THE EVOLUTION OF PARKING

Shannon S. McDonald
Le Corbusier stated in his book *The City of Tomorrow and Its Planning*: “A city made for speed is a city made for success.” This concept continues to be a force in our culture, including our built environment. However, the *car-at-rest* has always been a necessary aspect of the quest for speed. Le Corbusier understood this, and he raised his buildings above the ground to free the ground plane for the open landscape and to accommodate hidden parking. For example, Le Corbusier’s Villa Savoye, built in 1928 on the outskirts of Paris, is a country house made of reinforced concrete floating on stilts. The house is a manifesto for Le Corbusier’s radically new principles of architecture. The ground floor is mostly open, with space for a car to be discreetly tucked underneath the
building while the surrounding landscape appears to flow continuously under the hovering structure.

The Fiat Lingotto Plant [designed by engineer Giacomo Mattè-Trucco, completed in 1923], where the testing track for new cars was placed on the roof (speed in any location) is the architectural and programmatic expression of how a new kind of movement—of the car—could shape our built environment. Twentieth-century design focused on speed and mobility as qualities and states of being. The flip side is that the car-at-rest has also significantly shaped our cities and towns. It has caused buildings to be spread apart, forced us to enter our cities and buildings through empty, isolating parking lots and garages, and created zoning laws that are focused on the car, rather than people and places. Architecture and mobility [including parking] have always been intertwined, but as our ideas about cities and architecture evolved in the twentieth century, many unforeseen consequences came to light. After a long period of coming to terms with the negatives of parking, maybe we can have it all—mobility, rest, and freedom, intertwined—if we design for it.

HISTORY OF PARKING

The car was the savior of our environment at the turn of the century—it saved us from the illnesses created by coexisting with the horse in urban settings. Within a very short period of time, the car resulted in healthier cities and new town plans. It created a way of life desired by people in many parts of the world. However, because of the undisputable challenges parking creates for land use and the built environment, car designers, architects and planners now need to focus their imaginations on dealing with parking. It takes up so much space; it’s everywhere! The actual amount of parking in the United States has never been documented and is almost impossible to determine, as it is under both public and private ownership, inside, outside, underground, and in stand-alone buildings. According to their web site, the Los Angeles Department of Transportation alone manages 11,000 parking spaces for public use, with 116 off-street parking facilities. Los Angeles is an interesting example, because it was designed to be auto-friendly. Some observers, including Clarence Deystra, a former commissioner of water and power in Los Angeles, were not only untroubled by that city’s outward spread, but reveled in it. In a 1926 article, he said:

Rapid transit—congestion-relief is a delusion and a snare as far as sound city planning is concerned. A population can be spread out without rapid transit or streetcar facilities. The private automobile and the bus turned the trick so far as transportation is concerned. The development of the motor truck and the availability of electric power for manufacturing will continue to decentralize the industrial district. There can be developed in the Los Angeles area a great city population which for the most part lives near work, has its individual lawns and gardens, finds its market and commercialized recreation facilities right around the corner, and which because of these things can develop a neighborhood with all that it means.

Under such conditions city life will not only be tolerable but delightful—ininitely more desirable and wholesome than the sort induced and super induced by the artificially stimulated population center which constantly must reach higher and higher into the air for light, air, and a chance to see the sun. It will be a city in which children will not be discriminated against.

The vision worked for years, and still does for many. As long as you can stay in one job your entire life and live near your work, life
in the Los Angeles area is as ideal as it gets. But our travel needs are generally more demanding. The result for cities is that the car-at-rest is at the center of the dilemma about the automobile. A study in Olympia, Washington, showed that 54% of land area for a commercial development is for parking. While we hate paying for it, there are also negative consequences when parking is free.

In the early 1900s, cars could not be left out in the weather because of the quality of their paint, surface treatments, and mechanical limitations. As a result, parking in the street was always short term. By 1905, parking garages in the United States proliferated in the thousands. As these technical issues were addressed, in the mid-1930s, the parking meter was invented and first installed in the streets of Oklahoma City. The issue of who has “the right to the street” emerged. The parking meter required that people pay to use the street. Those who had parked on the street for free loudly dissented; parking meters appearing one day were removed the next!

The first parking garages were enabled by the invention of central heat and ventilation, as in the Larkin building (1904–06) in Buffalo, New York, by Frank Lloyd Wright. Early parking garages were inspiring public edifices showcasing new visions for the future. Many of these parking structures are still in use today, converted into offices, housing, and retail. Early designs for parking structures had active retail street fronts and offices, or other combined uses. Similarly, the earliest parking lots were imagined as public spaces with multiple uses, such as in Country Club Plaza of Kansas City, Missouri.

In 1907, the Chicago Automobile Club had an interior, full-service parking garage, hotel rooms, ballroom, meeting rooms, and retail. It was based on the precedent of the most innovative parking garages for the Automobile Clubs in Cleveland, Boston, and New York. Albert Kahn and Frank Lloyd Wright were just two of the early visionaries of the typology, creating the earliest continuous sloping floor ramp structures in the 1920s. Even the current Smart Tower, a mechanical parking tower design for the Smart Car in France, was first imagined and built in 1932 as a marketing tool for Nash Motors, in Chicago. In the early twentieth century, designing a building for parking was designing for a cutting-edge program—a sought after opportunity to experiment with the latest technology.

In the 1950s, the parking garage was still a site for innovation. Theodore Osmundson, a California landscape architect, designed the Kaiser Center Garage in Oakland, a parking structure with a green roof built in 1961. T.Y Lin, a structural engineer, invented the concrete single tee just for the parking garage. Advances in architectural and structural precast were explored, resulting in several handsome garages, such as one for the Henry Ford Hospital in Detroit (1959). But as the twentieth century progressed, parking garages became bare-bones, multilevel fields of concrete, landscapes characterized by emptiness that separate and limit us in a sea of isolated spaces. The parking garage
began renowned as a dark, alien, and dangerous place—a non-space of secrets, mystery, fear, and escape. As Isao Hosoe states in the book Architecture & Mobility, the parking facility “becomes the stage where backdrops are modified...where alienation happens, where surprise is born.”

The car-at-rest also created new patterns of mobility by becoming a link in a chain of different modes of travel. With the advent of the computer and new movement technologies in the mid-century, connections from parking garages to transit emerged. Paul Rudolph, Ulrich Franzen and Victor Gruen are just some of the designers who linked personal rapid transit (PRT) to parking into their building projects. These systems are fragments of Rudolph, Franzen, and Gruen’s visions of the modern city. More recently, Herzog and de Meuron’s inhabitable parking structure in the city of Miami Beach underscoring the type’s design potential. When a parking garage is understood as a design opportunity, magic can happen—soaring ceilings, triangular shaped columns, and dramatic lighting, with spaces for program tucked in between.

THE FUTURE OF PARKING FOR FUTURE MOBILITY

It is not only the automobile that must be revisited, but also the city, that must be organized to receive means of transport.

Some ideas for the future of vehicles and modes of transportation call for minimizing the use of cars, or eliminating them entirely. Some perceive of cars as mass transit—leased, uniform, and driverless. Some are championing the automated vehicle or automated infrastructural systems. Others say Segways on the sidewalks of cities are the best transportation choice, while non-motorized transportation advocates want everyone to walk and bike. Advances in infrastructure, energy sources and automated movement

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will someday result in cars that provide entirely new ways to move and rest in space. The tiny folding City Car out of the MIT Media Lab, now in testing, could dramatically affect the way we design parking facilities, and the rest of our built environment. Small spots of parking could be made available everywhere, among vehicles constantly in motion.

Motorized bikes, motorcycles, and bicycles are all clamoring for that closest parking spot, and spaces for them are now being included in street parking and in parking facilities. On one hand, our streets are becoming like the streets of San Francisco were in 1904, right before the great earthquake, with no form of management. They are naked streets with every mobility device managing to coexist in a self-regulated dance. In the opposite scenario, some of our streets could be completely controlled, as in Bologna, Italy, with bollards that block automobiles unless an approved transponder is in the car.
Regardless of the type of vehicle or street, our currently most popular approach to parking strives to hide it, say, within the center of a building block shrouded in retail or greenery. New mobility options will provide flexibility and choice beyond those that existed in the twentieth century (but not the late 1900s). How can we turn parking into an asset, rather than a liability, and find a way to make parking engage with our lives and our cities? Our requirements for how to park well will need to encompass space, place, and uses beyond mobility. A more sophisticated, fluid understanding of vehicles as being both in motion and at rest alongside people will create a new infrastructure and culture. We need parking facilities that go back to roots: a multipurpose building type indistinguishable from other buildings that seamlessly integrates parking with the city.

The car-at-rest could be totally integrated into our buildings. This is an emergent trend that has the potential to change the dynamics of how we live. In Berlin and New York, and soon in Miami, you can drive your car into an elevator (the earliest garages used elevators for cars), and ride it up to your condo in the sky, into your own garage, even on the 27th floor. Also, fully automated machines that compactly park your car, standard in Asia, are now expanding in number in the United States, driven by the demand for more parking spaces in denser locations. This type of parking is highly sustainable and the simple building shape is easily adapted for new uses.

The long-term future of infrastructure will bring streets adapted to multiple scales of movement as well as powerful new connections between movement and parking. These connections will benefit from the development and adoption of technology that already exists. For one example, elevators will have the capacity to operate three dimensionally, challenging the traditional architectural/engineering notion of the elevator shaft. No longer will the elevator only have vertical
movement, it will also move horizontally without its passengers ever leaving the cab. (The prototype exists at the Otis Test Facility, and the technology is used on Disney's Tower of Terror theme park ride.) Second, transit pods in automated vehicle networks (recalling those mentioned previously, first seen in the 1950s) will rely on the integration of streets, buildings, movement, and parking. CityMobile; Masdar City, Abu Dhabi; and Heathrow airport are leading the way toward this integration, realizing the ideas of Archigram members Peter Cook (Plug-in City, 1964), Michael Webb (Sin Centre, 1961-63), and Ron Herron (Walking City, 1964), and New Urbanism, all rolled into one.

Our separation from an earlier personal movement device—the horse—has eliminated an element of nurturing from mobility (although some have a tendency to nurture their cars). In the distant future, vehicles may shrink, fold, and change their power sources, becoming car-as-womb—a blend of nature and technology that provides for our every need. But we will still "park." The only alternative will be to live in our cars, constantly moving. In "Gaia Fotovoltaica," in the Italian architecture and design magazine Domus, Ross Lovegrove foresees a technology "Maximizing Man, minimizing machine... Thus a scenario unfolds where we will see conceptual links between the nature of Architecture, Automotive, Product and Artificial Intelligence evolving into a seamless blend of coexistence." In this scenario, parking garages are made of biological cells whose facades mediate the permeable boundary between inside and outside: the embryonic bubble where machine and man merge, both to be transformed.

In both its history and future, parking is not static, stultifying, reductive, or alienating, but rather the basis for experimentation—the connection between speed and rest.

1 Clarence Dykstra, “And This From Los Angeles,” American City Magazine (September 1926), 315.


3 Ibid., 35–36.


6 Finizio.


TOP: 1111 Lincoln Road, Miami. Architects Herzog and de Meuron. Photo credit: Iwan Baan.

LEFT & ABOVE: Wedding at 1111 Lincoln Road. Photo credit: Maggie Steber.