmetrical nature, together with the Art Déco façade, concealed an unusual interior (a deep open plan, with a low ceiling punctuated by columns), much as Perret's garage in the rue de Ponthieu had in 1905. Manned by attendants and often including chauffeur facilities, car parks of the pre-war period were designed with glazed façades, and in some cases heating, for internal environmental control; such conventional façades protected the oil-paint finishes on the cars. At the time, the harmful results of exposure to carbon monoxide were unknown.

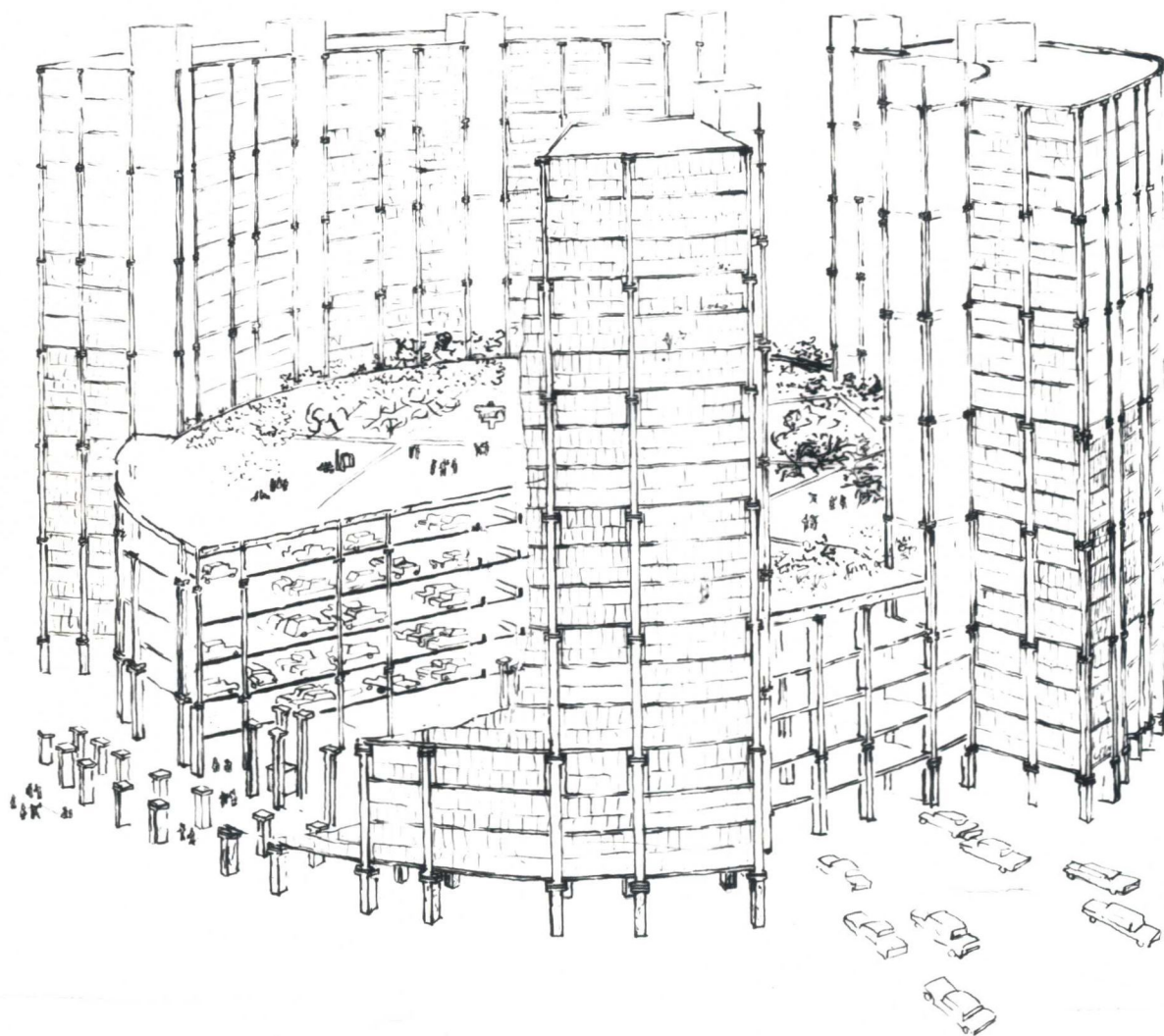
The Great Depression and World War II halted the development of the parking structure. Low land values in the US and the availability of bombsites in England and on the Continent resulted in open land being used for surface parking by such companies as National Car Parks, founded in 1931. Then, as the car became more affordable after the war, particularly in the 1950s, the wider population took up motoring and the era of the car park began. From the late 1940s to the early 1970s, the parking structure



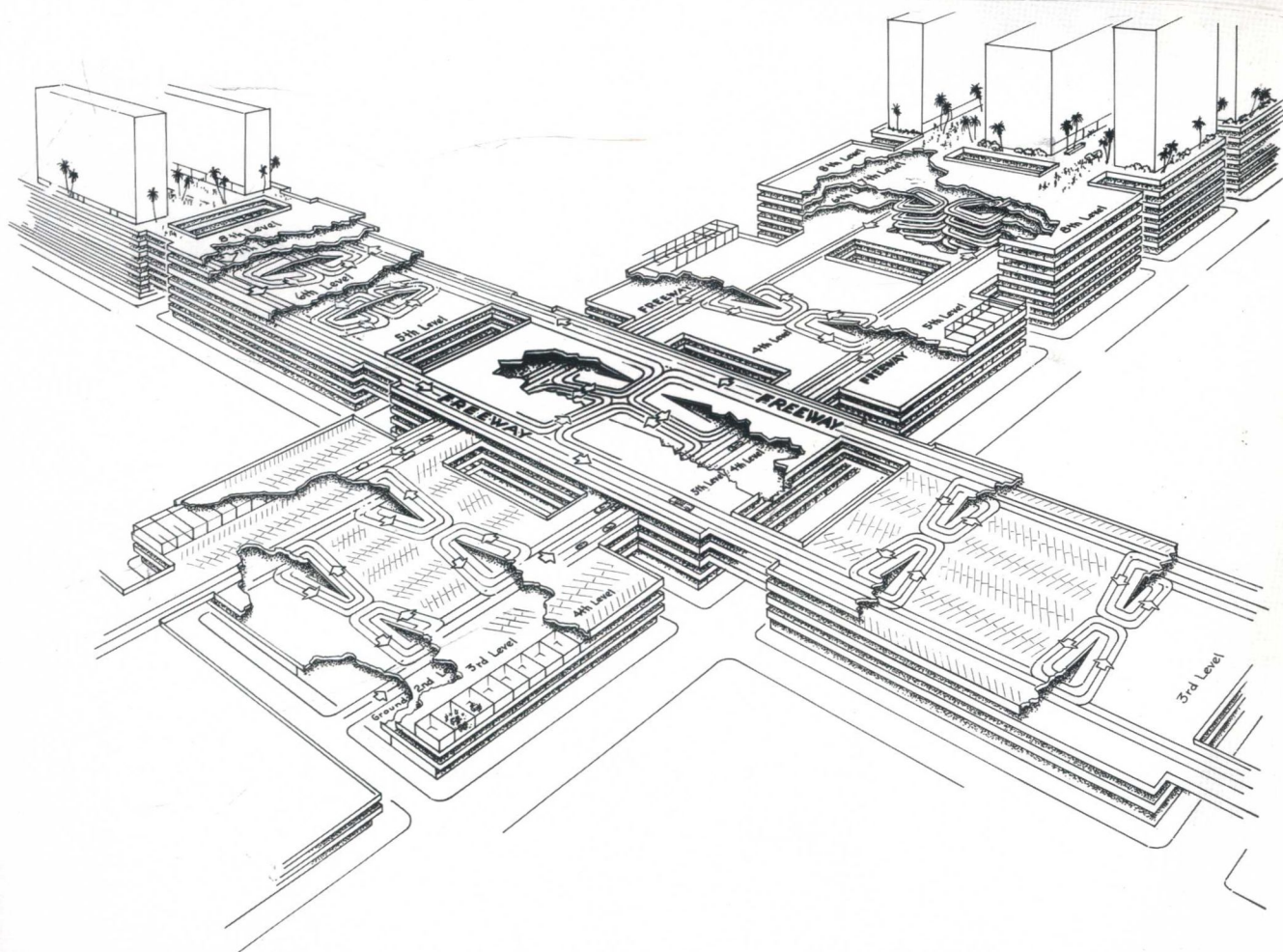
Konstantin S. Melnikov, drawing, car park over the Seine, Paris 1925



Eugenio Miozzi, Autorimessa, Venice 1931–34
(see p.158)



Louis Kahn, drawing, unbuilt city-centre proposal, Philadelphia 1947–62

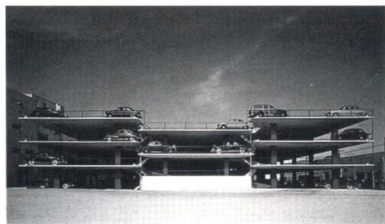


E.M. Khoury, drawing, 'urban-future' amalgam

proliferated throughout the United States and Europe. Most famous of the American models was Louis Kahn's unbuilt proposal for downtown Philadelphia. Drawing parallels with a fortress, Kahn envisioned a city with a pedestrian centre protected from the car by walls and a collar of cylindrical parking towers. His studies covered a period of fifteen years, from 1947 to 1962, and in his models streets were variously described as 'rivers' and 'canals', and parking structures as 'docks', 'ports' and 'harbours'. Car parks were typically drawn as cylinders or spirals, and were shown forming the 'dark' core of mixed-use buildings, wrapped in an outer layer of shops, flats, or offices. Kahn's car parks divorced this abstract building type from the public realm. Unfortunately, the scheme remained unbuilt.

In Europe, the revolution in car ownership coincided with the devastation that wartime bombing had brought to our cities and opened the door to a new urban order, in which a pedestrianized centre was isolated from the surrounding city by a necklace of multi-storey car parks, linked by a ring road. At the heart of post-war planning theory was a debate over the accommodation of the pedestrian and the car without prejudice, which led to proposals for multi-storey circulation systems that would in turn be linked to multi-storey parking facilities, office buildings and retail structures. In England, the Buchanan Report (1963) forecast a new urban environment in which people would go to work and shop by car, and so the car park would become part of the destination. In 1950s America the situation was somewhat different; as a result of the car, the suburban population grew twenty-nine times faster than that in urban centres.⁶ So significant was the impact of the car on the American way of life that the notion of a 'parking centre' emerged to describe the new out-of-town shopping malls that were being built to serve this new population.⁷ In the end, the term 'shopping centre' prevailed. The potential for parking to change our environment radically is suggested in E.M. Khoury's undated drawing of an 'urban-future' amalgam of free-ways and integrated car parks.

In 1940, Richard Neutra designed an 'Open-Air Multi-Storey Parking Garage'. His model suggests that, although the short elevations would be clad, the long ones would be open, exposing the ramped decks. Unfortunately, Neutra's project was not built, and car parks continued to be designed as warehouses.⁸ So it was a radical departure when in 1948, in Miami, architect Robert Law Weed stripped the parking structure of its pretensions and broke the mould by exposing it quite literally for what it was.⁹ Gone were the windows, the masonry, and any eclectic details associating such a building with a particular genre or type; in essence, the façade had been removed. Eliminating the façade lowered costs and allowed much-needed ventilation. It was constructed in concrete, with three floors cantilevered beyond the column grid and minimal perimeter barriers – an extremely efficient piece of engineering that could



Robert Law Weed, car park, Miami 1948

reasonably be described as beautiful, and indeed was described as 'a classic in the short history of garage design...unsurpassed by later attempts'.¹⁰ Nearly sixty years later it remains paradigmatic for the lightness that the cantilevers bring to the form, something that Neutra had in no way predicted with his more rigid steel frame. What followed was a succession of skeletal, or 'section', structures; the pattern had emerged.

In the 1950s, attention turned to the car park's circulation systems, parking layouts and ramp design, which were intended to speed up parking in attended car parks and, later, to make parking one's own vehicle more straightforward. At this time the continuous-surface structure was developed to reduce the likelihood of stalling on steep ramps, and echelon parking (parking at an acute angle to the carriageway) was devised to make the parking manoeuvre easier. In 1952, the city of Chicago began an unprecedented programme to develop ten multi-storey parking structures in the downtown area, named, rather aptly, Parking Facilities Nos 1 to 10. This mix of ramp- and lift-type car parks produced a consistently high standard of design. Their scale and impact have only recently been matched by a programme of underground parking structures, commissioned since the late 1980s, in the French city of Lyon.

Over the next twenty-five years, the parking structure was to flourish worldwide. Remarkable examples included Bertrand Goldberg's Marina City twin residential towers (1962) in Chicago, in which parking for the sixty-storey buildings was integrated into the base of each tower in the form of a continuous, nineteen-storey helical parking deck, simply the most extreme piece of parking engineering. The car park would also form part of the 'megastructure', where, for example at Cumbernauld New Town Centre (1963–67) in Scotland, 'all the social facilities of a city, and all the commercial ones as well, [would be concentrated] in a single location'.¹¹ The architectural and social critic Reyner Banham noted how at the time the critical response to Cumbernauld was 'conspicuously approving', and that the project ultimately won an award for community design. By the end of the 1960s, with the demise of local government-funded planning projects and the rise of the historic conservation lobby, wholesale redevelopment in European cities became a thing of the past. Coupled with the fear that multi-storey car parks might harbour crime and blight the neighbouring streets, planning theory changed direction. The introduction of large, abstract structures alien to the fabric of the historic city was no longer considered welcome.¹²

In the UK, however, there is a significant heritage of private-sector parking structures built by companies such as NCP. These for-profit speculative ventures originated in the temporary use of flattened inner-city bombsites to provide parking at grade. NCP recognized the commercial value of developing these and similar sites for multi-storey parking, replicating the footprint of the site as many times as was permissible. The site was then divisible into 19 m² units – a parking space including half of the



Loeb, Schlossman & Bennett, Parking Facility
No 5, Chicago 1952

////////// see case study pp.224–227