

The Parking Garage as the Undocumented Search for Modernism

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“In the very first sentence of History of Ancient Art, Winckelmann offered an almost mocking reply to utilitarian thought, which had exploded the link between art and technology in the name of superiority of mechanics. He wrote that “the arts, which are dependent on the illustration, have started with that which is necessary, as do all inventions; then one seeks beauty, and finally comes that which is unnecessary and useless. These are the three most sophisticated levels of art.” “Utility as a prerequisite for beauty is thus forced into a subordinate role.” (1)

Inventions? Is art an invention dependant upon illustration or a response to an invention or the precursor to an invention – an idea? Or, is art an expression of experiences, needs, desires, inner and outer that images, forms, and objects emerge from?

No, ideas alone do not shape form as Rosemarie Haag Blettner states in her introduction to the *Modern Functional Building* as a way to understanding the attitudes and precepts of modern architecture: “contemporary expression was therefore seen as a reflection of philosophical attitudes ... perhaps only because an exact correspondence between idea and form was difficult to establish”. (2) Yes, it is difficult to establish why and where forms and shapes emerge. However we must attempt to seek resolutions, it is all that we can strive for and this is the core of the architectural struggle, to avoid seeking establishes a status quo.

Is architecture art? Even though not an illustration but typically actual sheltering forms? Responses to

a *physical need, a utility*, that never subsides, embodied along with the inner need of expression and to make connections well beyond us and our times. Can not utility be that as defined by the desire to achieve good which itself is inherently beautiful? The desire to seek this in a serious and steadfast way requires attempting to integrate personal and civic complexities.

Architecture is a built response to outer needs that never subside, such as sheltering ourselves, just as beauty, movement, and love are inner needs that never subside making us fully human. While some beauty, as some architecture, reaches into the realm of dreams not becoming fully built realities, architecture remains vital as a wholly functioning part of life engaging and interacting with the community over time and it demands and requires a level of long-term seeking of the how forms emerge and is its greatest responsibility.

Parking in some form, for some type of movement vehicle has always been a part of our constructed world. Embracing the parking garage’s role as a groundbreaking 20th century architectural typology interrelated to all the issues of utility, art, invention, beauty, technology, and mechanics is accepting its expression of our deepest belief in the positive progressive movement of man.

The parking garage appeared during the end of the Beaux-Arts period just as the architectural ferment of change was spurred by mechanization, industrialization, and the discussions of what was “new”. The United States, unlike Europe, was not as deeply rooted in the myriad of issues that were precipitating this change, where the Beaux-Art and especially ornamented architecture found itself at the center of the architectural controversy linked

with morality, social responsibility, and economics. The United States was in its own unique place, with growing cities and expanding frontiers, focusing more on the practical and the necessary, such as the issues of exploration and settlement of a new land, while also attempting the idealistic goals of equality and freedom for all.

The automobile played a key role in America's development, as a unique blend of desire and function, unconsciously demanding a building typology that merged these sensibilities. Out of utility it first constructed new spatial understandings with its ideas eventually transferred into the more recognized architectural typologies. It also exposed the ideas of the new to its greatest challenge: what is movement, how is it understood and more specifically what is positive movement for all and how is that expressed?

The Garage Rue de Ponthieu built in Paris 1905, by Auguste Perret, is credited as an early bridge between the ancient/new, inside/outside dilemmas of the modern world, expressed the emerging aesthetic sense while exploring the capabilities of changing material technology, mechanization, and the notion of movement itself. (Image 1) The inside of this garage was "mechanized", using an elevator to vertically lift and then transfer automobiles to pallets on horizontal tracks placing them into their particular parking slot. (3) Its exterior was described as "a reinforced concrete skeleton giving full opportunity to determine the character of the façade." (4) The garage featured a large ornamental form of iron, glass, and steel superimposed upon the simplicity of its concrete frame, as a focus for the entry, creating a visual transition between the scales of man and machine. The garage provided a new "honest" aesthetic sense while retaining proportional connections to the old tripartite beaux-arts theme of façade design. However, only one idea of movement was explored – that of an interweaving created by the mechanization within. This could be thought as one of the underlying ideas behind form such as the idea of interwoven movement as corresponding to one of architectures primal origins – the tent. While other different types of movement understandings such as a repetitive cyclical type of movement could be embedded within the hut typology and the notion of myth within the cave typology?

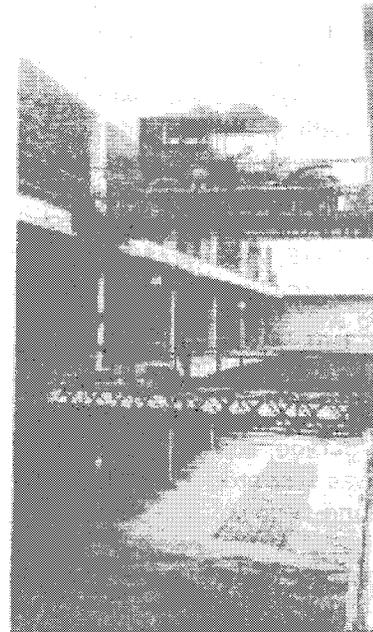


Image. 1: Auguste Perret 1905 Garage Rue de Ponthieu, Source: August Perret, Karla Britton, p20-21



THE RAMP

The ramp was another form of movement grounded in other spatial and expressive understandings such as the land or nature and its cyclic understandings of movement. In the United States this understanding of movement was to take precedence in design and was first constructed in the parking garage.

One of the first two-story garages constructing a ramp was the Fenway Garage, Boston, 1914. The first floor was actually below grade while the second was one half-story above street level. The functional benefit to this ramp design was thought to be “no congestion when hundreds of cars are garaged temporarily”, as envisioned by the owners of the Fenway Garage Co. The Brown Garage in Des Moines Iowa, 1915, was one of the first ramp design garages to explore putting the ramp on the exterior. The building was 130 feet deep and three stories high; the ramp had a 6% grade with a rise of 8 feet and went around two sides of the building creating a blind turn. The ramp was 15 feet wide. Another early ramp garage, the A.C.A. Annex Garage, in New York, was four stories high with the top floor containing long-term storage. In Chicago, in 1919, Holabird & Roche Architects and Engineers created a curved concrete ramp in a six-story garage.

A discussion raged in the magazines between the benefits of the ramp versus the elevator and Blanchard, in an article in 1921 in *Architectural Forum Magazine* was arguing for the ramp the older solution, even older than a stair, and saw its direct relationship to the expression of the desire for freedom that driving your own car provided. He took the design perspective that the car encouraged individual experience for the driver, and that this suggested different spatial arrangements than the great gathering rooms of train terminals. He championed the system designed by Fernand D’Humy as early as 1917, which parked more cars on a fictional 100’ x 100’ plan than the elevator or mechanical garage – the only ramp system which did at this time. The D’Humy ramp system was based on the design of the early Fenway Garage. (Image 2) The many ramp ideas and configurations suggested at this time are another article all to itself, however here are a few important examples.

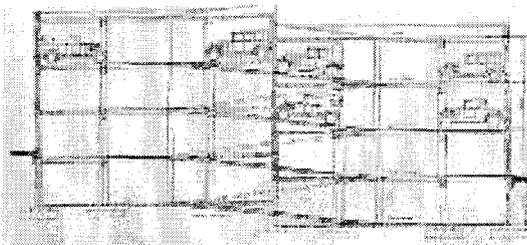


Image 2: D’Humy Ramp, Source *Architectural Forum*, November 1921, p174

A ramp system appeared in 1924 as Frank Lloyd Wright was commissioned to design a “structure on the summit of Sugar Loaf Mountain” in Maryland that would “serve as an objective for short motor trips”. Wright responded by initially designing a continuous superimposed helicoidally spiral ramp for car movement that had parking for 200 - 500 hundred vehicles within the descending spiral and an additional one thousand on the surrounding mountainside. Although never built, this vision provided the solution to parking garage designers’ greatest wish: to have the ramp and the parking area merge as one, maximizing the number of parking spaces, and fully integrating flow and space.

Another important early ramp design breakthrough occurred in 1925, when the Kehler Garage in Louisville, Kentucky, was constructed. It combined tilted floor areas and connecting ramps. The Garage Experts Association of Louisville, KY, patented these breakthroughs. Albert Kahn, Inc., Architects, the architects for Henry Ford, built a similar sloping floor system in the Fort Shelby Garage in Detroit, in 1926. The entire floor had an incline of 4% creating a continuous ramp from the ground to the top, in a sense realizing the vision for Sugarloaf Mountain designed by Frank Lloyd Wright from the year before. This ramp design was eventually to become one of the most familiar garage designs used in the entire 100 years of parking garage history, not because it provided more parking in less space – a mechanized garage does this - but because it allowed the owner of the automobile to remain in control of the car at all times almost in constant motion.

The architecture firm of Lee, Smith & Vandervoort, Architects and Engineers in Richmond, Virginia, explored parking garage design in conjunction with the Auto Ramp Corporation. (Image 3) They designed the double helix (screw) ramp design that could be entered from each level to go up and down. It had a grade of 13% and was located in the back of the building, allowing the front facades to remain part of the existing streetscape in a very civic typical beaux-arts fashion; a modern version of this ramp design is now called an express ramp speeding up the process even further.

Warehouse construction methods of the simple frame, such as with Garage Rue de Ponthieu, and then ramp construction were transferred and popularized for human habitation and movement by Le

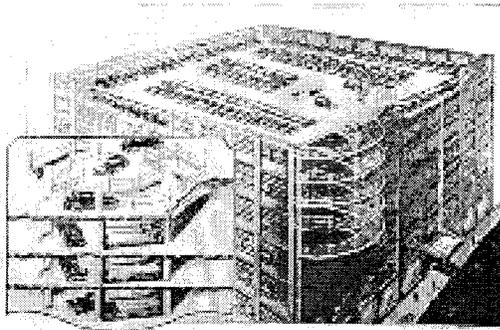


Image 3: Lee, Smith & Vandervoort and Auto Ramp, Source: *Architectural Record*, February, 1929, p.184

Corbusier in the Domino House 1914 and then in the Villa Sayove, 1928-1929. Le Corbusier understood the spatial breakthroughs created by parking structures and transferred them to the most fundamental of typologies the house, so that the ramp was for human movement alone.

Frank Lloyd Wright finally designed and built a self-service garage in Pittsburg (1947) of similar spatial and construction techniques to this earlier design while also integrating human movement within the system. However, Wright's 1943 sketches, not for a parking garage but for the Guggenheim Museum, expressed this same fascination with the construction of a ramp and the merger of space and flow now for human occupation, the sensibility of the "new". This was the first building to be constructed with a true logarithmic spiral, and conveyed the same sense of freedom to the museum going public as the current self-park garage (not normal at this time). Some might argue that for viewing art this is quite a disadvantage, but by then, the ramp had come of age as a spatial expression both internally and externally for human occupation. However difficult issues still existed and earlier understood by LeCorbusier – that of the façade, the civic nature of architecture was another challenge of the "new".

THE FAÇADE

The early American garage up until the 1930's, found its civic expression on the façade, within the accepted notions of beauty of the European language of Beaux-Arts or within the expression of the purely practical. (Image 4) The Beaux-Arts aesthetic language of beauty had the capability to obscure the new spaces within, participating in the existing urban fabric providing a transition to the emerging experiences that would soon demand a

new external vision. The purely practical bluntly served its purpose. The façades of the early garages also served a utility as part of the structure of the building. So both beauty and utility were combined. The parking garage however was growing from the inside out, unknowingly at the core of an intellectual struggle over how to design space for the "new" and what its civic expression was.

The Cage Deck, Boston, MA built in 1933, (Image 5) was the first in expressing pure functionalism. The completely exposed structure of stacked slabs had no visual relationship to any other buildings in the city and was sited as such. But, as the concept of pure functionalism for the parking garage emerged, this building type was most susceptible to an extreme lack of beauty, purely based on practicality, which then caused the desire to have it banished from view, ultimately forcing us to address its needs. The removal of a façade eliminated its ability to communicate anything beyond practicality not reflecting other human needs. However, this was not the intent of the "new". Now purely functional the Cage Garage had arrived at the forefront of the issue with the stark reality of program and movement as its only focus.



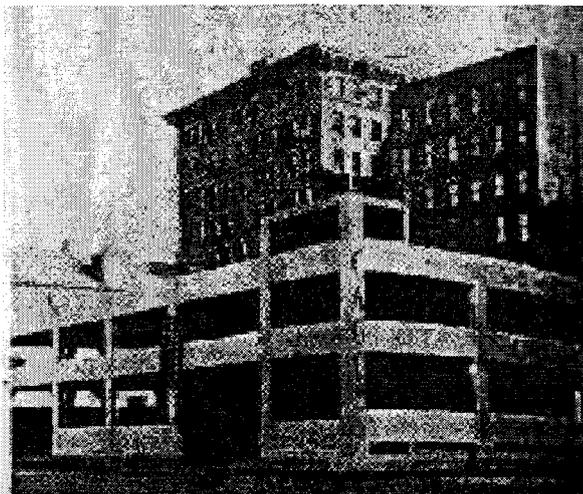
Image 4: Beaux-arts and the Practical, Sources: *the Horseless Age*, May7, 1913, p193. Bottom: *Architectural forum*, March 1927, p. 240

Not all garage designers followed this extreme solution as function has two meanings – that for which a thing is specially fitted and one of a group of related actions contributing to a larger action. Those seeking the new modern aesthetic went beyond an "honest" expression of function and material, continuing to experiment on the garage typology with the facade as related to other important civic

issues such as emotional needs and desires, and expectations for the future as expressed through positive movement for all. Some designers tried to literally express the idea of movement itself, the underlying notion of the new, while others exposed the functionality within and still others sought pure beauty or just plain disguising reality. Since the automobile was so important in providing prosperity for so many, the ultimate goal of modernism, the parking garage was a natural place to explore these more expansive issues related to beauty, social improvement, and architecture in built form.



Image 5: *Cage Deck*, Source: *Reprinted Parking Magazine*, reprint March 2003. *Architectural Forum*, February, 1953.



The Nash Motor Cars Facility, 1932, Chicago, IL initially solved the issue with a beautifully detailed glass box allowing the inside world of automobiles and machinery to be exposed, an approach still used today. (Image 6) However, how to design an unnecessary façade, one not used for structure or weather issues but purely for aesthetics, became the central issue for the parking garage.

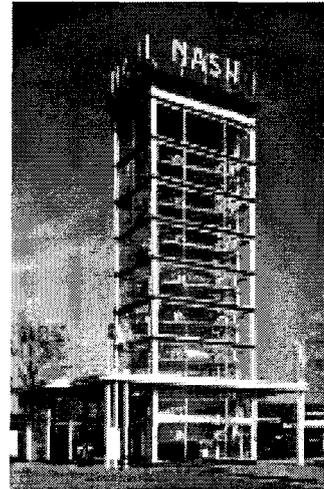


Image 6: *Nash Motor*, Source: *Chicago Historical Society*, Hedrich Blessing Photographer

Screening, however became the reality within as an emerging solution started with a simple window technique, a "lacework screen", in 1940 on the Evening Star Garage in Washington, D.C.. John Joseph Early, a sculptor, experimented with perforated pre-cast concrete panels, a patented Earley-Taylor system for forming concrete. (Image 7)



Image 7: *Evening Star Garage*, Source: Copyright *Washington Post* Reprinted by permission of the D.C. Public Library

As the building type again became the focus in the late 1940's and 1950's, with the post WWII boom, the exploration of the screen continued. Landscape, innovative materials, and construction techniques combined to bring these screen ideas into reality on the garage while not addressing the underlying issue of the true nature of the civic.

Some of the more famous early modernist screens were constructed of steel and used to soften the harsh realities of the concrete or now appearing steel ramp structures. The 1950's brought solutions designed by structural engineer T.Y. Lin in Santa Monica and Beverly Hills. (Image 8) Various metal screen designs were then frequently found on many parking structures around the country experimenting with shape and form creating multiple patterns and rhythms.

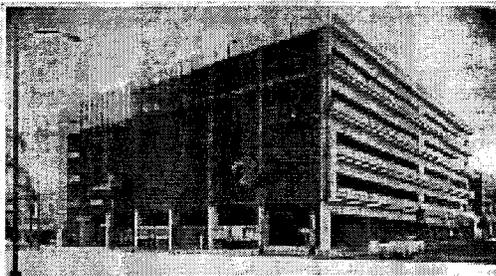


Image 8: Beverly Hills Garage, Source: PCI, December, 1961, Precast/Prestressed Concrete Institute

The 1960's and 1970's brought more exploration in the use of pre-cast concrete to create screens. The Henry Ford Hospital parking structure combined the idea of a screen with directly expressing movement, repeating pre cast concrete and marble powder hyperbolic panels continuously over the façade. (Image 9) The Bellevue Center Garage in New York explored the use of "shocked concrete" to create a screen that was based on the width of a car and then the width of a bay. Simultaneously, a Parking Plaza in Pittsburg, 1960 designed by T. Katselas began to look at the screen as a modernist painterly composition (think of Mondrian) in solid and void planer surfaces interacting with the structural and functional programmatic rhythms of the ramp. Art had arrived on the facade at its highest level according to Winckelmann.

One elegant solution was the Gropius Garage in Cleveland, Ohio, 1965 at the Tower East Center. The

continuous strip façade of parking was to become one of the most hated, however in this early version elegance and sophistication was created by placing the column line back in plan so that the pure oblique and subtle shadows of the strip expressed the essence of modernism at this time, at the expense of internal function. If precedence had been given to internal functionality this floating sensation would have been destroyed, contradicting all the goals of the "new".

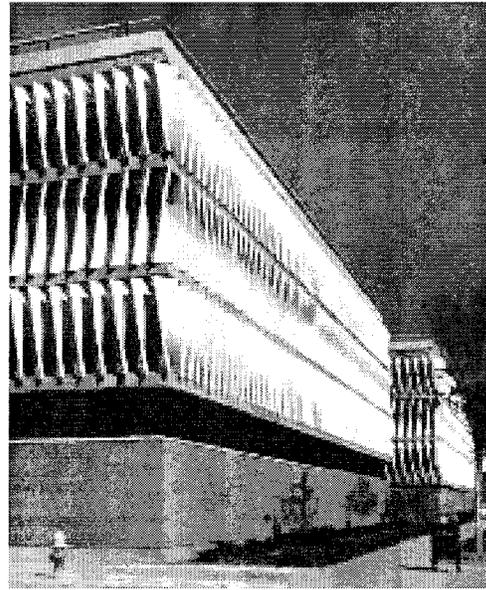


Image 9: Beverly Hills Garage, Source: Image Courtesy of Albert Kahn Inc.

However, another modern aesthetic as one of oblique movement and movement through, in and around form was also glorified on the exterior. An airport parking structure designed by Richard Neutra in 1940 required the drivers of the 700 parking spaces to travel all the way up and down; two sides exposed the diagonal ramps that led to the parking within expressing the power of this oblique form however making the functional circulation difficult at best. The other two short ends became a blank wall foretelling what was to become the billboard facade of future modern structures. While covering the garage with greenery or hiding underground became society's solution of choice.

Currently, interactive facades are now appearing such as "Touch My Building" , a public parking garage in Charlotte NC where you can press one

of the hundreds of glass panels watch them glow, change colors, and emit sounds are attempting to reintegrate the goals of modernism in built forms. This parking garage has become a celebration and an interactive place expressing the joy of the car, and the sense of freedom and equality it has brought to our country, a key goal of the "new".

GARAGE AESTHETICS

In the 1910's the discussion of what was the "aesthetic nature of the garage" appeared in print as the garage demanded its own sense of "style" and expression, now becoming understood as the architectural embodiment of the automobile age and modernity.

The European modernists, their ideas fermenting silently in the United States wanted "honesty" of material expressed in their buildings, they wanted the nature of the building itself expressed, and the functional expression of materials was one of the keys. The struggle between construction of form and space and the buildings function became part of the discussion of honesty in architectural form, however originated by Louis Sullivan much earlier in his "form follows function" and frequently not discussed in its most complex understandings, although transferred to Frank Lloyd Wright, instead "style" became the focus.

In *The Horseless Age Magazine* an ongoing series, "The Garage Business – Buildings, Equipment, Methods," treated garage design issues from the functional, to the aesthetic. "We have as yet no distinct garage architecture," the article noted in 1915, going on to discuss the various styles that local architects used.

"In some instances it may be justified to carry through the design strictly on utilitarian principals, without any attempt at ornamentation, and such a tendency is noticeable in the newer parts of the country. But in those sections of the country that have been settled for a longer time, a taste for pleasing, artistic forms has been developed which is taken into account in the design of buildings for even very common place purposes. If artistic lines are an asset in factory buildings which are seldom visited by customers, they are certainly more desir-

able in garages to which the customer or his representative comes every day." (5)

Architects realized quickly that the garage could express new utilitarian thought at the expense of the aesthetic while focusing only on the style, a fleeting and often shallow approach. The article within a popular magazine went on to explain how architects were guided by the local styles, with mission facades in the southwest and "neat, and tidy" brick fronts in the northeastern states. The article also described various ways to make the garage visually pleasing not related to style however cost-effective without the excesses of the Eastern approach. A horseshoe entryway at the scale of the automobile considered very pleasing by these authors and was originally found on the Motor Inn of Minneapolis, and later on the Lee Forest garage of Great Falls, Montana. (Image 10) However, by a reduction of these complex issues in America to an understanding of "style", the facade became no longer functional and only the "most sophisticated level of beauty" was achieved.

WHAT IS THE COMMON EXPERIENCE OF THE "NEW"?

As United States was attempting to reach its admirable goals, a parking structure in Budapest called the Cyclop Garage, 1927, first constructed the actual integration of man and movement, the deeper meaning of the social aspect of modernism, something we are beginning to see again in parking design. In Budapest, an internal atrium glass roofed court that all automobiles entered through, connected the movement of the cars to the stores and hotel rooms located on sixth and seventh floors. However, its civic expression on the facade was within the beaux-arts and still part of the functionality of the architecture by providing structure combining beauty and utility.

Recently in Amsterdam, 1995, a new parking form was created called Parkhouse Carstadt, a wrapped road of parking and architecture. On a twisted angled site intersected by another road this amazing new parking construct twists, turns, and overlaps itself to provide the maximum amount of parking that the site could yield, however the façade is not apparent.

Current theoretical architecture is also addressing understandings of movement of man and machine within architecture as expressed in the Sharples

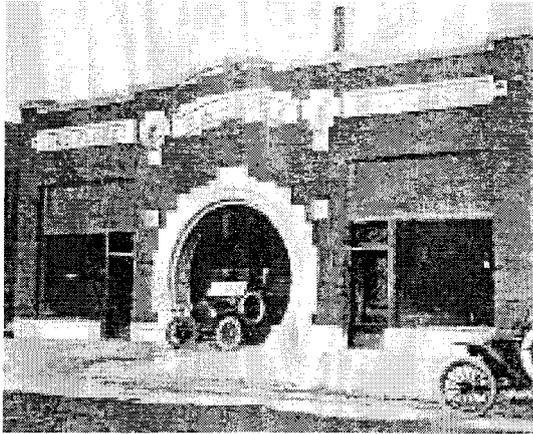


Image 10: Lee Forest Garage, Source: *The Horseless Age* December 1, 1915, p492.

Holden and Pasquarelli, VMall in the New York City virtual project, 2000. (Image 11) The ramp to the parking garage is actually part of the shopping experience as cars move through and within the building, completely integrated within the architectural experience. A central atrium organizes the events of shopping and car watching. However, its civic expression the façade is not apparent.

Santiago Calatrava in his recent Museum for Milwaukee, Wisconsin created such a beautiful structure for his underground garage that, it is open to the main lobby of the art museum for all to admire as well. However it does not engage in the true conflict between the exterior civic expression and parking interior, it seems to have sparked interest in that city at looking at other parking structures as "attractive" as discussed in a recent article.

By studying carefully the required and usually overlooked and often hidden and ignored built forms required by the "new", such as parking structures, solutions to future issues can be found, as parking transforms architecture, however the dilemma of the facade remains.

Pre-language issues are once again being explored as ways to solve the conundrum. "The boundaries between art, technology, and science are beginning to break down in a similar manner as the *Kunstkammer*. (*Cabinets of Art and Curiosities*) (6)

In view of this fact, the lessons of visual association and thought processes which precede language

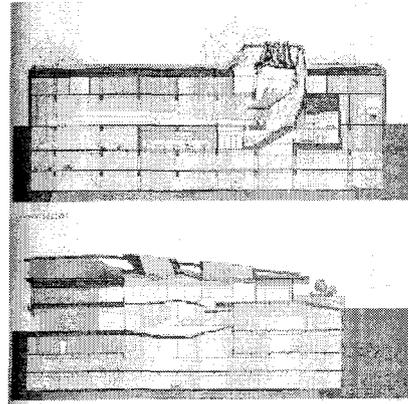


Image 11: V Mall Source: ShoP Architects, P.C.

systems take on a significance which might even surpass their original status" and how we re-engage ourselves in these pre-language connections in a civic manner equally for all is the challenge in order to allow the built solutions to emerge.

As automobile technology changes, along with individual notions of beauty and civic purpose, the parking garage as a required built form in the United States will allow experimentation with the expression of the continued transformation of the new as neither technology nor mechanics but as the expression of mans' desires to believe and seek the positive in the future for himself as well as for the civic, but only through his self-reflective actions on the complexity of the dilemma will the true solutions arise. Consciously designing for reality infusing it with beauty and love as a belief in the new and its continued positive impact on the future for all mankind is for those who are willing to seek the integration of inside and outside, the individual and the civic. Still the challenge not to be ignored is always seeking the source of forms and shapes. Only deep understandings of the nature of beauty and where it resides within us as individuals and part of a collective will allow architecture to transform.

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