TOWARDS UNDERSTANDING SYMBOLIC FORMS:

COMPARATIVE CRITIQUE OF THE JEFFERSON MEMORIAL ARCH, ST. LOUIS AND LA GRANDE ARCHE, PARIS

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ABSTRACT

The report is a collection of essays and a comparative critique. The first series of essays are thumbnail narratives that recount the author's academic and professional journey and his affinity towards the subjects of symbolism and monumentality. It begins with a commentary on various theories on the subject of symbolism. The next essay traces the evolution of the 'Arches' and their symbolism. It is followed by the author's account of a visit to La Grande Arche in Paris describing how it differed from his expectations.

The second section is a comparison between two monumental arches: the Jefferson National Expansion Memorial, St. Louis and La Grande Arche, Paris. The two arches have acquired the status of cultural symbols. Interestingly, the two projects share the same archetypal form of an arch; but convey different meanings. In the process of examining the two arches, the study explores cultural symbols and the various contexts that shape them. It also sheds light on how archetypal forms can be read differently in different contexts and how they convey multiple meanings.

The critique starts out exploring both the arches simultaneously. Observations about the general arch form are followed by a comparative discussion of the two arches, including an analysis of: details, materials, and construction. The arches are then studied in relation to their physical and urban contexts. Observations about the social context, notably the public receptions given to the two arches constitute the following section. Finally, the study compares and analyses the differences and similarities between the two arches in terms of their symbolism and the factors that influence their status as cultural symbols. It is hoped

that this research will help in augmenting and enhancing our understanding of the two arches, and reveal something about the interpretation of cultural symbols.

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Introduction

The report is a collection of essays and a comparative critique. The essays germinated as offshoots of my quest(s) to understand the nature of symbolic forms. The study was initiated by a comparative analysis of two monumental arches: The Jefferson National Memorial, St. Louis and the La Grande Arche, Paris. While trying to create an evaluative framework by which to judge these two symbolic forms, my research led me into new, exciting and unexplored fields of knowledge. The exercise led me into the fascinating world of linguistic theories and philosophy and even religion. The travel from one line of thought to another itself is a reward enough. This report is the sum of my work done while perusing the topic of monumentality and symbolism and the concepts in between.

The first essay titled '*The Journey*' is the *prologue* as well as the *epilogue.* The first essay can be considered as an extension of this introduction. It is a collection of thumbnail narratives that recount the author's academic and professional journey and his affinity towards the subjects of symbolism and monumentality. This essay tries to fathom how a study of monumentality transformed into a study of symbolic forms. As an epilogue, the author briefly touches on how this journey acted as a vehicle to augment his intellect.

The second essay titled '*On Symbolism*' reflects my attempt to construct a theory of symbolism. The composition looks at primary theories postulated on this subject. The essay germinated from the process of creating an evaluative framework by which to judge a symbolic monumental form. It is essentially a compendium of eclectic viewpoints on the topic of symbolism. I have attempted to correlate and connect linguistic theories to

theories on architectural discourse. The purpose of this section is not to concretize a definition of symbolism but to extract the dimensions that are critical in understanding symbolic forms.

The next essay traces the evolution of the 'Arches' and their symbolism. The archetypal form of the Arch has been employed in many cultures. From one culture to another, the arches have evolved to symbolize many different connotations. This essay builds on the premise that a form like an arch has multiple meanings and these meanings are evolved and regulated by myths, rituals, doctrines, and other components of social network. Essentially, this essay is a compilation of instances where 'the arch form' has come to signify a cultural annotation. Besides visual analysis, the knowledge of cultural and historical associations of the arches is imperative in comprehending the symbolism of the Arches.

It is followed by the author's account of a visit to La Grande Arche in Paris describing how it differed from his expectations. While analyzing the Grand Arch for the comparative study, the author relied on surrogate media like books, articles and images. The perception built on these surrogate inputs was different from what the author actually conceived when visiting the Grand Arch in person. The essay also comments on how such misconceptions can be avoided. This change in perception occurred after the comparative analysis, therefore there might be slight discrepancies in the analysis.

The next section is the original study that prompted the author's foray into other studies that are mentioned in the following essays. It is a comparison between two monumental arches: the Jefferson National Expansion Memorial, St. Louis by Eero Saarinen and La Grande Arche, Paris by Johann Otto Von Spreckelsen. The two arches have acquired the status of cultural symbols. Interestingly, the two projects share the same archetypal form of an arch; but convey different meanings. In the process of examining the two arches, the study explores cultural symbols and the various contexts that shape them. It also sheds light on how archetypal forms can be read differently in different contexts and how they convey multiple meanings.

The critique starts out exploring both the arches simultaneously. Observations about the general arch form are followed by a comparative discussion of the two arches, including an analysis of: details, materials, and construction. The arches are then studied in relation to their physical and urban contexts. Observations about the social context, notably the public receptions given to the two arches constitute the following section. Finally, the study compares and analyses the differences and similarities between the two arches in terms of their symbolism and the factors that influence their status as cultural symbols. It is hoped that this research will help in augmenting and enhancing our understanding of the two arches, and reveal something about the interpretation of cultural symbols.

Through this exercise, I have gained constructive knowledge and a more meaningful grasp of the concepts, I was pursuing.

The Journey .....

In the following thumbnail narratives, I have recounted my academic and professional journey and the detours therein. I hope to evaluate and understand myself and to fathom the reason(s) for my affinity towards certain subjects. I hope that it would shed some light on my standing on and understanding of the topics of monumentality, symbolism, and design theory. I am not looking for answers. I am simply traveling.

It all started to gel in TOD - I.[1]

Prof. I. M. Chisti taught the TOD – I class. When we were in first year, we used to hear seniors rave about how his classes were pure fun. Having been invited to and displayed his work at the Venice Biennale; Prof. Chisti had earned much respect amongst his fellow Professors and students. His lectures were touted as the most influential and thought provoking in our college. So it was with great anticipation, we juniors looked forward to his class in the second year. Since his classes were so much talked about, we knew about his class assignments, which stayed the same year after year. We knew that he asked students to choose their favorite architect and one creation of that architect. The students would then study that architect in-depth. In the final week of semester, the students would act as the architect they studied and wore a dress derived from the chosen building of that architect. As a result of this assignment, we would see Michael Graves to Michelangelo working in the second year studios. During that final week, it was common to see Gustav Eiffel spilling tea on his trussed / wire mesh trousers. The work generated by this assignment was very visible to everybody in the school, and as a result, we juniors even

[1] TOD stood for 'Theory of Design - I' class in second year of my undergraduate degree at School of Planning and Architecture, New Delhi, India.

in our first year started to think about next years Prof. Chisti's class; of what we would do, what architect we would select and what dress we would wear. So even before taking Prof. Chisti's TOD – I class, he was shaping our minds to look for what we like in Architecture.

Next year, on the first day of the TOD – I class, Prof. Chisti asked us to pen down keywords that we were interested in pursuing in architecture. He emphasized that these keywords should *click* and *connect* with our hearts.

As far as I recall, my first list contained:

- Dramatic,
- High-tech,
- Futuristic,
- Functionalistic,
- Energy efficient,
- Eco-friendly,
- Non-ornamental,
- Amorphous, fluid,
- Contextual,
- Vernacular (mud architecture)
- Low cost

Later, during one to one sessions with each student, Prof. Chisti would discuss and analyze their keywords. He would give his opinion on what he thought we liked judging from the keywords. He would also identify and suggest the period or style of architecture we should look into to find the architect that practiced these keywords.

He told me to look for my subject in the current modern architecture. He suggested Daniel Liebskind, Sir Norman Foster and Santiago Calatrava. [2] I did not spend many hours on these three architects, because even though I liked their works nothing seemed to *click* and *connect* with my architectural sensibilities.

We were given two weeks to find an architect. I scoured through countless collection of works and biographies, and the more I immersed into works of famous architects, the more I was attracted towards the modernists.

Scouting through modern architecture, I was *clicking* and *disconnecting* with works like Orly hangars, Paris by Eugene Freyssinet; the Fiat auto factory in Turin; Le Corbusier's entry for the Palace of Soviets and the mystical Ronchamp; the skyscrapers by Philip Johnson; Ludwig Mies van der Rohe's Seagram; Minoru Yamasaki's twin towers for the World Trade Center; Louis Kahn's Parliament building in Dacca; Alvar Alto's Finnish Pavilion and others. Each of these had something in common with my keyword list but still no *click* and *connect*. I took my list of keywords again to Prof. Chisti. This time I also took the above list of projects that I had liked for a moment. Prof. Chisti glanced at my list and the list of projects and crossed out the following: *eco-friendly, energy efficient*; *vernacular* and *low cost*. He told me that I was merely attempting to add these words because "*they were in-vogue, hot and happening*". He also added that "*click* and *connect*" was far more than buzzwords. Pure and great Architecture is never derived from

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[2] Daniel Liebskind was in India and in news due to the Berlin Museum / Jewish Museum competition exhibition. Santiago Calatrava was winning accolades for his bridge design in Europe.

buzzwords, instead he said, buzzwords are derived from pure and great architecture. I think I did not understand the full import of his words then.

Prof. Chisti instructed me to look closely ("*see the second layer*") for common buzzwords in my selection of architects and projects. He also forbade me to look for more architects and themes until I found my real list of keywords. It took me some time to accept the fact that I was indeed adding the latest buzzwords, while my *click* and *connect* keywords were something else. I also realized that following the latest trends was clichéd. Everyone was doing it. Is that what I wanted from my architecture? No, an undergraduate student has to be different, more different than his classmates. It dawned on me that I had spent considerable time on my projects just to make them different from other students' designs. Was "different" my keyword? If making a design that was different and brought *oohs* and *aahs* from my peers, then I had to admit, my keyword was "different".

However, to understand "different" was too complicated for my undergraduate intelligence. I had, by then used up all of my second year vocabulary of architectural buzzwords. Hopelessly, I went back to Prof. Chisti and told him that my sole keyword was 'different'.

> *"I like architects who differ from others. I like projects that are different, unique and standout from others. Is that my keyword?"*

He simply said,

> *"Go look for the* second layer. *Look for what makes 'different'. Different is a result of doing what? 'Different' is an end, find the means and those means that are*

common with the projects you like would be your keywords. And there might be one keyword that can be applied to your existing keywords."

Systematically, I started to add and eliminate words from my list of architects and projects. The first expressions were futuristic, structural achievement, clean fluid lines in elevation, geometrical, dynamic. Then it leapt at me that I was overlooking the clichéd yet central theme of these projects: grand scale. Grand Scale or Monumentality.

Coupling the word monumental with dramatic, dynamic, structural achievement, geometric, poetic, fluid gave me Monumental drama and dynamism, monumental structure, monumental geometry, monumental fluidity, monumental futuristic; monumentally high-tech and monumental everything. It seemed that I liked grandness about everything. Think Big. Dream Big. Did these oft repeat quotations in school affect my design sensibilities and me?

Prof. Chisti was supportive of my newfound keyword and the elation that it gave me. Now all I had to do was to find an architect who professed monumentality in everything. It was while reading the monumental 'Meaning in Western Architecture' by Christian Norberg-Schulz that I ran across these lines in *Chapter 12: Pluralism:*

Whereas Le Corbusier, Nervi and Kahn are concerned with general possibilities of articulation and characterization, Eero Saarinen (1910-61) aimed at a dramatic characterization of the individual building task. Each of his buildings is entirely different, and hardly seems to be designed by the same architect. The approach is interesting, ... of his dynamic expression of flight in the TWA terminal at Kennedy Airport (1956-62.)[3]

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[3] Christian Norberg-Schulz. *Meaning in Western Architecture*. New York: Rizzoli International, 1983. pp. 213.

One glance at the photograph of the TWA terminal and it was *click* and *connect*. In that one structure, I could see drama, fluidity, structural expression, functionalism, futurism, and all done in a fashionable monumental style. Eero Saarinen. I had not heard of him until that point and neither did any of my friends. He was little known but still had managed a small paragraph in Christian Norberg-Schulz's book. I checked the list on Prof. Chisti's door in case someone had already decided on Eero Saarinen as his/her subject. Saarinen was not on that list. Even before, seeing his other works, I was sure about the *click* and *connect*, that I added Eero Saarinen's name in front of my name. It seemed that very few seniors had heard of him, so if he was a real find, I would be different amongst my peers, and being different is what I (or undergraduates) was striving for. I was hoping that Saarinen would be so monumentally different from the average and clichéd Frank Lloyd Wrights and Le Corbusiers in Prof. Chisti's class and I was right.

It seems that *click* and *connect* does work. The more I looked at Saarinen's collection of work, the more I got spellbound. From the TWA terminal to Yale University hockey rink to Dulles airport to Kresge Auditorium at MIT, all I could see was bold structural expressions done in fluid monumental strokes. The more I immersed myself in Saarinen's architecture, the more enchanting it became to me. His works were reflecting and influencing my conversations so much that people would remark that I was hero-worshipping him. I would extol, eulogize, praise, go into raptures over his work; because I felt like it was my duty to give him his due, as others had failed to give him. It was like a book you like and you want to share it enthusiastically with everybody even it meant forcing people to read it.

Even after Prof. Chisti's class, the influence Saarinen had on me never left.[4]

In my senior years, as readings became more scholarly and erudite, I still found myself trying to understand the concepts of monumentality and the scale of grandness. Intentionally, I focused my readings on theorists who would attempt to demystify monumentality. From the 'Nine points on Monumentality'[5] to the all-time classic readings like Kenneth Frampton's '*Cultural Transformations*'[6]; Geoffrey Broadbent's '*Architects and their Symbols*'; Alan Colquhoun's '*Historicism and the limits of Semiology*'; I saw theorists trying to answer such questions like:

- Is Monumentality a matter of Scale?
- What is a truly monumental structure?
- Is Monumentality desirable?
- Is Monumentality the problem of expression / technology / economics?
- How to achieve Monumentality? And,
- What is the social purpose of Monumentality?

I perused the concept of Monumentality and its nuances, the more I read, the more eclectic and polar the views became. On one hand, there were people who rationalized the social purpose of monuments as being part of a link to history, while on the other

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[4] For Prof. Chisti's assignment, I dressed in a white shirt and black trousers, with a pipe in my hand and a pair of old plastic spectacles with broad rims. As for my architectural attire, I wore a necklace derived from the Jefferson Memorial Arch in St. Louis, and a hat derived from the Dulles airport. By the end of semester, Saarinen was a known celebrity in our school. Moreover, last year Prof. Chisti told me that Saarinen has been visiting his class since then.

[5] Giedion, Leger, Sert, "Monumentality and the City", in *Harvard Architecture Review* IV, Spring, 1984, p62-63.

[6] Kenneth Frampton. *Modern Architecture: A Critical History*. London: Thames and Hudson, 1992. p12-28.

there were thinkers who believed in modern monumentality.[7] The people who did not believe in modern monumentality used the term "monument" in a very literal and limited sense. In a sense, they were not wrong because the origins of the word "monumentality" stems from the ancient Latin word *monumentum*, which is associated with historical events, memories, or states of physical durability and cultural permanence.

As far as I understood then, *Monumentality* was a question of scale and not of age. However, this simple equation was inadequate in explaining the monumentality of the Vietnam War Memorial. The elusive nature of the conclusive definition of Monumentality made me more determined to pursue this concept. The definition of scale, grandness and non-utilitarian remained too limited. I saw that some theorists were willing to extend the meaning of *Monumentality*, for they described utilitarian projects like Tennessee Valley Authority as "monumental" and " the democratic spirit in architecture" and did not use its "grandeur and dominance for the benefit of royalty, nobility and power."[8]

My grasp of the concept weakened further after reading the wordy but inconclusive Symposium entitled "In search of New Monumentality" published in *Architectural Review* (1948) that brought critics like H.R.Hitchcock to the defense of "emotional impact" and others like Mathew Novicki who wrote forcefully that Monumentality is a

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[7] The social purpose of modern monumentality appealed to rationalizers like Lewis Mumford who wrote in 'The Culture of Cities', that the notion of modern monumentality is a contradiction in terms; if it is a monument, it is not modern, and if it is modern, it cannot be a monument.

[8] Thomas H. Creighton, *The Architecture of Monuments*. Reinhold Publishing Corp. New York, 1962, p8-9.

problem of scale. The more I read, the more definitions I gathered and the more inconclusive and hazy the whole concept became.

As part of my fourth year report in Advanced Design Theory, I tried to pen down my thoughts. I concluded in my report that Monumentality can be classified in two major categories:

- Historical Monumentality: *that which is grand in scale, royal, luxurious, opulent, initiated by aristocracy / government, impressive, governed by strong architectural language of symmetry and unity (classical and not abstract), commemorative.*
- Architectural or Modern Monumentality: *Grand in scale may or may not have classical styling, expressive, novel structures, engineering feats, and symbolic.*

My armchair categorization was essentially a play of words. On a closer look, both the categories are same in the sense that they are not mutually exclusive. The pluralism in modern architecture was not adding clarity to the issue of monumentality; it was actually making it cloudier. Then I read a bold statement by Harvard Historian James S. Ackerman, who adamantly stated that true monumentality is impossible to achieve in the present social framework.[9] This was a negative approach, which even I could refute instantaneously by giving example of Saarinen's work. Nevertheless, the fact that this view appeared in Harvard Architectural Review (and not by some *archispeaking* student), made me give some thoughts to the factor of social context with respect to monumentality.

Reverting to my earlier classification, the *commemorative* nature of Historical Monumentality is essentially the same as the *symbolic* character of modern monumentality. Both terms (commemorative and symbolic) are in referential to a social framework or social context. I did not subscribe to Ackerman's views, but I felt the need to study the phenomenon of social framework in relation to monumentality. Ackerman's article touched upon how monumental structures symbolize the social beliefs. In that issue of *Harvard Architectural Review*,[10] monuments were equated with symbolic forms that symbolized values of their particular culture. Since symbols have multiple meanings,[11] was it possible that the multiple definitions assigned to '*monumentality*' were the result of monuments acting as symbols?

At the same time, I was initiated into serious readings on philosophy and religion.[12] It was Ferdinand de Saussure and his theory of signs that made me think of monumental forms solely in terms of symbols.[13] Saussure's theory of signs was particularly promising; for it gave me an avenue to correlate the "commemorative" and "symbolic" aspect of both the classes of monumentality.

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[9] James S. Ackerman, "Monumentality and the City", in *Harvard Architecture Review* IV, Spring, 1984, p62-63.
[10] "Monumentality and the City", in *Harvard Architecture Review* IV, Spring, 1984, p62-63.
[11] To understand the concept of multiple meanings of symbols, see "Philosophy of Symbolic Forms", in Ernst Cassirer, *An Essay on Man.* New Haven: Yale University Press, 1944.
[12] I recall my efforts in reading Kant's philosophy about the age of enlightenment and Jean Jacques Rousseau's *Social Contract*. At the same time, I came across one of the most influential book in my life that made me wonder about values, achievements, creative ideals, and social refinement. It was Robert M. Pirsig's *Zen and the Art of Motorcycle Maintenance*. New York: Bantam, 1974.
[13] Ferdinand de Saussure, *Course in General Linguistics*. London: Peter Owen, 1956.

I did some work on the theory of signs in my fifth year of architecture school, but after graduation, the avenue of semiology remained unexplored. Unfortunately, I practiced architecture under a "nuts" and "bolts" construction firm where design theories were relegated in favor of the "budget". It was not until I left the practice and decided to go to graduate school that I started thinking about continuing to focus about monumental symbolic forms.

At the Graduate School, I was surprised and elated to see Prof. Chisti's methodology applied again in Prof. Sachs' class.[14] This time again, I selected Eero Saarinen; for the simple reason that, I still felt that I have not studied him well enough.[15] The course content was structured on various '*isms*' while maintaining a chronological progression. The highlights of the course, at least for me, were the required readings. The course was eclectic and derived from many sources. As my selected building, I chose The Jefferson Memorial Arch at St. Louis. The Gateway Arch was monumental (both scale wise and commemorative), mystical, classical (as in derived from geometry), structural feat, high tech, fluid, dramatic, contextual, and futuristic. It echoed my list of buzzwords in Prof. Chisti's class. In Prof. Sachs' class, I was analyzing the Gateway Arch in terms of all the 'isms' and subjectively dissecting it in its social context.

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[14] Prof. Sachs teaches Architecture since 1945 at Kansas State University, Manhattan, KS. Just like Prof. Chisti's class, the final papers for this course required our views about an architect and a selected building. The course content was however, different in the two courses.

[15] I also chose Eero Saarinen because there were numbers of titles on Saarinen at K-state library than were available to me in India. The possibility of accessing / reading microfiche of old St. Louis-Dispatch (pre 1965) and read actual accounts was another added incentive through the Library exchange program.

Concurrently, I was enrolled in Prof. Hoag's Environment and Behavior class. Researching on the topic of human behavior in public places, I came across an article by the chief supervisor at the Memorial Arch where he described how people would touch the steel arch to make sure of the feeling of its solidity. That got me thinking about the meaning(s) that the Arch conveyed to people. I mentally made a note to study such aspects of human behavior associated with the monumental Arch.

In addition, at the same time, I was pursuing Prof. Weisenburger's Urban Design and Preservation Theory class. Since the Gateway Arch was a perfect example of urban renewal, I chose to study the Arch and its relation with the city of St. Louis.

Instead of piggybacking one class assignment on the other, I was amazed to see the number of facets the Arch started to develop. From the multiple 'isms' it belonged and eluded in Prof. Sachs' class to the study of human responses to its metallic skin in Prof. Hoag's class to its acting as the magnet for urban renewal, the Arch was not only revealing its multitude of functions, but illuminating me on how a single entity can be sum and cause of many factors.

Where I had hoped for a single research that would be useful in multiple papers, I found myself extending my scope of research. In my quest to fully comprehend the Arch, I was trying to cover as many topics as I could. Nevertheless, it seemed, that the Arch was affecting and was in turn being affected by range of factors / topics ranging from politics

to advertising. For example, to understand why the dwarfing of the Arch was allowed by surrounding high-rise buildings, it was imperative to understand the politics of the city.

This growing interlinked network of factors amazed me. It was hard to limit myself to few topics, while knowing well that there are other topics out there that have bearing on the meaning of the Arch. Like a kid who just has one day to try all the rides in a park, I found myself trying to get hold of each and every piece of information available on the Gateway Arch. I realized that this was the social framework Ackerman was referring to.

When I was being cowed by the enormous work involved in analyzing each bit of information available on the Arch, I took the best course in my life. It was a course that covered the entire history of City and town Planning and did it exceptionally well.

The brochure[16] in my mailbox started with a quote:

"History is just one damn thing after the other!"

Instead of the usual academic tone, the leaflet depicted the course as a 'spellbinding journey into *Americana*; a trip into history of American city planning' and assured that the 3-hour long classes will just '*whizz by*'. I was always fascinated by the birth and the decline of the cities; for the very forces that shape the communities also shapes its landmarks. Now, that I had realized how the whole network of social, physical context are intertwined, it made more sense to pursue this course.

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[16] Information Brochure for 'Plan 615: Shaping the American City' by Prof. Laurence C. Gerckens Department of Landscape Architecture – Regional and Community Planning, Kansas State University. The

I had the preconception that it was impossible to cover such a vast topic in one course. It was hard for me to understand how one course can cover so much while I was having problems grasping all the facets of one single arch. However, Prof. Gerckens spellbinding oration, his succinct presentations did cover a lot of territory. I can truthfully echo the comments by another student on this course:

> *"The most personally satisfying, socially relevant, and academically pertinent course that I have ever taken."*[17]

If Prof. Gerckens can teach such a vast topic, I reasoned that I could very well study the minutest details and aspects of the Gateway Arch. With that determination, I scoured every archive, each written word on the Gateway Arch. Instead of nearing an end, the scope of research kept on expanding. Sometimes, it seemed that the Arch was growing tentacles that were forming an interlinked network encompassing the whole breadth of knowledge.

To give a concrete shape to my network of research, I decided to pursue the Arch and its nuances as the subject of my graduate thesis.

The more I read about monumentality, the more the written word prompted me to focus on the social context. The more I read about the social context, the more I was directed towards the study of symbols. The more I immersed myself into symbols, the more I

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leaflet contained endorsement of the course from 30 leading colleges and the list of awards won by the course.

found myself exploring philosophy of human culture.[18] It was exciting to study essays that were simply titled "What is Man?"[19] However, the simplicity of the title was inversely proportional to the simplicity of the subject matter. Some essays were too erudite for my level of knowledge, and unfortunately, the half-baked understanding clouded my comprehension of the topic.

The study of monumental forms soon transformed into the study of symbolic forms.

The studies conducted by Alfred Whitehead, Cassirer, Trachtenburg, Saussure and others[20] initiated me into a whole new world of philosophy. I digressed from one point to another, just like the recount in *Zen and the Art of Motorcycle Maintenance*.[21]

It was my graduate advisor, Prof. Sachs who first recognized the floundering effects of my uninhibited foray into philosophy. My thesis was going nowhere; my efforts were not producing anything tangible except filling pages with exciting thoughts that I had collected from numerous sources. My collection of ideas was not revealing much about either the symbolism of forms or the monumentality of the forms. There was nothing that acted as a reference for comparison. The lack of reference or an evaluative framework made it hard to employ and imply the newfound theories of symbols. It was then Prof. Sachs decided to introduce another entity to which to compare my views and test the

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[17] Statement made by an Undergraduate student at University of Michigan.
Source: http://www.oncallfaculty.com/lgerckens.htm
[18] This is reflected in the essay titled: *On Symbolism.*
[19] Ernst Cassirer, *An Essay on Man.* New Haven: Yale University Press, 1944.
[20] These philosophers and their thoughts have been dealt in the essay: *On Symbolism.*

ideas I had pieced together. A comparative analysis would allow me to apply my knowledge of symbols onto two similar monumental structures and thereby providing me with an opportunity to analyze how symbols stood up to various viewpoints.

The format of a comparative analysis also gave me the platform to produce tangible results. I selected the La Grande Arche in Paris because firstly it was an arch; secondly, it was a monumental building and thirdly, also possessed the qualities in my list of buzzwords. With the establishment of two reference points (the two arches), I devoted myself to learn all the specifics of the two arches. As part of the comparative critique[22], I applied the knowledge gained during my foray into the philosophy of symbolic forms onto the two arches. Comparing the meanings conveyed by the arches; the different ways their symbolism was trivialized; the different threshold symbolism they portrayed were all part of that undertaking. It gave me an opportunity to further my understanding of the topic of symbolism of forms. As an offshoot of that exercise, I studied the symbolism of archetypal forms like the arches and the evolution in the meaning of the 'Arch' form.[23]

The exercise was interesting and very revealing, but even with all my efforts, the literature base kept on expanding. I was unable to stop or limit myself to a fixed scope of search. As a result, my study remains fragmentary and unfinished. I was hoping for a definitive conclusion for which none existed. I am disappointed that I failed to achieve

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[21] Robert M. Pirsig, *Zen and the Art of Motorcycle Maintenance.* New York: Bantam, 1974.
[22] The fragmentary comparative analysis of the two arches is appended in this report.
[23] This has been appended in the essay titled: *Evolution of the 'Arches' and their Symbolism.*

what I aimed for, but this exercise has opened much more avenues for me to explore. The travel from one line of thought to another itself is a reward enough.

I can only theorize the reason for the fragments. The book, *Zen and the Art of Motorcycle Maintenance* has profoundly influenced me. It is a story of a man's inquiry into values. It is a journey that goes from point to point without a set course and a conclusion. It is very similar to my journey. I am quoting a line from the 'Afterword' of that book in order to explain my inability to conclude my analysis:

> *I tend to become taken with philosophic questions, going over them and over them again in loops that go round and round and round until they either prouce an answer or become so repetitively locked ..... and the questions become obsessive....*

I can only compare my exercise to the monumental book *Uncle Tom's cabin* that was not a literary masterpiece but still managed to influence and evoke millions. I am certain and elated that my study did the same for my intellect.

On Symbolism

This essay reflects my attempt to construct a theory of symbolism. The composition looks at primary theories postulated on this subject. The essay germinated from the process of creating an evaluative framework by which to judge a symbolic monumental form. It is essentially a compendium of eclectic viewpoints on the topic of symbolism. I have attempted to correlate and connect linguistic theories to theories on architectural discourse. The purpose of this section is not to concretize a definition of symbolism but to extract the dimensions that are critical in understanding symbolic forms.

The Webster's Collegiate Dictionary defines symbolism as "*artistic imitation of an invention that is a method of revealing or suggestion immaterial, ideal, or otherwise intangible truth or states.*" Put simply, we cannot read or interpret entities in a standard "linear" tradition. Symbolism is the process in which the meaning manifested in physical objects or events that serve as symbols are communicated. In the succeeding pages, various themes and theories will be explored and arguments presented in order to justify their inclusion as critical dimensions of symbolic forms.

The 'symbol' can be any object, act, event, quality or relation that conveys the meaning. To examine the relationships between 'symbols' and human mind; Whitehead's formal definition of Symbolism is quite dexterous. He says:

> *"The human mind is functioning symbolically when some components of its experience elicit consciousness, beliefs, emotions, and usages, respecting other components of its experience. The former set of components is the 'symbols,' and the latter set constitutes the 'meaning' of the symbols. The functioning whereby there is transition from the symbol to the meaning is the 'symbolic reference.'"*[1]

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[1] Whitehead, Alfred. *Symbolism: Its Meaning and Effect.* Cambridge University Press. 1928. p9.

To extract key points to evaluate symbolic forms, it becomes imperative to understand some primary theories on Symbols. Analogies to linguistic theories are used because Architecture can be understood in much the same way as written and spoken languages. Consequently, the linguists seem to have proliferated in Architectural theories with their views on the subject of Symbolism. Symbolism is problematic; for its explicit forms are unintelligible by themselves and their study has always presupposed the existence of an underlying tacit knowledge. However, what is the nature of this knowledge and what is its relationship to explicit forms?

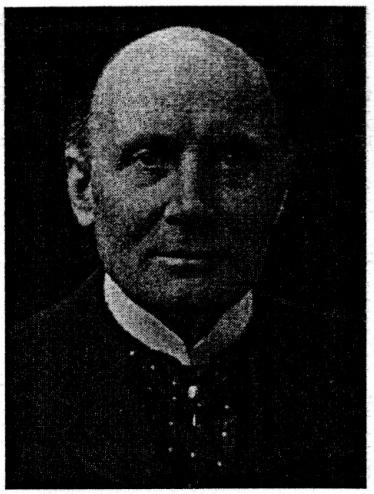

Figure 1 Alfred North Whitehead (Source: www.encyclopedia.com)

The linguist Ferdinand Saussure[2] has formulated the most generally accepted answer:: the explicit forms of symbols are *signifiants* (signifiers) associated to tacit *signifie's* (signifieds) as in the model of the relationships between sound and meaning in language. This approach by Saussure is at least 2,000 years old, for Vitruvius himself wrote: "*in all matters, but particularly architecture, there are these two points: the thing and that which give its value.*"[3] Others

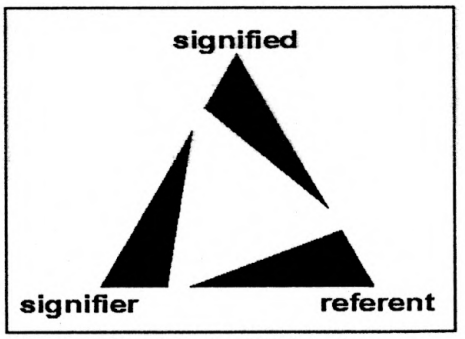

Figure 2 Semiological Triangle

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[2] Ferdinand de Saussure. *Course in General Linguistics.* London: Peter Owen, 1956.
[3] " *Architects and their Symbols"* in *Built Environment* by Geoffrey Broadbent. Alexandrine Press, Vol 6, no. 1, p10-28. 1980.

agreeing with Saussure's view took this viewpoint to add "referent" which is the object, person or other kind of thing to which 'signifier' and 'signified' refer.

For example, if we discuss about a bleak housing project in India with words and pictures; the words and pictures are 'signifiers'. They *signify* (point to) ideas – the "signifieds"- the row housing in India. This row housing is a physical reality that can be touched and seen. Nevertheless, it also "stands for" many things; unpleasant living conditions, squalor, machine made environment ("referents").

When we go deeper into meanings using the above "semiological triangle, we realize that we have to *learn* these signs. An example from the TV series 'Star Trek' is helpful in understanding the whole context. In the episode '*Darmok*', the crew encounters a species that could only communicate through metaphors. For them, 'romance' was not a word. They used 'Juliet on the balcony'. For someone to understand their language, it becomes imperative that they know the story of Juliet and essentially what she was doing on the balcony. That is where Charles Sanders Peirce[4] comes in. Pierce uses the word "symbol" for signs such as this in which the relationships between the signifier, signified and the referent have to be learned. This also implies that meanings of symbols cannot remain constant since they have to be learned.[5]

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[4] Pierce, C.S. *Collected Papers Vols I.* Ed. C. Hartshorne and P. Weiss. Cambridge, MA: Harvard University Press, 1960.

[5] To further understand how signs change over time, see Broadbent, G.; R. Bunt; and C. Jencks. *Signs, Symbols and Architecture.* Chichester: John Wiley, 1980.

In order to interpret a symbol with an associated idea one should not substitute the second term of the association for the first, but rather consider them together. For example: a pistol may be a symbol of the penis. But if it is particularly appropriate, it is as much because of their differences as because of their similarities. The pistol, as against the penis, is an instrument detached from the body, always rigid, always rechargeable, and capable of working at a distance, by means of solid emissions. The symbolic relationship between the pistol and penis is therefore one of contrast as much of resemblance, of opposition as much as representation, and therefore is not a question of interpreting the symbol 'pistol' by means of the translation 'penis' but of interpreting the association 'pistol-penis' which is an interpretation in appearance only.[6] The relevance of this analogy becomes more pronounced when applied to the La Grande Arche at Paris, because it is essentially a cube and not an arch. It is this close symbolic relationship of differences that makes the comparative analysis more interesting.

The studies of Symbols endeavor to provide some possible cultural significance of various symbols, and suggest ways in which those symbols may have been used in context. Most symbols are not code signals, like traffic lights, where red means stop and green means go, but part of a complex language in which green can mean jealousy or fertility or even both, depending on context. It is up to the preceptor to explore architectural creations (or any other work of art) sensitively, and decide for us how the symbols in each work function.

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[6] Dan Sperber. *Rethinking symbolism*. Cambridge; New York: Cambridge University Press, 1975.

This section explores the relationships that exist between architectural form and the characteristics embodied in other forms of human communication (like speech / language). As emphasized before, this commonness allows us to apply linguistic theories to architectural symbols. One of the central characteristics of architectural form is the way it acts as a symbol or signifier of function, human culture, political power, or any kind of meaning that can be inferred by the person that experiences form. Architecture embodies a visual language that contains all the ingredients of other forms of communication. Form is an architectural language which can mask, enhance or confuse meaning in built form. Since the visual vocabulary of Architectural language is a strong component, the interpretation of a symbol via the physical form becomes essential. As Christian Norberg-Schultz emphasizes in the Preface for 'Meaning in Western Architecture'[7]:

> *"Existential meanings are derived from natural, human and spiritual phenomena, and are experienced as order and character. Architecture translates these meanings into spatial forms. Spatial forms in Architecture are neither Euclidean nor Einsteinian. In architecture spatial forms mean place, path and domain. Therefore, Architecture cannot be satisfactorily described by means of geometrical or semiological concepts. Architecture ought to be understood in terms of meaningful (symbolic) forms."*

The **physical form** therefore is a critical dimension for interpreting symbols. The symbolism of physical form can be interpreted in many ways – sometimes appropriate (relevant) connections are drawn and sometimes, inappropriate. Examples of appropriate physical symbols would be the TWA terminal by Saarinen resembling a bird (appropriate because it relates to flight); or the roof of Frank Lloyd Wright's church at Madison, which looks "like", hands in prayer.

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[7] Christian Norberg-Schulz. *Meaning in Western Architecture*. New York: Rizzoli International, 1983.

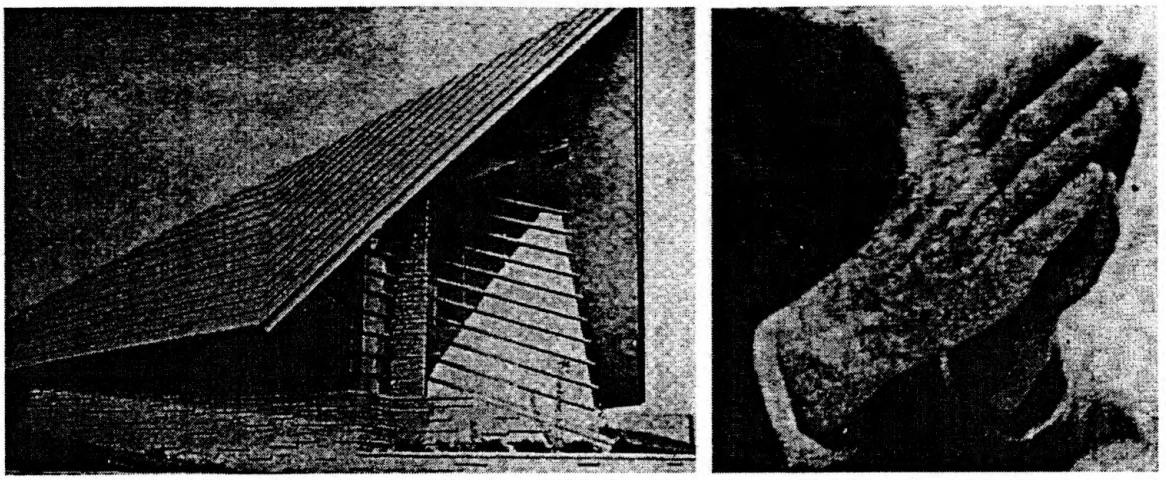

Figure 3 Example of appropriate symbolism: F. L. Wright's Church of Madison and the praying hand it symbolizes. (Source: "*Architects and their Symbols*" in *Built Environment* by Geoffrey Broadbent. Alexandrine Press, Vol 6, no. 1, p12).

In contrast, the roof of Le Corbusier's Ronchamp, which he says, looks like the shell of a crab is very inappropriate. In other words, the meaning and use of the building are not congruent. Two buildings can also be very different in physical form but can be strikingly similar in symbolic representation.

In his book, *Architecture, Time and Eternity*, Adrian Snodgrass beautifully illustrates that the *physical form* is just one of the factors that affects the meaning(s) of the cultural symbols. He says,

> *"... no symbolic form exists in isolation, it forms part of a network of meanings, a reticulation of interlinked significances."*[8]

The *form*, though a critical factor, is by itself, incapable of revealing the whole meaning and significance of the two arches. Besides the *built form,* other factors influence and

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[8] For further illustration that the symbolism of architectural forms is affected by factors other than form, please see Adrian Snodgrass. *Architecture, Time and Eternity*, vol. I. p.3. Snodgrass also describes various

modulate the multiple meanings conveyed by cultural symbols like the two arches. On the other hand, one can present the idea that the forms of built environment are not always determined solely by "commodity, firmness and delight," but are also regulated by myths, rituals, doctrines, and other components of a social network. In other words, the 'form' itself can be affected by other factors.

Besides direct simile, a building can be read in terms of its historical reference; its function or use; and associations with abstract concepts. The concept of 'meaning' in architecture is often applied to the way in which the built forms of a particular society reflect its relationship with the land, its history, its technology, its economy, its social order, its worldview, and its religious beliefs. One of the most well-known and influential texts in this area is Christian Norberg-Schultz's *Meaning in Western Architecture* (1980). Norberg-Shultz analyses 'symbols' in a number of epochs, and his treatment of ancient Egypt may be taken as a representative. He sees the architecture of this period as reflecting an Egyptian world-view greatly influenced by the following factors:

- The topography of the country;
- The regularity of the flooding of the Nile, around which all life revolved;
- The high degree of order and discipline required of society in order to exploit Nile's resource at the appropriate times;
- A desire to maintain and consolidate the social order which had proved so successful in achieving these ends;
- The Egyptian view of life as the path of the soul on its journey from birth to the after life, and the overwhelming importance in Egyptian thought of after-life.

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modes of symbolic expressions such as verbal, which includes myths, doctrine or philosophy; sonoral expressions such as music and chanting; geometry and numerology; ritual and so on.

Norberg-Schultz sees these factors reflected in the use of linear progression in Egyptian funerary complexes, in the 'rational' organization and articulation of the orthogonal layout of the buildings and fields, and in a desire for palpable stability of form and durability. The hieroglyph for 'world' is a cross section of the valley with the Sun passing over the Nile. The gap between the pylons over the entrances to the temples is reminiscent of this. The desire for stability is manifest in the 'balanced form' of the pyramids 'appearing as a synthesis of vertical and horizontal forces'. Thus, he concludes, 'Egypt's geographical structure provided a basis for symbolizing basic existential meanings.' The nature of Egyptian space is seen related to their view of the universe, and in one sense of the word, maybe considered to 'mean' it. The 'form' conveys no or little meaning unless the context is understood. Thus, for example, to know that the plan of a building is based on the *mandala* is insignificant unless the observer knows the meaning of *mandala* itself and what it signifies. The methodology employed by Norberg-Schultz is effective in understanding the *language* of the built form.

A study of interpreting symbolic forms should focus on 'dense facts',[9] which are important persons, artifacts, or events that appear likely to reveal links between the many aspects of the two arches. Some of these links may include the consciousness of the individual artist, the socio-economic structures, or its historical references and meanings.

Such 'dense facts' can be extracted from almost infinite number of sources, ranging from physical form to the amorphous images lodged in the mind. The symbolic forms function

within their cultures to objectify the important values and attitudes of the culture. Conversely, the culture helps in understanding the meaning assigned to a monument. Therefore, a study of this nature allows one to understand the culture as well as the nature or status assigned to a cultural symbol like a monument. Such kind of studies has been attempted before. Some prominent and scholarly examples of similar studies are:

- *The Machine in the Garden* by Leo Marx examined transformation of the pastoral archetype under the impact of industrialization in American life.
- Alan Trachtenberg's *Brooklyn Bridge: Fact and Symbol* compared American nature with the political realities of urbanization.
- Henry Nash Smith's *Virgin Land* examined how the American agrarian society responded to the impacts of rapid industrialization.
- John William Ward's "The Meaning of Lindbergh's Flight" in *American Quarterly* 10 (Spring 1958) which deals with response of Americans to the monumental flight.

A survey of different epochs of civilization discloses great differences in their attitude towards symbolism. For example, during the medieval period in Europe, symbolism seemed to dominate people's imaginations. Architecture and heraldry were symbolical. With the Reformation, a reaction set in. Men tried to dispense with symbols as '*fond things, vainly invented*' and concentrated on their direct apprehension of the ultimate facts.[10] Because symbolism can be acquired in one epoch and ignored in another testifies to its superficial nature. This transient aspect of symbols is essential in understanding the mindset of the people. Therefore, it can be derived that people and their culture shape the

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[9] Gene Wise's article in "Paradigm Dramas in American Studies". *American Quarterly*, 31, 1979. p 293-337 for analysis of American Culture during different historical periods.

[10] For a extended clarification of this point, see Whitehead, Alfred. *Symbolism: Its Meaning and Effect.* Cambridge University Press. 1928. p6.

symbols. And as culture changes, so does the meaning conveyed by a symbol. Does that mean all symbols change meanings?

The answer to the above query is complex and can be understood by classifying forms into primary and secondary forms. Everyone reads primary forms like the sphere in the same way; they have no particular meaning for anyone. However, according to Le Corbusier, there are "*secondary forms or sensations*", which vary from person to person because they depend upon cultural or hereditary capital. He gives an example of what he means:

> *"If I hold up a primary cubic form, I release in each individual the same primary sensation of the cube; but if I place some black spots on the cube, I immediately release in a civilized man an idea of dice to play with, and a whole series of associations which would follow. A native Papuan would only see an ornament."*[11]

In other words, one places the primary form into a cultural context. Now the question arises how to achieve it or comprehend it. Robert Stern[12] suggests three possibilities:

1. *Contextualism* in which forms for the new designs are derived from the context into which it is to be placed to which it will then relate in form, color and scale;
2. *Allusionism*, based in particular on historical allusions. It may involve the re-use of established types.
3. *Ornamentalism*. The physical surfaces.

Stern's approach can be refined and expanded into other subcategories. Reverting back to linguistic theories, the work of German philosopher, Ernst Cassirer has been instrumental

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[11] " *Architects and their Symbols"* in *Built Environment* by Geoffrey Broadbent. Alexandrine Press, Vol 6, no. 1, p10-28.
[12] Stern, R. "Post Modernism." *Architectural Design* 47, no.4. 1977, pp.254-86.

in suggesting comprehensive ways to interpret symbols. It is though similar to the above-mentioned theory suggested by Stern.

Figure 4 Ernst Cassirer, German philosopher (Source: www.encyclopedia.com)

Drawing heavily upon the work of Ernst Cassirer, Cecil Tates[13] suggests three critical dimensions of symbolic forms. The first dimension involves **Analysis of FORM**: the symbol's basic structure. The Second dimension involves **Analysis of PROCESS**: the evolution of the form within its specific cultural milieu. The third dimension involves **Analysis as ACHIEVEMENT**: the cultural meaning assigned to the given symbol.

Just like Stern's categories, it is easy to expand Cassirer's framework, but one finds that some of the factors overlap in both the cases. It is hard to categorize the role of the creator / designer. For instance, the role of the creator is also an outcome of the cultural context and a very significant factor in shaping the symbol. The intentions of the creator can act as a significant tool in order to understand the symbolic form. For example, Matthew Novicki's plan for Chandigarh was different from Le Corbusier's plan, however the essence of blocks and grid scheme remained at the core of the planning principles of both the designers. Another example would be Louis Kahn's planning philosophy. His Medical Center in Philadelphia, the Parliament in Dacca or the Indian Institute of Management in Ahmedabad share common planning strategies and the use of primary

forms. Nevertheless, it was Kahn's handiwork that creates the different imagery for each of his buildings. They convey different emotions and meanings. The Medical Labs look more like Scottish Castle; the Parliament a kid's Lego creation and IIM a solid brick *ashram*. The point here is not to question the appropriateness as discussed earlier, but to emphasize the importance of the role of the creator whose intentions translate powerfully on the symbolic form. The influence of the individual is sometimes much pronounced and is a critical factor when dealing with symbolic forms. The designer is the one who impregnates the scheme with the germ of idea – it is the sum of his thoughts and his cultural understanding and upbringing. What does a designer want his building to say? This single query can be a powerful tool to understand a building.

The **Analysis of FORM** is essentially an examination of archetypal form, site and urban context. From a set of specific situations man extracts meaningful forms and principles of organization which make a more general design / planning possible. Some of these forms may be called archetypal, as they represent the meanings of man's most original experiences. The abstraction of symbolic forms also implies that a specific meaning is no longer tied to a particular geographical location. For example, it is common to see banks paraded as Greek temples, department stores as Italian palaces. Sigfried Giedion, diagnosing the entire nineteenth century as a patient with "cultural schizophrenia", referred to the styles used in these masquerades as devalued symbols, icons once meaningful but debased by the status seeking of the Industrial age.[14] A symbolic form is

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[13] Tate, Cecil. *The Search for Method in American Studies*. Minneapolis: University of Minnesota Press, 1973.

[14] Giedion's remarks are in *Space, Time and Architecture.* Cambridge, 1949. pp13-17.

also a mirror reflecting the culture just like any other expressive media like literature or cinema. So the study of evolution of a form becomes an important part of the study.

Monumental buildings have common roots and serve the same symbolic function as any other cultural symbol; both express the meanings, values and needs inherent in a public form. The heavy masonry forms were readily acceptable by the public at large as monumental at the beginning of the century. However, for the same public of yesteryears, the sinuous or trivial technical marvels may not ring chords in their minds or hearts.

The comparative analysis in this report compares the Symbolism of the two arches with the underlying assumption that political power is strongly linked to symbolism. This assumption is based on the research done by Clifford Geertz[15] and David Kertzer[16]. Kertzer states that

> *"Through symbolism we recognize who are the powerful and who are the weak and through the manipulation of symbols, the powerful reinforce their authority."*

Geertz further emphasizes this relation in his essay "Rites of Power". Politics in a democratic setup is a synchronous voice of the society. The actions of the government dictate cultural pattern more now than ever before. The stagnant and repressed media reflecting the societal freedom in communist China is a prime example. This study also assumes the political nature of power in both the case studies.

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[15] Geertz, Clifford, "Centers, Kings and Charisma." Wilentz, Sean (Ed.) *Rites of Power, Symbolism, Ritual and Politics since the Middle Ages*. University of Pennsylvania Press. Philadelphia. 1985.
[16] Kertzer, David. *Ritual, Politics and Power*. Yale University Press, New Haven and London. 1988.

It is also true that symbols in the built environment must be interpreted in ways that account for material quality, human use, and historical significance of the physical object. Thus, architecture is dependent on its historical and social context. For example, Gothic as sign of faith and Neoclassicism as a sign of reason – must be seen in terms of ideologies of Western religious thought in order to understand and justify use of these terms. These moods were and are translated into forms that became inherent in architecture. The cultural mood of a particular community can be gauged by studying its imprint on the symbolic architectural forms. Once a symbol has been established in a cultural setup, the meanings tend to change in fine shades. This transformation of meaning of the symbol changes at multiple levels. This can be illustrated by taking the example of the monumental Brooklyn Bridge. For a native New Yorker it is just 'the' bridge – a little more than 'a' bridge. However, when that New Yorker goes to other parts of the country or the world – the bridge becomes a 'symbol' to be discussed and extolled in other people's company and the same bridge becomes a matter of pride. Similarly, tourists experience another class of perception, i.e. of awe and novelty when looking at the same bridge.

A symbol also changes its meaning with the age of the viewer. For a small boy, whom the scale of the Brooklyn Bridge might awe will associate the bridge with his childhood when he grows up. On the other hand, the bridge becomes so commonplace for the child in New York that he completely forgets about it. For someone who just moves into New York, it might be just a landmark to get him oriented in the maze of the huge city. For a travel or a real estate agent, the bridge can be a mode to allure people by using it as an

advertisement. For an advertising company, it can be translated into logos that can sell products. For a pizza place, it can be a successful logo which is easily identifiable and related to by everyone in the city. The bridge can be the first title shot of the local news bulletin. This only proves that an architectural creation can convey different meanings to different people. This implies that different connotations can be assigned to a single symbol. This entrainment of a symbol in the society can be used as a scale by which a symbol can be rated on its impact on the socio-cultural setup.

To comprehend symbolic forms in entirety is an inconclusive task. Architectural paradigms shift continually – 19th century eclecticism to Modern Movement functionalism to the world of "honky-tonk, crassness, phoniness"[17] – but symbols remain though their language and meaning(s) may change. Nevertheless, during this section, several key factors have emerged and positioned themselves as critical in understanding 'Symbols'. These key factors are: The analysis of the physical form itself; the intentions of the designer; the physical context; the socio-cultural meaning and context; the role of politics (authority); and the public reception assigned / achieved by the symbols.

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[17] Robert Venturi, Denise Scott Brown, and Steve Izenour. *Learning from Las Vegas.* Cambridge: MIT Press, 1977. pp 104-27.

Evolution of the 'Arches' and their symbolism

The archetypal form[1] of the Arch has been employed in many cultures. From one culture to another, the arches have evolved to symbolize many different connotations. This essay builds on the premise that a form like an arch has multiple meanings and these meanings are evolved and regulated by myths, rituals, doctrines, and other components of social network.[2] Essentially, this essay is a compilation of instances where 'the arch form' has come to signify a cultural annotation. Besides visual analysis, the knowledge of cultural and historical associations of the arches is imperative in comprehending the symbolism of the Arches.

The following is an encyclopedic entry for Arches:[3]

the spanning of a wall opening by means of separate units (e.g., bricks or blocks) assembled into an upward curve that maintains stability through the mutual pressure of a load and the separate pieces. The weight of the load is converted into downward pressures (thrusts) received by the piers (abutments) flanking the opening. The blocks forming the arch are usually wedge-shaped. The arch was used by the Egyptians, Babylonians, and Greeks, chiefly for drains, and by the Assyrians in vaulted and domed chambers. The oldest known arch in Europe is a Roman drain, the Cloaca Maxima (c.578 B.C.). The Roman semicircular arch, drawn from Etruscan structures, was continued in early Christian, Byzantine, and Romanesque architecture. The pointed arch (used by the Assyrians) came into general use in the 13th cent. Possibly rediscovered independently in Europe, it became essential to the Gothic system of design. The round arch regained dominance in the Renaissance. The 19th-cent. invention of steel beams for wide spans relegated the arch to a decorative function.

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[1] The concept of archetypes is derived from the work of Carl Jung. According to him, any archetypal form, including the arch has the power to evoke people. Siegfried Giedion also underlines this power of simple geometric forms in architecture of early times. According to him, the interpretation of symbols and its meanings necessarily leads back to its origin in prehistory.

[2] "... no symbolic form exists in isolation, it forms part of a network of meanings, a reticulation of interlinked significances." For further illustration that the symbolism of architectural forms is affected by factors other than form, please see Adrian Snodgrass. *Architecture, Time and Eternity*, vol. I. p.3. . New Delhi: International Academy of Indian Culture 1990. Snodgrass also describes various modes of symbolic expressions such as verbal, which includes myths, doctrine or philosophy; sonoral expressions such as music and chanting; geometry and numerology; ritual and so on.

[3] www.Encyclopedia.com

On the other hand, the *Dictionary of Symbolism on the Web*[4] defines arches as a form, which can be construed as the 'vault' of the sky. It further links the arches to victory; and considers passing through an arch as the symbolic act of rebirth, of leaving the old behind and entering the new. They often mark access into holy places. These are the aspects of symbolic forms that are intriguing and relevant to this study.

Before we go further into extracting multiple symbolisms conveyed by the Arches, it would be prudent to touch briefly upon how symbols gained their importance in various cultures and how the most significant of symbols refer to our relationship with the nature.

The forms associated with magic and religions that have appeared most frequently over the longest periods of history were simple ones. The mingling of humanity and the gods with cosmos itself is one of the prime characteristics of ancient myths and cultural symbols. Sacred places originally revealed absolute reality and made human orientation possible within an apparent overwhelming cosmos; a function which is so relevant in metro cities of today.[5] For example, ancient Chinese texts explain how one official calculated the exact position of the *axis mundi* (the center of the world), in locating the sacred place. It was found to be "the place where earth and sky meet, where the four seasons merge, where wind and rain are gathered in, and where *yin* and *yang* are in

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[4] A project of University of Michigan: The Symbolism Dictionary on Web is available at http://www.umich.edu/~umfandsf/symbolismproject/symbolism.html/A/arch.html

[5] See Mircea Eliade, *The Sacred and the Profane*, trans. Willard R. Trask. New York: Harcourt, Brace and World, 1959. p30.

harmony."[6] **The power of a form can be multiplied if it is in a special place** – like a fountain in the center of a city plaza.

This logic has been used multiple times with the simple form of the Arch. By placing the Arch in special places like ceremonial entries, the Arch form has gained magnitude in meaning over the ages.

The image of the rainbow recalls humanity's earliest attempt to interpret the will of the gods in the forms of totems. Toteism represents one of the earliest human attempts to order the cosmos and to create meaningful forms by means of human identification and empathy with the natural world. Early humanity discerned clues from the natural world in order to develop a metaphor, or symbol for social organization and to understand its place in cosmos. The totem signified the integrated cosmos and provided a social concept of nature.[7] The archetypal totem is the rainbow depicted in the Genesis account of the Flood. In this mythic story, Yahweh elects to destroy humankind because of its overweening arrogance. However, He preserves Noah and his family from the holocaust in order to perpetuate the race and to redeem His chosen people. To inaugurate a new epoch and to symbolize His covenant with His people, Yahweh manifests an overarching rainbow, which sweeps across the dome of heaven as a symbol of His grace (Genesis 3). The rainbow thus signifies a harmonious relationship between nature and culture.

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[6] Paul Wheatley argues that ancient Chinese and Indian cultures developed symbolic cities to order their habitats based upon natural archetypes. See Wheatley, Paul. "The ancient Chinese city as a cosmological symbol." *Ekistics* 39.232, Mar. 1975, p147-58.

The motive underlying archetypal symbols such as the rainbow stemmed from the growing human desire in agricultural communities to overcome the randomness of nature and to reconcile the polarities of life and death. With increasing human self-consciousness made possible by human settlements, also came increasing awareness of the ambivalence of nature. To compensate for humanity's relative impotence in the face of the nature, humans created symbols to enlist the support of supernatural forces. Symbolism, then, became an important vehicle of human development. In all human cultures, architectural form became an expression of the culturally perceived relationship between humanity and nature.[8] The ancient city symbolized the entire cosmos.

Early Roman cities demonstrate how architectural elements accumulated over time can evoke a culturally meaningful theme. The theme of Roman architecture was humanity's conquest of nature while maintaining a meaningful center.[9] According to Norberg-Schulz, such types of meanings are inherent in all cultures, including modern.

Even modern cities and new towns such as Reston, Virginia that are established *de novo* retain some ancient conception regarding humanity's place in the cosmos. For example, many of them are formed in the shape of *mandalas*, circular forms that symbolize the universe. Not only traditional Peking but the futuristic city Brasilia is laden with symbols

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[7] Bateson, Gregory. *Steps to an Ecology of* Mind. New York: Ballantine, 1972. p484.
[8] "City Symbols: Sacred and Profane," in *Ekistics: The Problems and Science of Human Settlements.* Constantinos A. Doxiadis, ed.39.232, March, 1975.
[9] Christian Norberg-Schulz. *Meaning in Western Architecture.* New York: Rizzoli International, 1983. p84.

that express a common and deep-seated human desire to order the earth and to establish a link between terrestrial space and the overarching sky.[10]

Without digressing further from the 'Arches', it is in the classic arches of antiquity that one most clearly sees the sacred dimensions of the arch form. The arch form influenced virtually every culture. The most common meaning associated with an arch is that of a gateway or a passage, which has ancient and biblical origins.[11] It originated when humanity first began to live in walled cities. Gateways provided dramatic and memorable settings for the ceremonial lives of ancient cultures. The city gates, where power generated at the *axis mundi* flowed out from the confines of the ceremonial complex towards the cardinal points of the compass, possessed a heightened symbolic significance. One historian noted that the sacred gate of *Ishtar*[12]:

> *Was decorated with golden rosette-stars on a sky-blue ground because the inhabitants of Babylon for centuries had looked upon an arched and towered portal as a celestial form, a replica of the arch of heaven.*

In Hindu tradition, the arch as a ceremonial entry was probably derived from the welcoming ritual where holy men greeted the king and other members of the court. The holy men would stand in two rows with their hands stretched upwards towards each other; making a vaulted passageway for the king to pass through. The ritual gave a sense of entry as well as a sense of security by providing the king with a passage through

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[10] "City Symbols: Sacred and Profane," in *Ekistics: The Problems and Science of Human Settlements* 39.232 (March, 1975), Constantinos A. Doxiadis, ed. p171.
[11] W. A. Mehrhoff, *The Arches of Classical Antiquity.* Bowling Green State University Popular Press, Ohio. 1992.
[12] Smith, E. Baldwin. *Architectural Symbolism of Imperial Rome and the Middle Ages.* Princeton, NJ: Princeton University Press, 1956. p12.

human shields. One can also derive that a passage through an arch of holy men signified the purification of souls as they pass through the arch. Even today in Indian ceremonies of marriage, childbirth, death, the human arch form is a regular feature. Virtually every Asian tradition expressed the gateway symbolism in the form of massive constructions. The size of these gates far exceeded that necessary for the performance of their utilitarian functions. The biggest dome in the world *Buland Darwaza*, India (*Darwaza* in Urdu means a Gate) is strictly speaking an arch with the famous dome sitting behind the huge portal.

Traditionally in South Indian settlements, the arched entry was made up of *frond* leaves tied with ropes made out of wild roots and herbs. The odor of the leaves kept wild animals from entering the fenced villages. The arch form was circumstantial in this case as one single *frond* leaf with its long sturdy stem is half an arch. Two huge leaves supporting each other create an arch marking the entry. Even later, when masonry was employed, people stuck to the original arch form as was created by the leaves.

Ancient Egyptians were thoroughly familiar with the arch and vault forms. However, they only used them where they could not be seen. The cosmic order of the Egyptians, based upon the stability and permanence reflecting the geography of the Nile delta, held no place in its architectural symbolism for the dynamism of the arch form.[13]

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[13] Rapoport, Amos. "Images, symbols, and popular design." in *Ekistics* 39.232, March 1975, p165-68.

The network of roads, on the other hand, became the fundamental existential landscape of Imperial Rome. In such a network, gateways became particularly significant cultural forms. One architectural historian commented:

> *Under the Romans... in all parts of the Empire ... the theophanic implications of the Adventus Augusti and the triumphal entries gave a celestial import to the towered portal of the castrum and the arch.*[14]

The *Via Sacra* is an example of a road that is marked by triumphal arches and punctuated by a series of sweeping vistas. The arch of Constantine built in Rome around 315 A.D. is another example of usage of Arch in a significant setting. By maintaining a center in the midst of roads leading throughout the known world, the Romans:

> *"...transformed the eternal static image of the Egyptians into a dynamic world where the possibility of departure and return, that is, of conquering the environment, became a primary existential meaning."* [15]

Following a long hiatus after the collapse of the Roman Empire, there emerged the sense of humanity as the measure of all things in the city-states of Renaissance Italy. Apotheosis and ascension became important Renaissance themes; the triumphal arch form adapted well to the growing sense of human possibilities expressed by ever-widening exploration of the natural world. The processional entry of Louis XIV in Paris in 1531 along the *rue Saint Denis* was ritualistic not only in the significance of chosen stops (Notre Dame Cathedral, Palais de Justice) but also in the meaning behind the monuments. The monuments surrounding the ceremony, namely, the triumphal arches,

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[14] Smith, E. Baldwin. *Architectural Symbolism of Imperial Rome and the Middle Ages.* Princeton, NJ: Princeton University Press, 1956. p10.

[15] Christian Norberg-Schulz. *Meaning in Western Architecture.* New York: Rizzoli International, 1983. p84.

added to the overwhelming symbolism of the God personified as the king and symbolized the Arches as the caretakers of the kingdom. The Roman triumph ceremony presents a ritual no less symbolic than the royal entry in France. The question of the origins, the meanings and the difference between the *porta triumphalis* and the *arco triumphalis* is yet to be answered. However, they served as symbols of continued blessing and prosperity, and were an indispensable part of the rituals.

The Arch form symbolizes unity between two extremes/ two sides or the natural link between two points. Archetypal forms like domes and pyramids evoke a sense of stability and permanence. Similarly, the 'Arch' form suggests a sense of transition from one point to another, a feeling of movement. The function of the Arch as a gateway is apparent, but as mentioned above it has taken forms and values that are more than its utilitarian value.

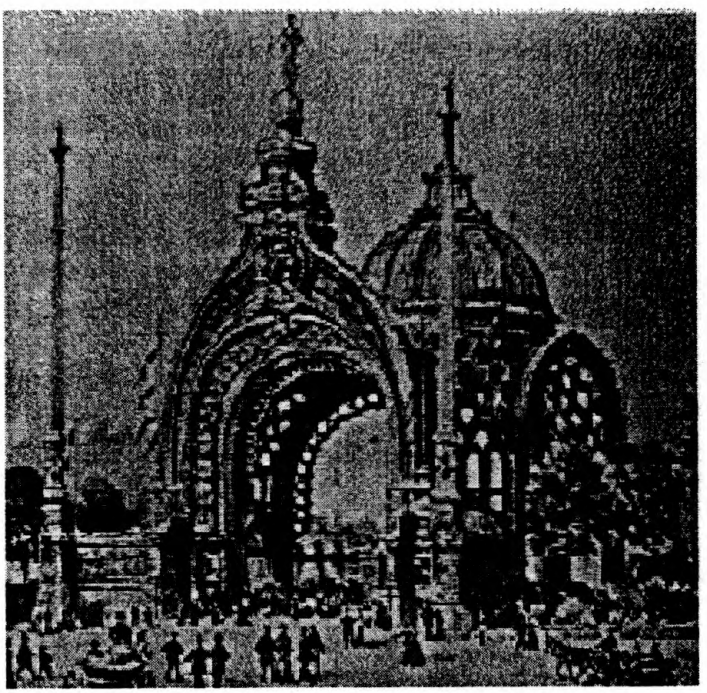

Figure 1 Louis XIV Parisian entry in 1531. Source: http://www.mtholyoke.edu/~mvbelous/symbolism.html

In modern architecture, The Jefferson Memorial Arch, St. Louis, or the Grand Arch at La Defense, Paris, have used the arch form to express passage and other connotations. The duality that the gateway can be welcoming and protective at the same time is very

fascinating. The pluralistic modern society has also contributed in associating multiple meanings to the 'arch' form. These fine shades of an archetypal form have to be carefully scrutinized in order to understand true symbolism.

A designer can take the archetypal meanings and forms and rediscover them and/ or taken them as a point of departure for new expressions. I hope the knowledge gained from this segment of the history of the symbolism associated with the Arches will provide a suitable foundation to analyze arches and use this knowledge to further understanding of archetypal forms.

The GRAND Arch / The BRAND Arch

As part of the "Consumer Culture", I was well aware that I had become entirely susceptible to advertised messages, and can no longer define clear boundaries between reality and advertised "reality". However, somewhere in the corner of my mind, I also nurtured the comforting notion that 'reality' can be sought if one researched and analyzed multiple sources, in other words, did their 'homework' well.

I was confident and reassured that if I ever wanted to know the facts, all I had to do was investigate, explore, seek out, discover, prod, discern, detect, differentiate, recognize, identify, examine, inspect, probe, scrutinize, discriminate, dissect, evaluate, consider, question and analyze and analyze again.

However, I was wrong.

The illusion starts with the name itself: The Grand Arch. The expectations are hatched here and nourished by the fact that scores of articles consider it to be the grandest of the *grands projets*.[1] I was certain, as is the norm, that a project of such importance in architectural circles would be acclaimed as well as ridiculed. My theory was that if I perused all the articles, whether acclamatory, derisive or indifferent, I would have a clear

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[1] The Grands Projets refer to the monumental undertaking by the French government to put Paris on the architectural map by showcasing grand architectural masterpieces. The Grands Projets are: *Institut du Monde Arabe* by Jean Nouvel; *Boulevard de Belleville* by F. Borel; *Opéra de la Bastille* by Carlos Ott; *Le Grand Louvre* by I.M. Pei; *Ministére des Finance* by P. Chemetov and B. Huidobro; *Parc de la Villette* by Bernard Tschumi; *Cité des Science et de L'Industrie* and the *Géode* by A. Fainsibler; *Cite' de la Musique* by C. de Portzamparc and *La Grande Arche* by Johann Otto von Spreckelsen.

and factual perception of the Grand Arch, without ever physically visiting the place. My plan was to analyze the Grand Arch at Paris in a surrogate manner.

Some claimed the design was aesthetically pleasing; while others talked about the empty and hollow gesture of the 'box'. Two polar views about a design are so common and expected in our field that I was not surprised. I was also under the notion that if majority of articles or views concurred on something than that 'something' had to be a fact and the truth.

Articles that applaud the design of the Grand Arch call it innovative, inventive and pioneering due to the way it answers construction, technical and axial problems. Viewpoints that ridicule the design also approve of the novel, ground breaking and an original method of construction. I had no knowledge of structural engineering or what constitutes as a 'technological marvel'; therefore, I had no choice but to agree with the critics that the Grand Arch was indeed a hi-tech construction 'wonder'.

Besides the 'technological marvel', the reviewers were of the same mind about one other aspect of the Grand Arch: the Grandness of the Arch. Every article or review or opinion I perused hammered into me words like: imposing; monumental; huge; colossal; impressive; commanding; daunting; striking etc. One reviewer penned: 'As a monumental construction, the Grande Arche is a *tour de force*'.[2] Besides the use of words to impart the hugeness of the Grand Arch, photographs that had the Grand Arch as the

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[2] Richard Weston. "Window on the World." *Architect's Journal.* V.190, no.2, July, 1989. pp 42,49.

main and sole subject also accompanied the articles. The photographs were taken such that the Arch seemed grander. The absence of any surrounding buildings or the crafty composition angle of the structure made the arch seem more monumental.

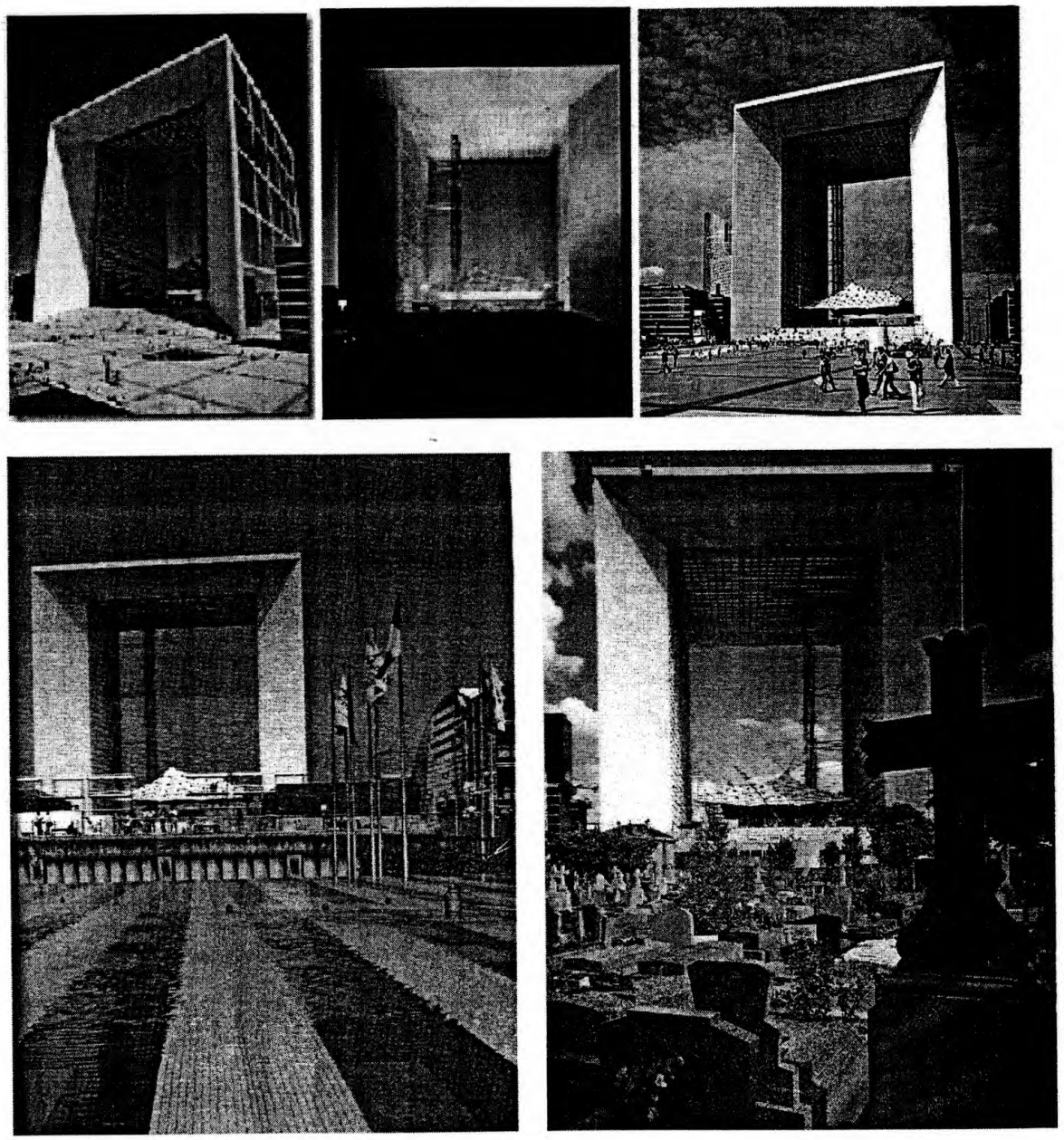

Figure 1 Note the composition of the photographs that accentuate the grandness of the Grand Arch. (Sources: starting top row: "The Grande Arche, La De'fense, Paris." *Architecture and Urbanism.* No.9 Extra edition, Sept 1990. pp216-225,263. Bottom row: "Window on the World." *Architect's Journal.* V.190, no.2, July, 1989. pp 42,49.)

The photographs were deceptive in the sense that they magnified the grandness of the Arch by disregarding other buildings surrounding it or were taken at a crafty angle. The sole subject of these photographs was the Arch. This gave an impression that the majestic Arch is the only monument at that monumental site of La Defense.

Such photographs were also supported by other occurrences that are usually reserved for buildings with monumental proportions; like when AJ (July 1989 issue) covered the French Bicentennial celebrations; it featured the Arch on its cover. In the background, a faint *Arc de Triomphe* can be barely distinguished. Diagrams comparing the weight and height of the Arch to the Eiffel tower or the Statue of Liberty were found in many magazines. News clips showing the French President Mitterand proclaiming the greatness of the Arch; mention of airplane whizzing through its void; the oft repeated phrase that the Arch was a grand termination of the famed Champs Elysées; strengthened the illusion that the Arch was indeed grand.

To my mind, the Grand Arch was without a doubt, a grand building. How can all the critics be erroneous? With that surety, and my faith in hundreds of articles, I based all my analysis of the Grand Arch on what I had surrogately learned from the media.

However, the grandness disappeared the moment I caught the first glimpse of the Grand Arch from the RER bus.

It was my first visit to Paris and we were there for only five days and determined to make most of those days. Paris has so much to offer that the short five days we had were unjustifiable. We were staying in a hotel close to the Louvre, the center of the tourist universe, our intent being to save time on commuting. The hotel receptionist who made our plans for the daytrips never once mentioned the Grand Arche or the La Defense. It seems in the crowded company of great places like the Louvre, tour de Eiffel, Versailles, Notre dame; the Grand Arche was very inconsequential. Even the Georges Pompidou center was mentioned more frequently in travel guides than the Grand Arche.

Therefore, it was at the end of a rushed day, when we (me and my wife) decided to finally visit the Grand Arche. We were tired, but I was determined to spend at least three hours studying the arch and taking photographs. We had behaved like tourists all day. However, since I had studied the Grand Arche in such detail, I was expecting myself to be extra-familiar with La Defense. Nevertheless, it was hard to find the Grand Arche because it was not looming large and towering above its neighbors.

In that crowded La Defense site, the white arch was struggling to make its mark. The grandness was nowhere to be found. Standing there on those monumental steps I failed to grasp the colossal, daunting, huge, monumental grandness of the Grand Arch. The site was surrounded by more imposing structures including an IMAX dome and the massive CNIT building. Every creation was trying to dwarf each other. The harmony created by one singular building dominating others was absent. Nowhere and everywhere, there were grand buildings. La Defense was just a collection of monumental buildings

dwarfing the Arch into a mere voided cube. The exciting sensations that I usually feel when I stand close to a monument looking up were absent. I felt duped, cheated out of the feeling of awe and amazement.

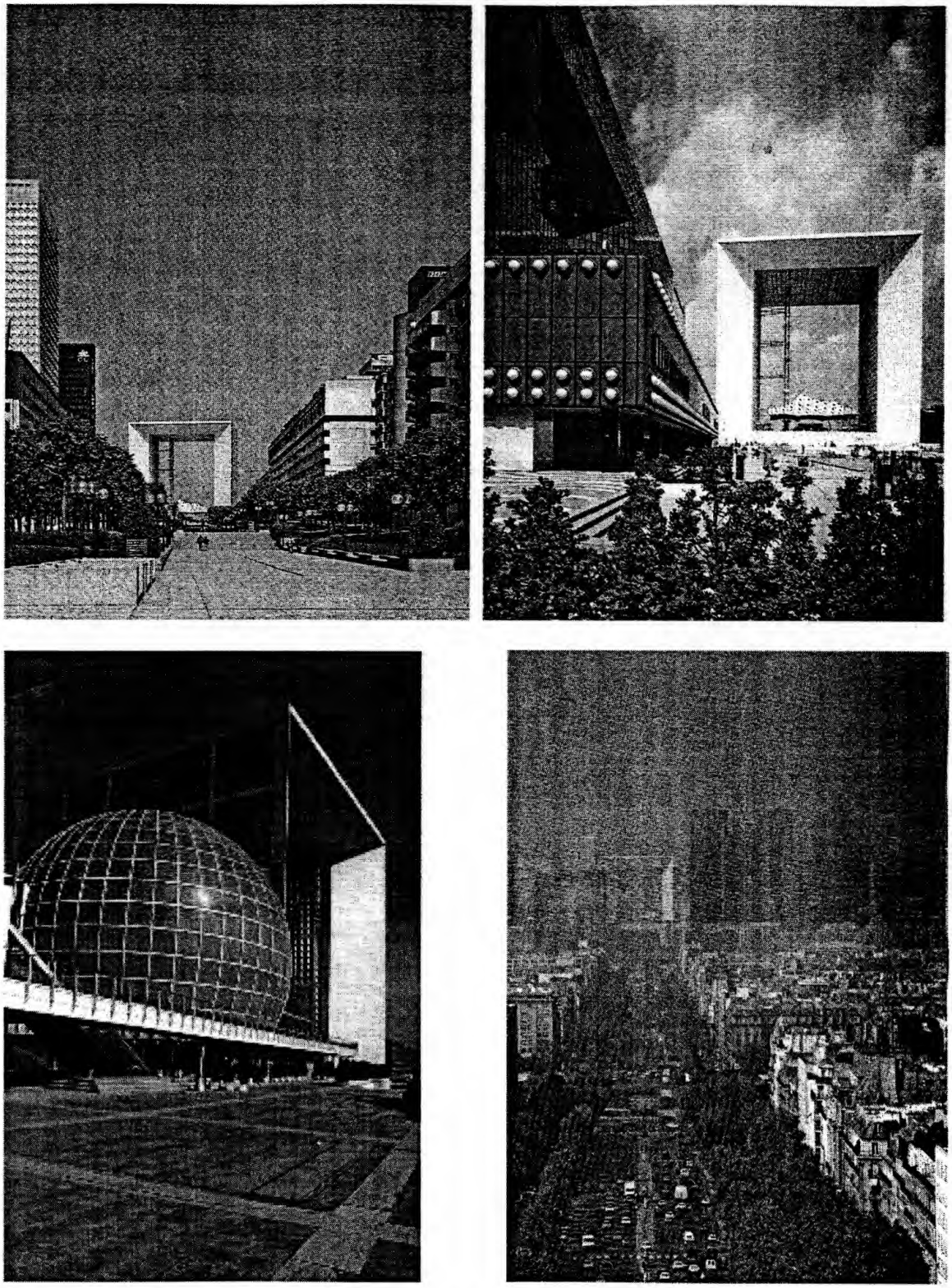

Figure 2 The real telling pictures. The not so Grand Arch. (Source: Top row: "Paris Quartet: Reports from Paris on the progress of President Mitterand's Grand Projets." *Building Design*. Oct. 21, no.907, 1988. p24. Bottom left: postcard from unknown. Bottom right: "Monumental Modernism." *Progressive Architecture*. July 1987, v68, no.7, p98.)

I realized it was time to reconsider my methodology of completely relying on proxy views. This is not to pronounce that the reviewers wrongly depicted or falsified the Grand Arch. In hindsight, it is not difficult to see why the articles / photographs focused just on the Grand Arch. Most of the articles I read were written when the Grand Arch was a 'hot' news item.

At the time those articles were written or photographed, the site was relatively barren, and the Grand Arch must have been the only monument there. The absence of other buildings would have increased the grandness of the Grand Arch manifolds. However, as is the norm in the field of architecture, buildings do not stay in the 'news' for long. As soon as the factors[3] that kept the Grand Arch in the limelight faded, the mention of the building in architectural press also dwindled. To judge the Arch as it stands now based on old media is impossible, since new articles about the Grand Arch are nonexistent.

The lack of current articles that would have given me an idea of the fast paced metamorphosis of the La Defense area in just 10 years reduced the validity of my analysis. I should have been looking for articles depicting the change in character of La Defense and its consequences on the monumentality of the Arch. Had I found contemporary articles, I would have certainly incorporated the current reviews in my analysis. There were other signs that subtly pointed that the Grand Arch is certainly not a *tour de force*. I should have noticed that there were no books written or exhibitions about

COMPARATIVE CRITIQUE

The Jefferson Memorial Arch. St. Louis and La Grande Arche. Paris

the Grand Arch; no Alan Trachtenberg or Arthur Mehroff[4] extolling its virtues. Even the lack of mention of the Grand Arch in travel guides to Paris would have given me a clue to the dwindling importance of the Grand Arch. In retrospect, there were other clues that would have helped in formulating a perception based on reality and not a perception based on facts fed by the media. I should have realized this pitfall and avoided it. A single site visit brought my perception of the Grand Arche closer to the reality.

It was a valuable lesson learnt. I was now more confident of the judgments I made while analyzing the Grand Arch. The spectacular difference between the perceived and the real has made me aware of the dangers of relying solely on external sources. I can now clearly comprehend what Emmanuel Kant[5] was postulating when he claimed that:

- *Perception may be influenced by belief.*
- *Perception may be influenced by goals.*
- *Perception may be influenced by external context.*

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[3] Other buildings employed more exciting construction techniques; stepping down of President Mitterand who was mentor of the Grand Arch and other factors took the spotlight away from the Grand Arch.
[4] Alan Trachtenberg's book on the Brooklyn Bridge; Arthur Mehroff's book on the Jefferson National Expansion Memorial in St. Louis; and scores of books written on the Eiffel tower or the Taj Mahal.
[5] Bruner, J. "On perceptual readiness." *Psychological Review*, 64, 1957. p123-152.

Chapter 1: Introduction

1.1 Intent and Significance of the Study

The study is a comparison between two arches: the Jefferson National Expansion Memorial at St. Louis by Eero Saarinen and La Grande Arche at Paris by Johann Otto von Spreckelsen. The two arches have acquired the status of *cultural symbols*. By 'cultural symbols', we mean that they have grown beyond their monumental size to evoke *metaphysical*[1] responses. Interestingly, the two projects share the same *archetypal form*[2] of an *arch*; but convey different meanings[3]. A cursory visual study of the two arches will reveal that the arch in St. Louis appears to defy gravity while the arch at Paris seems earthbound (Fig. 1.1). The presence of such polar differences in conveyed meaning in two objects that share a common basic form makes the comparative study of the arches very interesting.

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[1] Metaphysical in this context does not refer to the branch of modern philosophy but is used in its literal sense referring to that which lies beyond the physical form (the meta). When a place becomes compelling and evocative, it is perceived as a cultural symbol. It can also be defined as a place where that culture's most important values and traditions are embodied. See Mircea Eliade, *The Sacred and the Profane*, trans. Willard R. Trask. New York: Harcourt, Brace and World, 1959.

[2] The concept of archetypes or basic forms is derived from the work of Carl Jung. According to him, any archetypal form, including the arch has the power to evoke. Siegfried Giedion also emphasizes this power of simple geometric forms in architecture of early times. Refer to Siegfried Giedion, "Symbolic Expression in Prehistory and in the First Civilizations," in *Sign, Image, Symbol,* Gyorgy Kepes, ed. (New York: George Braziller, 1966).

[3] The term 'meanings' is used to denote the various ways in which the two arches are understood. For further study, please refer to Preziosi, D. *Architecture, language and meaning: the origins of the built world and its semiotic organization.* Mouton, The Hague. 1979. Also Jencks, C.A. and Baird, G. *Meaning in Architecture.* Barry and Jenkins, London. 1969.

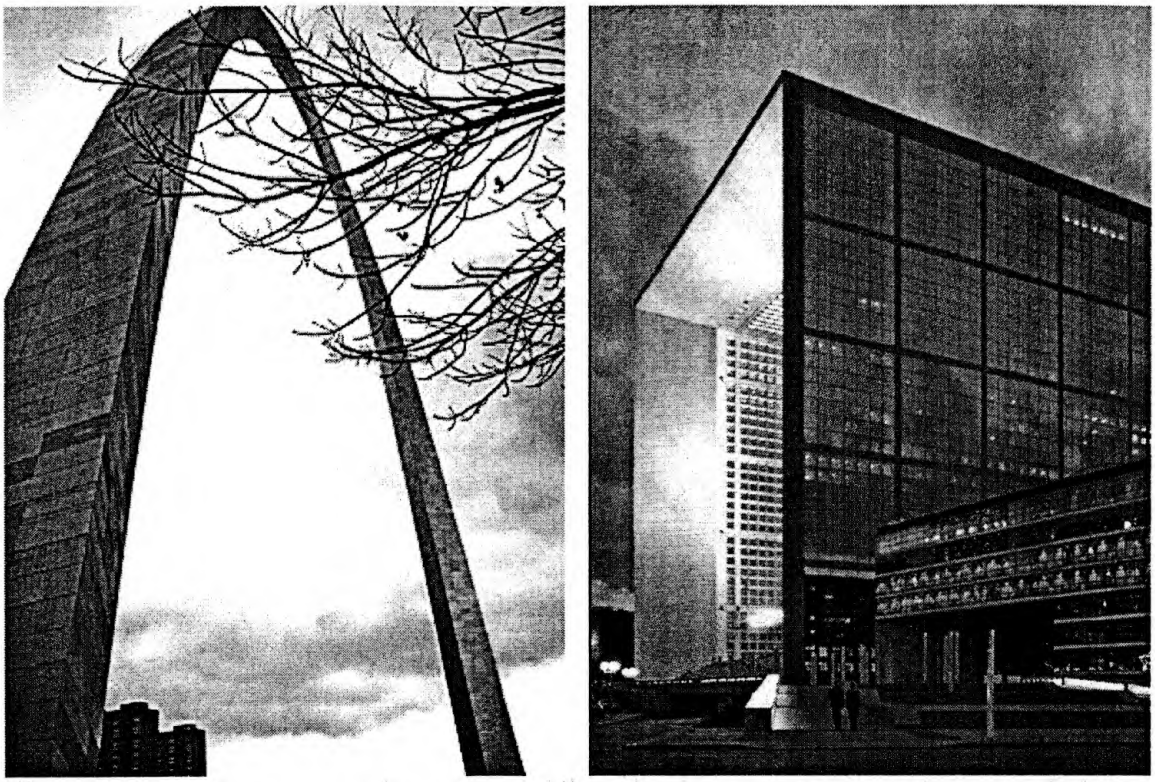

Figure 1.1 Left: The Jefferson National Expansion Memorial, St. Louis by Eero Saarinen (conceived 1948, completed 1965) and Right: La Grande Arche, Paris by Johann Otto von Spreckelsen (designed in 1982, built 1990).

On the other hand, they also share meanings. They both convey a sense of stability and permanence. The impressions mentioned above are solely based on the *physical form*. It can be easily argued, however, that by merely looking at a building, symbolic meaning cannot be explicitly understood.

> *"... no symbolic form exists in isolation, it forms part of a network of meanings, a reticulation of interlinked significances."*[4]

In his book, *Architecture, Time and Eternity*, Adrian Snodgrass beautifully demonstrates that the *physical form* is just one of the factors that affects the meaning(s) of the cultural

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[4] For further illustration that the symbolism of architectural forms is affected by factors other than form, please see Adrian Snodgrass. *Architecture, Time and Eternity*, New Delhi: International Academy of Indian Culture 1990, vol. I. p.3. Snodgrass also describes various modes of symbolic expressions such as verbal, which includes myths, doctrine or philosophy; sonoral expressions such as music and chanting; geometry and numerology; ritual and so on.

symbols. The *form*, though a critical factor, is by itself, incapable of revealing the whole meaning and significance of the two arches. The thesis is more than a study of forms or visual expressions. The study recognizes that besides the *built form* other factors influence and modulate the multiple meanings conveyed by cultural symbols like the two arches. The reading of the built environment is not always determined solely by form, but is also regulated by myths, rituals, doctrines, and other components of a social network. This is particularly true of the two arches.

A form can be associated with 'meanings' in multiple ways. The most common method is that of a direct simile. Examples of forms employing direct simile would be the TWA terminal by Saarinen resembling a bird (it relates to flight) or the roof of Frank Lloyd Wright's church at Madison that looks "like" hands in prayer (Fig. 1.2). The thesis will study the direct similes associated with the two arches. The most common meaning associated with an arch is that of a gateway or a passage, which has ancient and biblical origins.[5] The study will seek out the multiple meanings the two arches convey and the reasons or factors that influence these multiple meanings.

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[5] For common associations with the arch form, see W. A. Mehrhoff, *The Arches of Classical Antiquity.* Bowling Green State University Popular Press, Ohio. 1992.

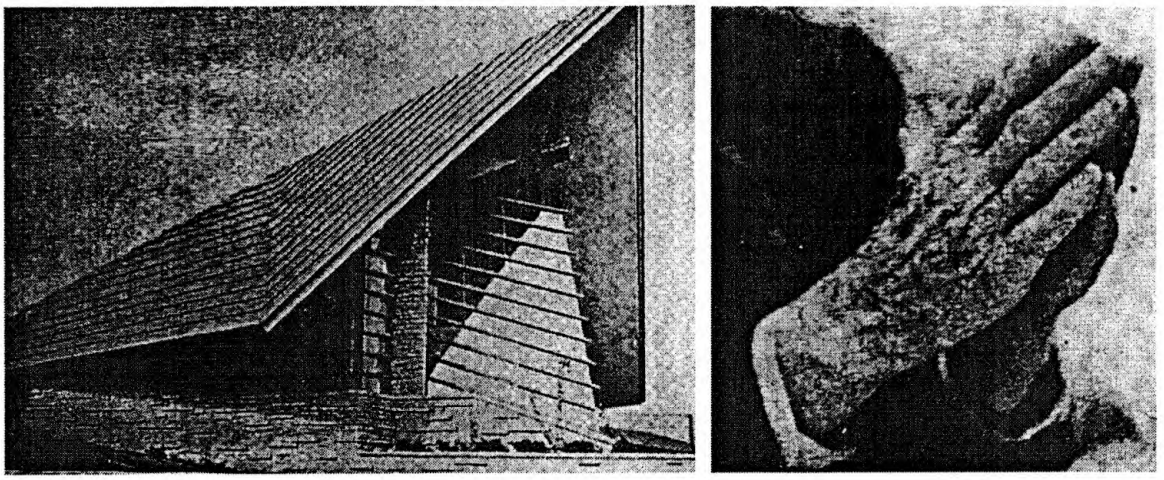

Figure 1.2 Example of Direct simile: F.L.Wright's Church of Madison and the praying hand it symbolizes.

Besides reflecting a direct simile, a building can be read in terms of its historical reference; its function or use; or associations with abstract concepts. The concept of 'meaning' in architecture is often applied to the way in which the built forms of a particular society reflect its relationship with the land, its history, technology, economy, social order, worldview, and religious beliefs. One of the most well-known and influential texts in this area is Christian Norberg-Schultz's *Meaning in Western Architecture*. Norberg-Shultz analyses 'symbols' in a number of epochs, and his treatment of ancient Egypt may be taken as a prime representative.[6] The 'form' conveys no or little meaning unless the context is understood. Thus, for example, to know that the

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[6] Norberg-Schultz sees the architecture of ancient Egyptians greatly influenced by the following *factors*: the topography of the country; the regularity of the flooding of the Nile, around which all life revolved; the high degree of order and discipline required of the society in order to exploit Nile's resources; and the overwhelming importance in Egyptian thought of after-life.
According to him, these *factors* are reflected in the use of linear progression in Egyptian funerary complexes; in the 'rational' organization and articulation of the orthogonal layout of the buildings and fields. The desire for stability is manifest in the 'balanced form' of the pyramids 'appearing as a synthesis of vertical and horizontal forces'. Thus, he concludes, 'Egypt's geographical structure provided a basis for symbolizing basic existential meanings.'[6] The nature of Egyptian space is seen related to their view of the universe, and in one sense of the word, maybe considered to 'mean' it.

plan of a building is based on the *mandala* is insignificant unless the observer knows the meaning of *mandala* itself and what it signifies.

The methodology employed by Norberg-Schultz is effective in understanding the *language* of the built form. It is easy to see the *connection* between the regular flooding of the Nile and the Egyptian desire to create stable and permanent forms like the pyramids. One can also understand the full import of the layout of the tombs after *correlating* it with the Egyptian belief of afterlife. It seems that these two factors: 'the river Nile' and 'the belief of afterlife' played an important role in shaping the architecture of the ancient Egyptians. Similar to Norberg-Schultz's research, this study explores the various physical, social and historical contexts of the two arches. One of the aims of this study is to uncover *factors* that have affected the meaning and status of the two arches as cultural symbols. The purpose of this thesis is to study these key *factors* and to find correlations, associations and connection between them and the arches.

The two arches, the Jefferson National Expansion Memorial, St. Louis and *La Grande Arche*, Paris were selected because significant cultural meaning has been assigned to them. Besides sharing the form of an arch, they also share similar history, scale, purpose, origin, level of technology and visibility. These are summarized in the table below. A cursory study will reveal, that they have interesting similarities and persuasive differences (see Fig. 1.3). The list is not self-explanatory and comprehensive but nevertheless confirms that the two arches are interesting subjects for a comparative analysis dealing with their symbolism.

Similarities	Differences
• Common archetypal form of 'Arches' • Geometric precision • Space age technology in construction • Products of design competitions • Controversial winning designs • Alternate image of the city • Key Urban design elements • Final stages not supervised by original architects • Ideas originated during depression of the economies • Urban-renewal and Work-relief projects • Catalyst for redevelopment • Cultural core and major tourist attractions • Fairground for major media events • Historic significance of site • Used as logos in advertising • Surrounded by Political controversies	• Paris: Form resembles voided cube more than an arch • The import of economics is different for the two studies • Gateway arch is the only high visibility structure in the area • La Grande Arche is less commercialized • Time difference in their conception • Paris arch is a functional office building

Figure 1.3 Some of the Similarities and Differences between the two chosen case studies

The information in the above table confirms the relevance of a comparative study of the symbolism of these two arches. The fact that the structures are well documented also influenced the selection of the case studies, since multiple analyses and commentaries provided numerous opportunities to understand the symbolism as perceived by the people.

The scale, the material and façade treatment of the arches, the effect of sunlight and score of other factors cause the arches to be perceived differently. Other factors like the battles fought over the site, the political interferences, and the personal beliefs of the designer lend new meanings to the arches. The location and history of the site, the character of the city, the economy of the city and other issues modify their meaning. The cultural meaning assigned to the arches, the public reception given to the arches, the treatment of

the arches by the media and factors like public involvement in the city are just but a few points that can alter the image of the two arches. These and many other factors will be discussed in the text of this thesis.

In the process of examining the two arches, this study explores cultural symbols and the various contexts that shape them. It will also shed light on how archetypal forms can be read differently in different contexts and how they convey multiple symbolisms. The study will compare the arches to determine if they share the same key *factors* and if they have similar relative importance.

The study is explores *how* and *why* the two arches convey different meanings and *what* affects their symbolism. Just like the knowledge of geography and religious beliefs augment our understanding of the architecture of ancient Egyptians, it is hoped that this research will help in enhancing our understanding of the two arches.

1.2 Methodology

In discerning meaning(s) of the two cultural symbols, the thesis employs a two way process similar to the one employed by Norberg-Schultz. The thesis starts out exploring simultaneously both the arches and their respective cultures; and attempts to see the connections between the two. Such an approach allows a reciprocal comparison between the arches and the contextual factors that affect them.

This two-way process builds upon an extensive literature review aimed at collecting information about the two arches and their physical and social contexts. The review focused on *dense facts*[7] that appeared likely to reveal links between the many aspects of the two arches. Such *dense facts* were drawn from numerous published articles; competition briefs; and essays on the respective cultures. Since the two arches are major architectural projects of grand scale and intent, the information available is extensive, so only relevant threads and *dense facts* that affected the symbolism of the arches are considered.

Each arch has been dealt individually in the beginning.[8] The observations about its general arch form are followed by interpreting other visual details like materials, construction etc. The location of the arches in relation to the city, the characteristics of site and other physical contexts altering the meaning of the arches are considered. The observations about the social context, the public receptions given to the two arches are presented in following sections.

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[7] The term 'dense facts' is used to denote important persons, artifacts, or events, incidents and beliefs, which are considered to embody values of a larger culture. These can be related to political developments, personal beliefs of the designers etc. Refer to Gene Wise's article in "Paradigm Dramas in American Studies". *American Quarterly*, 31, 1979. p 293-337 for analysis of American Culture during different historical periods. The methodology of focusing on the *dense facts* has been attempted successfully in many influential studies. Some prominent and scholarly examples of similar studies are:

- *The Machine in the Garden* by Leo Marx, which examines the transformation of the pastoral archetype under the impact of industrialization in American life.
- Alan Trachtenberg's *Brooklyn Bridge: Fact and Symbol* that compares American nature with the political realities of urbanization.
- Henry Nash Smith's *Virgin Land* examined how the American agrarian society responded to the impacts of rapid industrialization.
- John William Ward's "The Meaning of Lindbergh's Flight" in *American Quarterly* 10 (Spring 1958) which dealt with responses of Americans to the monumental flight.

Just like Norberg-Schultz's approach in analyzing the ancient Egyptian architecture, the studies mentioned above take a multilevel approach in analyzing the chief subject.

The study then compares and analyses the differences and similarities between the two arches in terms of their symbolism and the factors that influence their status as cultural symbols. The conclusion to the comparative analysis is presented in Chapter V of this text.

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[8] Chapter II deals with the Jefferson National Expansion Memorial, St. Louis. Chapter III is devoted to *La Grande Arche*, Paris.

Chapter 2: The Jefferson National Expansion Memorial, St. Louis

Located in the St. Louis downtown riverfront on Washington Avenue, the arch is intended as a monument to St. Louis' role as gateway to Western expansion following the Louisiana Purchase. The memorial is a joint Federal-City project. The idea for the Memorial originated during the great depression as an urban renewal and work-relief project.

Planning was begun in 1933 to clear the 19th century buildings from the site, but the national competition for the monument was conducted in 1948. The competition was won by Eero Saarinen's futuristic design of an arch. Saarinen did not live to see his Arch, which was constructed after his death.

The Arch rose steadily during three years and four months, with spectacular precision and was completed in 1965. It was and still is considered as a unique structural invention. After Saarinen's death, John Dinkeloo was in charge of the engineering and architectural detailing with MacDonald Construction Co. as the prime Contractor for the whole project.

Figure 2.1 Eero Saarinen. (Source: Allan Temko, *Eero Saarinen*. New York: George Braziller, 1962. p 12.)

The Arch is 630 feet high and 630 wide at the base and an equilateral triangle in section whose sides narrow from 51 feet at ground level to 17 feet at the top. It is 75 feet higher than the Washington monument. The shape is that of an inverted catenary curve. The visible stainless steel is quarter inch thick. In each leg, there is a service stairway and a train of eight capsules, each capsule seating five visitors knee to knee in a semicircle. At the summit, one can walk up a short distance to a row of slit windows.

The Arch is highly visible from all parts of the city and has become inseparable part of the cityscape.

2.1 ANALYSIS OF FORM

In 1933, a St. Louis high school student, asked by her teacher to depict the city of the future, drew a picture of a downtown skyline that bears a striking resemblance to the contemporary St. Louis downtown – complete with an arch. In the upper left corner, she included the lines from Tennyson's poem, 'Ulysses' that led her to select an arch as the dominant symbol.

> *Yet all experience is an arch wherethro' gleams that untraveled world whose margin fades forever and forever when I move.*

This incident is significant because it reveals two things. Firstly, the intuitive association of the 'arch form' with expansion and secondly, the easy elicitation of an arch as a futuristic shape symbolizing progress. These two themes keep recurring throughout the analysis of the form of the Gateway Arch.

The tone for an architectural entity to symbolize expansion and progress was set in the competition program itself.9 When Luther Ely Smith, chairman of the JNEMA[10], met with National Park Service director Newton Drury in 1944, they both expressed their personal opinion that there should be one central feature, a single shaft a building or arch or something "transcending in spiritual and aesthetic values" which would attract people from other nations.[11]

The two-stage design competition, with 172 first stage entries and five finalists, was concluded on Feb.17, 1948. The award went to Eero Saarinen by unanimous vote on the first ballot of the second stage. The jury's evaluation of the design concluded that

> *"... it tends to have the inevitable quality of a right solution ..... The memorial structure is of that high order which will rank it among the nation's greatest monuments."* [12]

The Jury considered the arch to be a proper visual center and focus for the park and, as "The Gateway to the West"; it could symbolize the spirit of the whole Memorial. The

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[9] The original program statement was infused with monumental language:
"... an appropriate national memorial to those persons who made possible the territorial expansion of United States, including President Thomas Jefferson and his aides, Livingston and Monroe, who negotiated the Louisiana Purchase, the great explorers, Lewis and Clark, and the hardy hunters, trappers, frontiersmen, pioneers and others who contributed to such expansion." Source: 'AIA Activities.' *AIA Journal*, May 1947. P31.

[10] JNEMA is acronym for Jefferson National Expansion Memorial Association, which is now part of the National Park Service. Information about the history of JNEMA can be found at www.nps.gov.

[11] The program for the design competition stated a similar sentiment:
"The Architectural Memorial is to be conceived as a striking element, not only to be seen at a distance in the landscape but also as a notable structure to be remembered and commented on as one of the conspicuous monuments of the country." In JNEMA Papers 4 Nov. 1944.

[12] Robert A. Dunlap. "Riverfront Arch Designed to Catch the Eye of the World." *St. Louis Post-Dispatch*, 19 January 1958. p12.

'Arch' form, it seems was considered by all the jury members as appropriate for propagating the themes of 'expansion' and 'progress'.

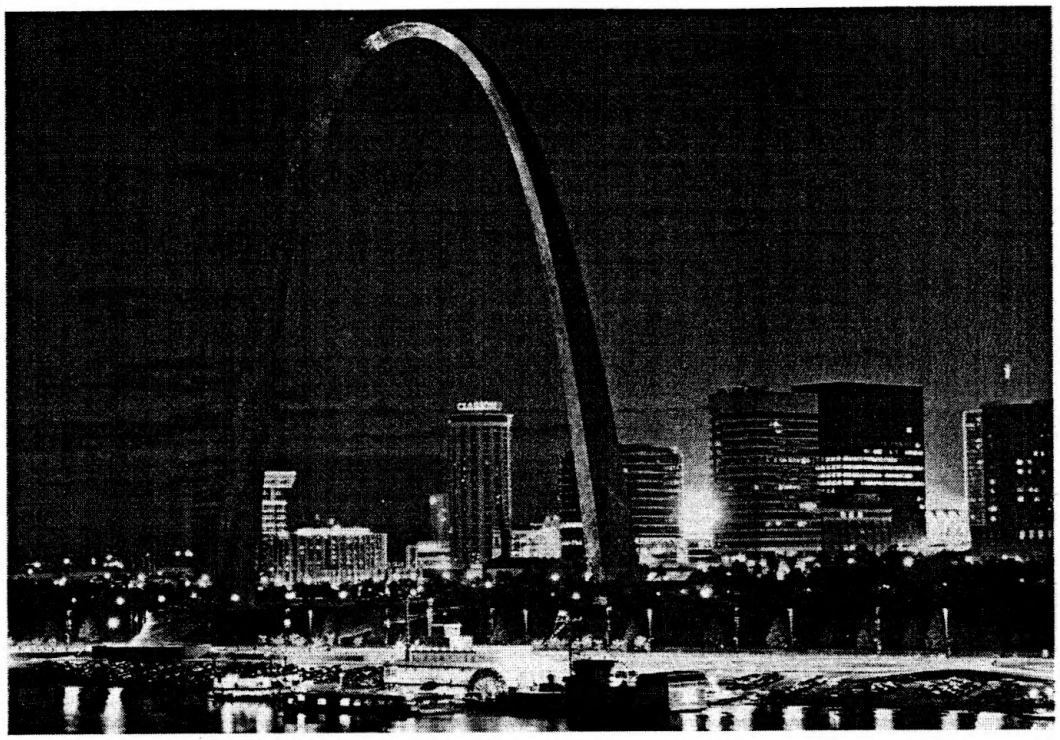

Figure 2.2 The Gateway Arch symbolizing 'progress' and 'expansion'. photograph courtesy of National Park Service.

Eero Saarinen was 37 when he won the competition. The Arch competition was Eero's first and he intended to create a monument not only to the Virginian and the nation, but also to the modern age.

Describing how he conceptualized the arch design, Saarinen recalled that:

> *We began to imagine some kind of dome, which was more open than the Jefferson Memorial in Washington. Maybe it could be a great pierced concrete dome that touched the ground on just three points.*[13]

The Pantheon in Rome had deeply inspired Jefferson.[14] Maybe this association of Jefferson with domes was known to Saarinen and therefore, he initially chose the dome as the appropriate symbolic form for the memorial.[15]

Before Saarinen visited the site, he was thinking of a more open dome than the Jefferson Memorial in Washington, something like a great pierced concrete dome that touched the ground on just three points. He also considered an "open vaulted structure" and a "Pantheon in lacework" – both derivatives of the 'dome' form. But when he saw the site, he immediately rejected a dome because "*it would not rise up from the levee ... I was trying to reach for an absolutely permanent form. Stainless steel would seem to be the most permanent of materials we have ... the thing one could trust most.*" From this logic and not, as some critics have charged, from "*exhibitionism*" [16] – sprang the gigantic Arch of Shining Steel. In describing the design process, Saarinen noted that the design evolved from a traditional dome shape into that of an arch:

> *It seemed like a sort of modern adaptation of a Roman Triumphal arch ....a triumphal arch for our age as the triumphal arches of classical antiquity were for their ... it was well suited for the opening of the west.*[17]

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[13] W. A. Mehrhoff, *The Arches of Classical Antiquity.* Ohio: Bowling Green State University Popular Press, 1992. p22.

[14] Thomas Jefferson never actually viewed the structure during his European travels. Jefferson had, however studied Palladio's drawings and modeled his Rotunda of University of Virginia on Villa Rotunda at Vicenza. For further views on Jefferson's affinity for domes, refer to James Martson Fitch, "The Lawn" America's Greatest Architectural Achievement." *American Heritage* 35.4 (June/July 1984) 49-64.

[15] Commenting upon the Jefferson Memorial constructed in Washington, DC Saarinen observed: "The basic shape does not seem wrong for Jefferson. In a way, it is the same as our Jefferson Monument in St. Louis – in one case the dome, in the other case the rounded arch. I was thinking of the problem in that way, and only later did it occur to me that it was a gateway to the west." In Allan Temko. *Eero Saarinen,* London and New York, 1962. p18.

[16] Allan Temko. *Eero Saarinen,* London and New York, 1962. p18.

[17] St. Louis *Post-Dispatch* 7 March 1948.

The dome was discarded because it could not rise up in an inspiring fashion. With historical association of Jefferson to domes, it was hard to reject a dome; but for Saarinen a dome would have not symbolized expansion and inspiration. Only after creating numerous models using his ever-present pipe cleaners as structural elements did he settle upon the form of a triumphal arch.[18]

Saarinen himself said later of the form,

> *The major concern here was to create a monument that would have lasting significance and would be a landmark of our time. An absolutely simple shape -- such as the Egyptian pyramids or obelisks -- seemed to be the basis of the great memorials that have kept their significance and dignity across time. Neither an obelisk nor a rectangular box nor a dome seemed right on this site or for this purpose. But here, at the edge of the Mississippi River, a great arch did seem right. The arch could be a triumphal arch for our age as the triumphal arches of classical antiquity were for theirs."*[19]

Saarinen's first stage perspective showed a four-sided arch close to the levee, with sculptures and murals in an arcade running parallel with the Arch and extending beyond the bases. On the East St. Louis side of the river, he drew a landscaped area with stadium, playing fields and boat basins. Associating with Saarinen for this entry were J. H. Barr, associate designer; Dan Kiley, landscape architect; A. H. Girard, painter; and Lily Swann (his first wife), sculptor.

A major controversy erupted soon after Eero Saarinen's design for the Jefferson National Expansion Memorial was selected as the winning entry. The most threatening criticism of

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[18] For technical engineering account of the Memorial design, see "Jefferson memorial Arch: A Panel," *Building research – The Journal of the Building Research Institute* 1.5 (Sept.-Oct. 1964) 58-62.
[19] George McCue. "The Arch: An Appreciation." *AIA Journal*, November, 1978. p57-63.

the Saarinen design did not concern its usefulness but its Americanism. The charge was leveled by the Chairman of the National Fine Arts Commission, Gilmore D. Clarke, who, in a letter dated February 24, 1948, damned the Saarinen design for replicating an arch envisioned by Italian dictator as part of a 1942 fascist exposition (see fig.2.3). Clarke raised the question for post-war America as to whether the nation could in good conscience adopt a fascist symbol?

This criticism by Clarke, frivolous it may appear, forced the members of the design commission to prepare a spirited defense of the prize winning entry. They attempted to demonstrate that the arch form was not inherently fascist but was indeed part of the entire history of architecture. Saarinen also showed that his parabolic arch, an inverted catenary curve was different from the rounder Italian arch that was never actually constructed.

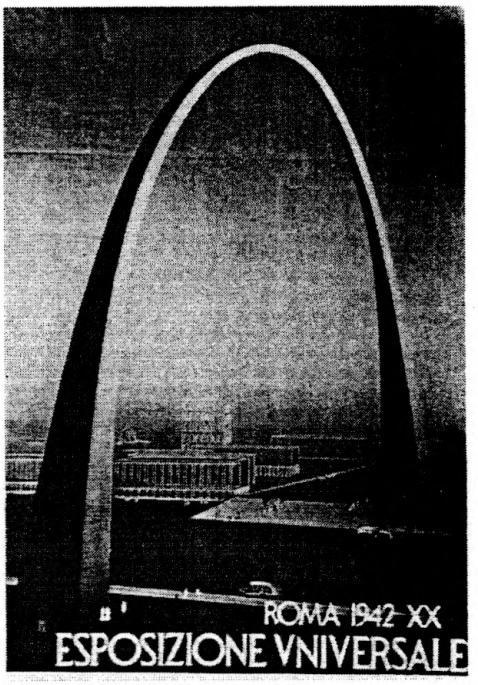

Figure 2.3 Mussolini Arch. photograph courtesy of National Park Service.

The Jury of Award for the Design competition had noted that arches of this type were an extremely ancient architectural form. According to the Final Reports of the Jury, dated March 14, 1948:

> *Thousands of years before Mussolini, parabolic arches were the preferred form of world' s master builders in Persia, who were able, by 220-640 A.D., to erect a vast and parabolic vaulted palace at Ctesiphon.*

Saarinen's defense of his design against the "fascist" origin depended upon such historical associations. As his response to the controversy about the fascist origins, he spent considerable time conducting historical research on the Arches and the meanings they were associated with. Saarinen keenly understood the archetypal character of his design.

The efforts to defend the 'arch' form were successful, but the critics were still skeptic about the close similarity to the Mussolini arch. As a compromise, the arch was accepted but Saarinen was asked to modify the four-sided arch.

In his second stage design, Saarinen changed his four-sided arch to an equilateral triangular section, the primary form that gives stability to the pyramids. The triangular section has no real structural skeleton as was required in the four-sided arch. The Gateway Arch is a modified catenary, the mirror image formed by a hanging chain, and it is considered the soundest of all arches.[20] That is why Saarinen referred to it as the "absolute form" – one complete within itself.[21] The stability of the catenary shape and the structural solidness accentuates the symbolism of the arch.

Besides employing the primary arch form to convey the themes of expansion and progress, Saarinen realized the importance of other architectural components and details. He understood that for a structure of this prominence and stature, each detail would

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[20] In arches of other shapes, the horizontal thrust tends to force the legs apart. In a catenary arch, the forces of thrust are continuously kept within the center of the legs of the arch.
[21] McCue. "The Arch: An Appreciation." *AIA Journal*, November, 1978: 57-63.

accentuate or mitigate the intended symbolism. Saarinen worked diligently, refining his design and details and other components to emphasize the two main themes.

The base of the arch is very important since it is where the visitors make contact with it. The precise stainless steel cladding seems to penetrate deep into the earth heightening the solidity of the arch.

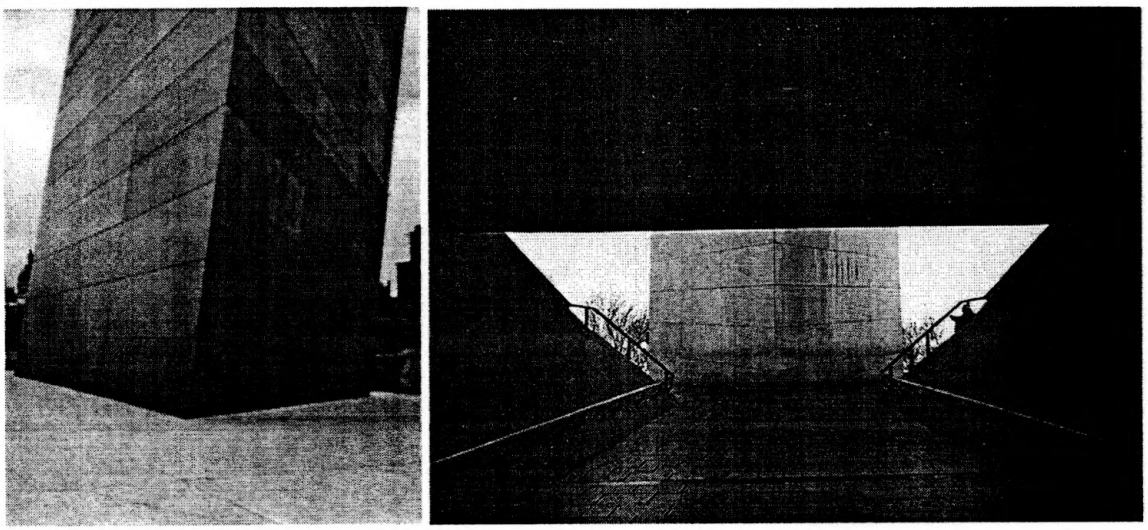

Figure 2.4 (Left) The clean penetration of the arch accentuating solidity. (Right) The view of the solid base springs up while coming out of the visitor center. (Source: Author)

The clean fusion of the steel and concrete gives a feeling of '*tailor made fit*'. On the other hand, the abrupt and 'suddenness' of the joint helps in maintaining its delicateness. The irony of a solid yet delicate structure has been further illustrated later. The space age materials and precise seamless joinery adds to the effect of sturdiness. The experience of looking at the base when coming from the visitor center under the arch also confirms its solidity.

The *space race* and *cold war* advanced science to new levels in the 60s. The exactness of the arch is a symbol of that mindset. It is interesting to note that the final calculations were performed on the same computer which was used in the Apollo launches by NASA. The American public clamored for a technological marvel. This is evident by the set of two complex equations[22] to represent the mathematics of the Gateway Arch that made into the local dailies in the hands of common people.

The public did not limit itself to complex equations; the whole city followed the technological difficulties presented by the arch. The demand for a structure befitting the 'space-age' was enormous.[23] There is no doubt that the qualities of the arch like solidity, exactness, faultlessness and pristine-ness stemmed from such mindsets. It also had effect on the form and detailing of the arch.

Saarinen wanted the simplest form based on mathematics. This symbolized for him a "*reasonable universe*" and an "*orderly universe*". This viewpoint is also reflected in Charles Jencks' *The Language of post-Modern Architecture* where he comments on the implicit world-view of Modern architects. According to him, the modern architects depended upon technology and science for its rationale instead of being value-free as claimed.

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[22] Y = 693.8597 – 68.7672 CosH (0.0100333 x) feet; for x between or equal to –299.2239 and 299.2239 for the general shape of the Arch and, Q = 125.1406 CosH (0.0100333 x) square feet area of a cross section, that is the local shape. Dr. Hannskarl Bandel of New York supplied the equations to Eero Saarinen.

[23] This social phenomenon has been dealt in Section 2.3: The social context of the Gateway Arch.

The same feature can convey two different meanings. As illustrated before, the clean and abrupt joining of the arch with the earth gives a sense of stability, but if viewed from distance, the same joint lends a sense of delicateness and loftiness to the arch. From a distance, the arch seems to neatly spring from the earth. The base joint becomes invisible due to the height of the platform from where the arch springs. For a viewer, the arch shoots from the earth towards the sky from an unknown origin. The arch has been likened to a rainbow because of this effect.

Figure 2.5 The invisible springing points make the arch easily likened to an elusive rainbow. (Source: Author)

This might be the reason for the behavior that the arch's custodians call 'The Touch'. The park custodians have noticed that very few seem to be able to walk past the gleaming triangular bases without administering a pat or a knuckle rap.[24] 'The Touch' originates

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[24] Robert A. Dunlap. "Riverfront Arch Designed to Catch the Eye of the World." *St. Louis Post-Dispatch*, 19 January 1958. p12.

partly from a ritual gesture of respect, but it seems that this contact is made to confirm that the Arch is really there. Just like the seemingly elusive rainbow, the visitors feel the need to tangibly feel the arch. This effect is heightened by the fact that the visitors have been seeing the arch for sometime before coming to it.

The loftiness of the arch is dependent upon the viewer's location. Seeing skywards from the base, the arch seems soaring high. Seeing at the beautiful steel skin gives an earthbound arch. Seen from a distance the arch plays hide and seek. Within the city, the arch provides yet another set of experiences that has been discussed in later in the context of the city.

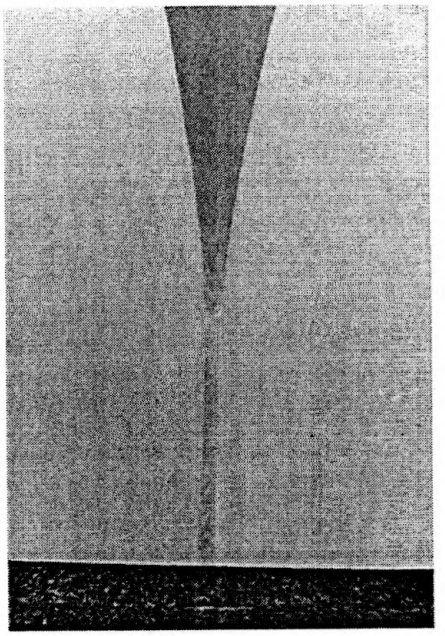

Figure 2.6 The tapering arch almost disappears in the bright sunlight giving it the ethereal look. (Source: Author)

Despite all its structural thickness,[25] the Gateway Arch has its moments of ephemerality. It is amazing that a structure can evoke the feeling of solidity and delicateness at the same time. The apex of the arch where the skins taper to form a slender crown gives an effect of the arch disappearing into the sky.

In the river-mist of early morning, the Arch appears to have become partly dissolved overnight, and its upper structure fades in and out of the fading gray atmosphere. With an overcast there is no shiny finish; the polished steel takes on the character of the ambient

light, so a dull day makes the Arch as impassive as a piece of neglected matte metal. Even with this dullness, the form can make a forceful dark silhouette.

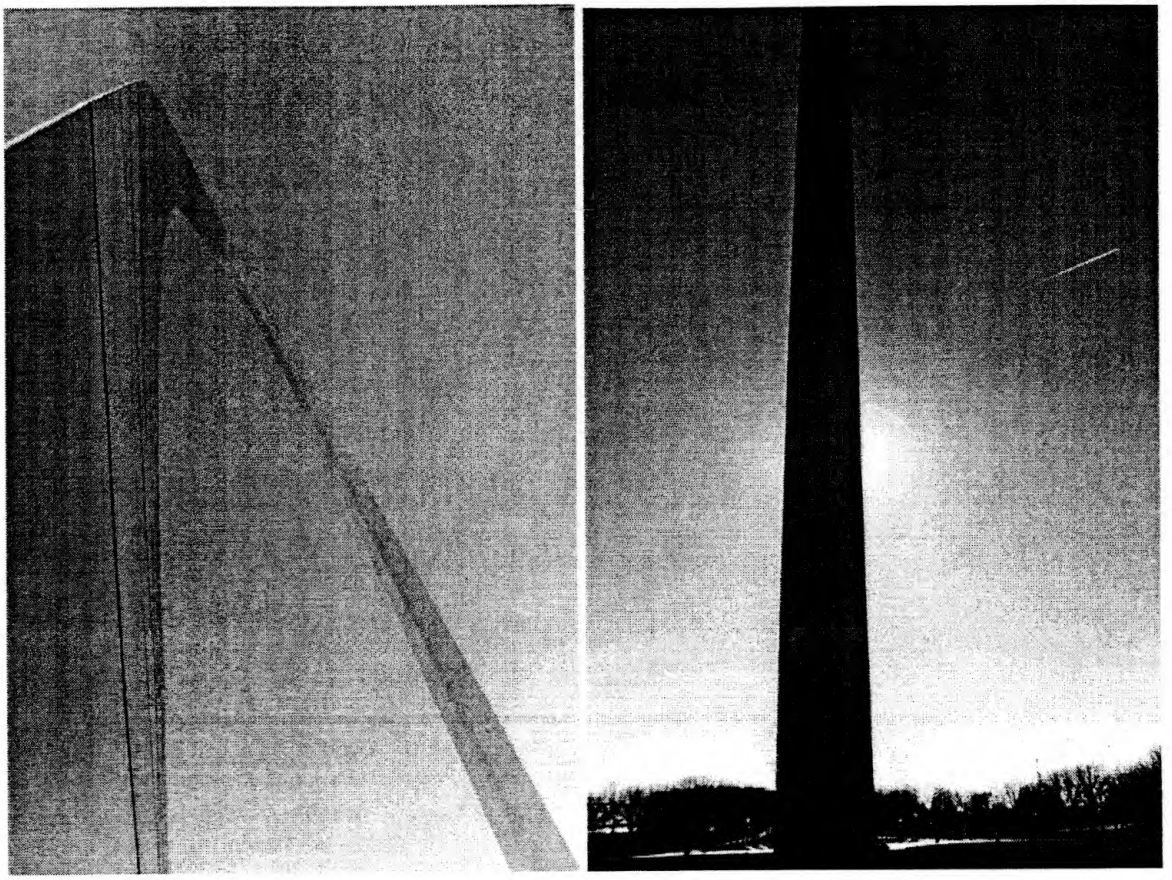

Figure 2.7 The dull and yet forceful dark silhouette. (Source: Author)

On a bright day, there is another condition that gives cause for wonder whether the Arch is really permanent. On the side hit by the Sun, the surface becomes crinkly, like kitchen foil. The thick, hard stainless steel ripples with each passage of clouds.

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[25] A quarter inch of stainless steel plate, enclosing 3 feet of concrete lined with three eighths inch of structural steel plate, all tied together with a thick lattice of rods and bolts.

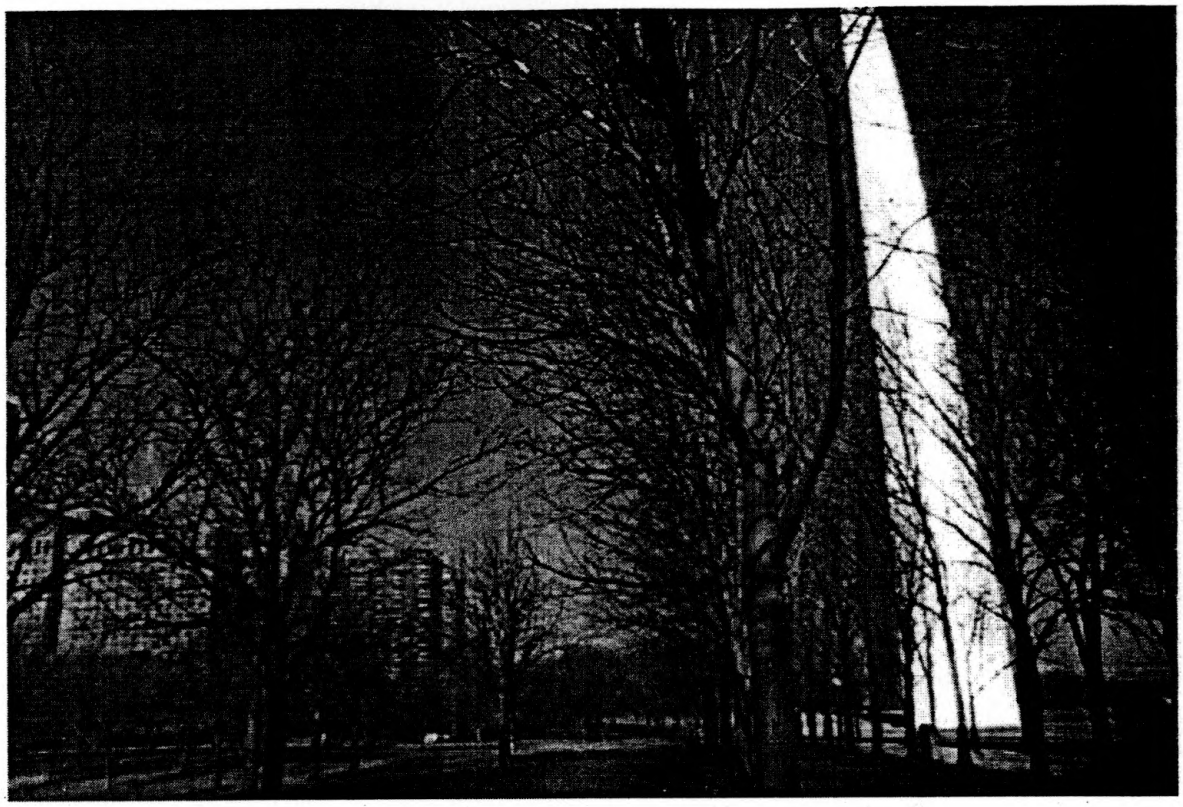

Figure 2.8 The shimmering kitchen foil. (Source: Author)

The arch seems to convey different meanings during the different times of the day. Many verses and poems have been written on the various moods portrayed by the Arch. The steel changes quite spectacularly during the various phases of the day. The dramatic changes can be comparatively seen in the next set of photographs.

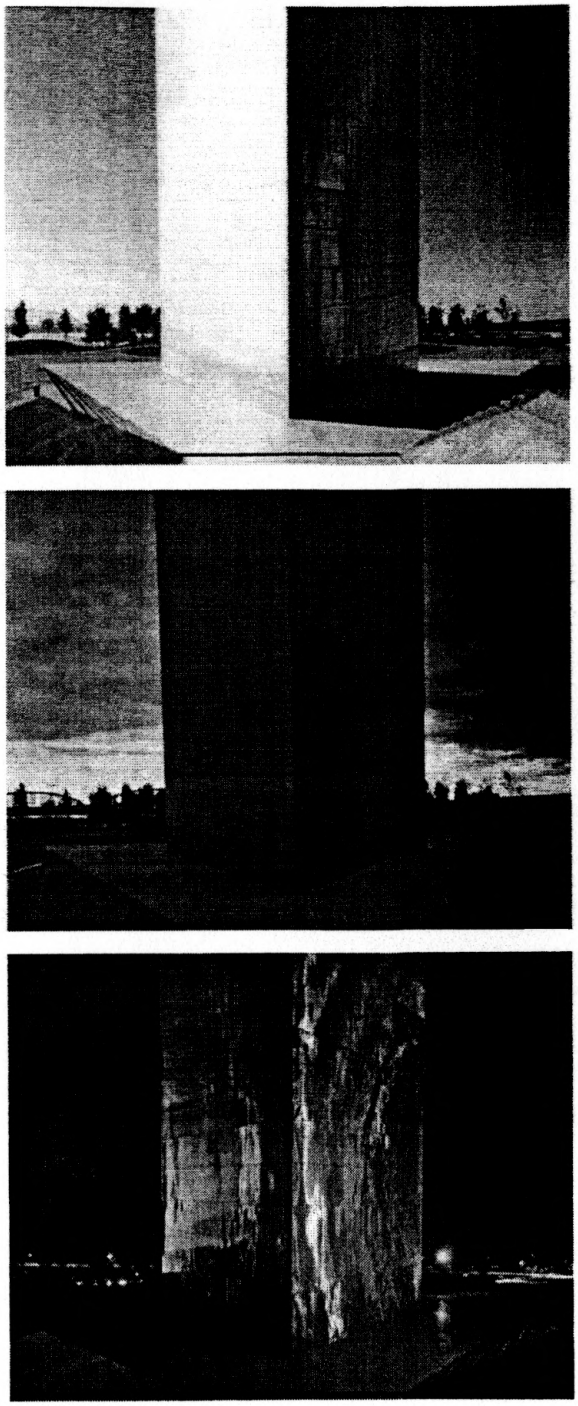

Figure 2.9 The different shades of the arch conveyed by the steel skin. (Source: Joel Meyerowitz. *St. Louis and the Arch.* Canada: Little, Brown and Company, 1980. p56-58)

Figure 2.10 The steps are designed with varying treads and risers to give a sense of awe. (Source: Author)

Saarinen used full-scale mock-ups of sections of the design. For example, part of the monumental stairway of the Memorial was built in full size to evaluate its dramatic effects. He made true scale model of the steps with varying risers to accentuate the feeling of awe.

As we have seen that the choice of steel as the exterior material symbolizes different things, Saarinen chose stainless steel because for him, it seemed the most permanent material, something he thought everybody could trust.

Cesar Pelli[26] who worked in Saarinen's office remarked that Eero wanted an impressive and a powerful design. Therefore chose a graceful and simple form, because he considered it as the only solution at the inception of the design.[27]

The arch has been likened to other imagery too. This maybe due to its simple and common form or the non-singularity of the meaning conveyed. At first, many local citizens ridiculed the design calling it frivolous at best or even a giant croquet wicket.[28] The arch form is so commonplace that it was hard for the citizens to believe that something monumental can be derived from it. However, as soon as the construction started and the form began to emerge showing its gracefulness and scale, the criticism died. The transformation from ridicule to awe and pride was reflected in what was written in the press. The descriptions in the press were gradually becoming more monumental as one writer wrote,

> *Like the dome, it symbolizes heaven, the limbs leading the eye upward to the round curve at the apex; and in analogy to the monumental portal that opens into the city or palace it regally beckons the traveler to enter the Promised Land.*[29]

The symbolism of the Gateway is also reflected in the landscape of the park. The repetition of the Arch forms in paths and walls surrounding the Arch itself and also in the reflecting pool accentuates the oneness and continuity of the design. The terrain is

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[26] W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p19.

[27] The notion of simplicity is ascribed as powerful and impressive in Saarinen's design philosophy. This holds true for other Saarinen designs too, particularly, the TWA terminal and Kresge auditorium. Saarinen has used simple non-decorative facades throughout his career, the only exception being the US embassy in Britain. Maybe everywhere he wanted provocative and powerful forms and he employed simple graceful forms as a tool.

[28] St. Louis *Post-Dispatch* 26 Feb. 1948.

sculpted and reshaped into a gently rolling landscape. The Saarinen landscape plan envisaged that most of the area will be so densely covered with trees that it will be a forest-like park, a green retreat from tension of the downtown. In summer, the full forest provides a much-needed break for office workers nearby who come for a break or for tourists enjoying the city. The same withered forest provides filtered sunlight in the winters. The choice of landscape has been commendable and fulfils what the designers expected. The heavily landscape metallic memorial symbolizes the technological and material progress in harmony with abundant nature. The symbolism of the landscape as a retreat to a different land again heightens the symbolism of expansion. It is also necessary to add that the river is associated with giving birth to the city. All these associations have helped in creating the meanings associated with the Gateway Arch.

It is a common experience for the people of St. Louis to see an actual rainbow encompassing the arch. The frequent occurrence makes the arch as an integral part of the ordinary landscape. The permanence of the Gateway Arch has been discussed before. It is to be noted that the height of the Arch provides high visibility lodging the Arch into the common landscape of St. Louis.

2.2 THE CONTEXT OF THE CITY

From an elevation of 630 feet, a viewer can gaze for miles in the directions of east and west. To the West one perceives the city transformed into a romantic landscape and a

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[29] W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p22.

new kind of urban nature. To the east, one sees the barren wasteland of the East St. Louis waterfront; its abandoned railroad yards, its billowing chemical factories; its crumbling neighborhoods; an image of people whom progress has left behind. The absence of Arch shows quite powerfully on that side commercially as well as quality wise. The visitor quickly abandons this view in favor of the more urban but pleasant prospect.

The Arch has a common and easy association with a 'gateway' thereby signifying 'expansion'. The notion of an arch as a gateway is common in almost every culture. The passageway or the void between the two legs instinctively conjures up the image of a gate. Looking from the opposite side of the river, the scene formed by the Arch in foreground and looming tall buildings in the background gives an impression that the Arch is a gateway to the city of St. Louis. The image of the 'Gateway to the West' has been further heightened by the vast blankness of the St. Paul riverside. The 'expansion' and the symbolic gateway have also been further discussed in the context of the city.

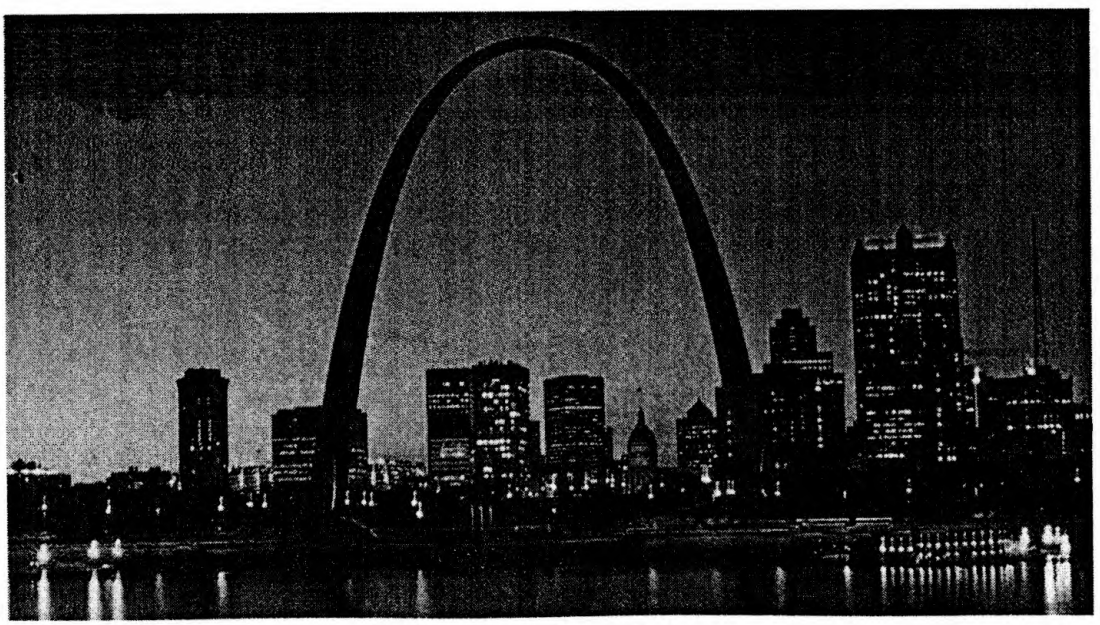

Figure 2.11 The Gateway to the city of St. Louis. Photograph courtesy: National Park Service.

Early Roman cities demonstrate how architectural elements accumulated over time can evoke a culturally meaningful theme. Like the American conquest of the wilderness symbolized by the Jefferson National Expansion Memorial, the theme of Roman architecture was humanity's conquest of nature while maintaining a meaningful center.[30] Eero Saarinen's suggestion for creating a greenbelt that would extend from the memorial to the western edge of St. Louis recalled the Roman precedent.

Noted urban designer Edmund Bacon observed,

> *"... the design has irretrievably been made to symbolically concentrate this entire force of westward movement as it crosses the Mississippi at one single point, the Gateway Arch"*[31]

Just like the ancient cities of Acropolis and Athens, the city of St. Louis presents a formal structure in which the highest values are expressed above everything else. The obliteration of the original village of St. Louis to create an idealized landscape is a symbol of the city's desire to objectify a hierarchy of values within the urban setting.

Figure 2.12 Old courthouse in 1868. Source: W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p44.

One of the selection criteria for the 1947-48

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[30] Christian Norberg-Schulz, *Meaning in Western Architecture*. New York: Rizzoli. 1981. p84-88.
[31] St. Louis *Dispatch* 27th Jan 1963.

Jefferson National Expansion Memorial design competition was the compatibility of the winning design with the historical Old Court house. The Old Courthouse constructed in 1840s stood for extension of American law into the newly acquired territories.[32] This is another important monument, which Saarinen had to consider. The Old Courthouse was then the highest structure and the bronze dome was easily visible; therefore, utilized by steamboats captains to navigate their course.

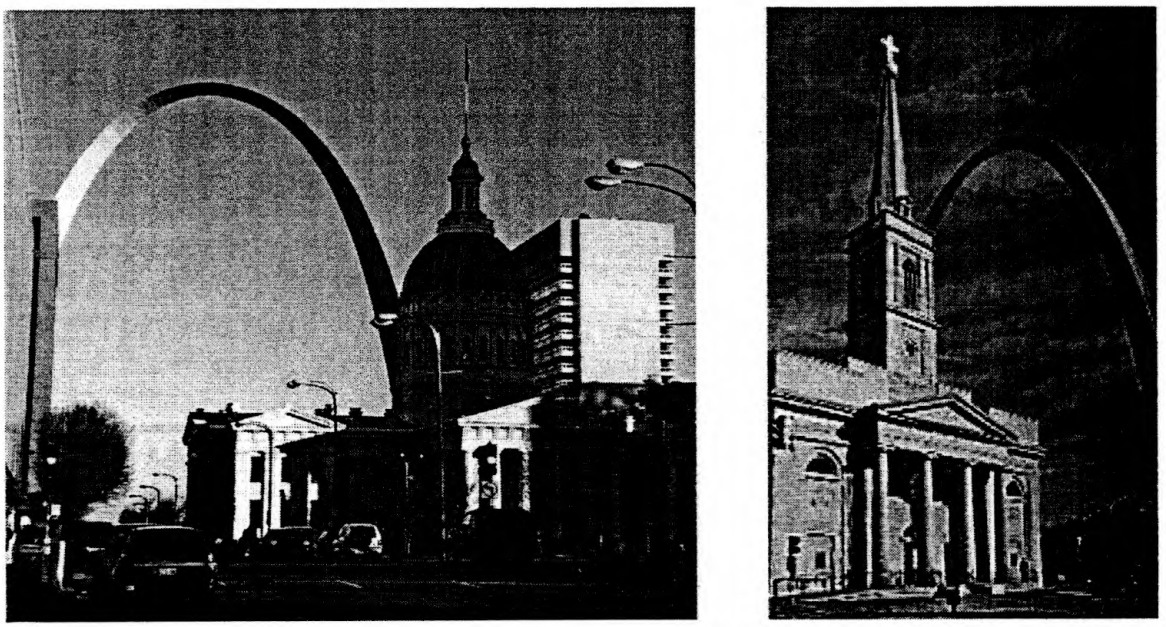

Figure 2.13 The unifying relation of the Arch to the Old Courthouse and to the old cathedral. (Source: Author)

Saarinen worked diligently to incorporate the dome of the Old Court House (which is modeled on the Pantheon) into the landscape for the Memorial. In its *Final Report*[33] the Jury Award, for the competition noted approvingly that Saarinen design "*by its very form is sympathetic with the Court House dome*".

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[32] Donald F. Dosch, *The Old Courthouse: Americans build a Forum on the Frontier* (Saint Louis: Jefferson National Expansion Memorial Association, 1979).
[33] *Final Report* of March 14, 1948, Jury report for JNEM.

In later sections, we study the arch in its urban context. However, the relation of the Arch to the historic Eads Bridge is illustrated here to underline Saarinen's objectives. Saarinen possessed a keen awareness of the historic role of the bridges. Commenting in *St. Louis Post*-Dispatch upon how he decided where to locate the Jefferson Memorial, he recalled:

> *We began to wonder whether one leg should not be placed on each shore of the river, thus forming sort of a symbolic bridge that ties together the sides of the Mississippi ... [but] placing a symbolic bridge between two useful bridges didn't seem right.*[34]

Many people have wondered whether the 'symbolic bridge' with two legs on separate banks of the river would have heightened the symbolism, but the logic Saarinen presents above seems very reasonable. Saarinen regarded objects in its next largest context. He dealt with the Arch not as an individual but as a 'Park' in the big city. He remarked:

> *"The Park, the City, the west side of the Mississippi and the east side – these are parts of one composition ... The other side of the river ... must be brought into whole composition ... We must make this a great, green park."*[35]

Eero Saarinen fought unsuccessfully to establish height restrictions on buildings close to the Jefferson National Expansion Memorial and to establish design guidelines for future development.[36] His intention was to maintain the memorial as the dominant feature of St. Louis skyline. Local leaders did not share Saarinen's viewpoint. They had historically regarded the Memorial as a stimulus to downtown redevelopment, and quickly rejected the idea of limiting heights. One architectural journal editorialized:

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[34] The article appeared in St. Louis Dispatch of 7th March, 1948. See W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p39.
[35] JNEMA Files Oct 2, 1957.

Strangely and deplorably silent were the voices of the powerful inner circle of Saint Louis business and civic leaders, who in recent years have helped the city, earn a reputation for fostering music and other cultural activities. In this instance, the city was turning its back on architecture and completely rejecting its responsibility as a national trustee charged with developing the area around the national memorial arch and park in a complementary manner.[37]

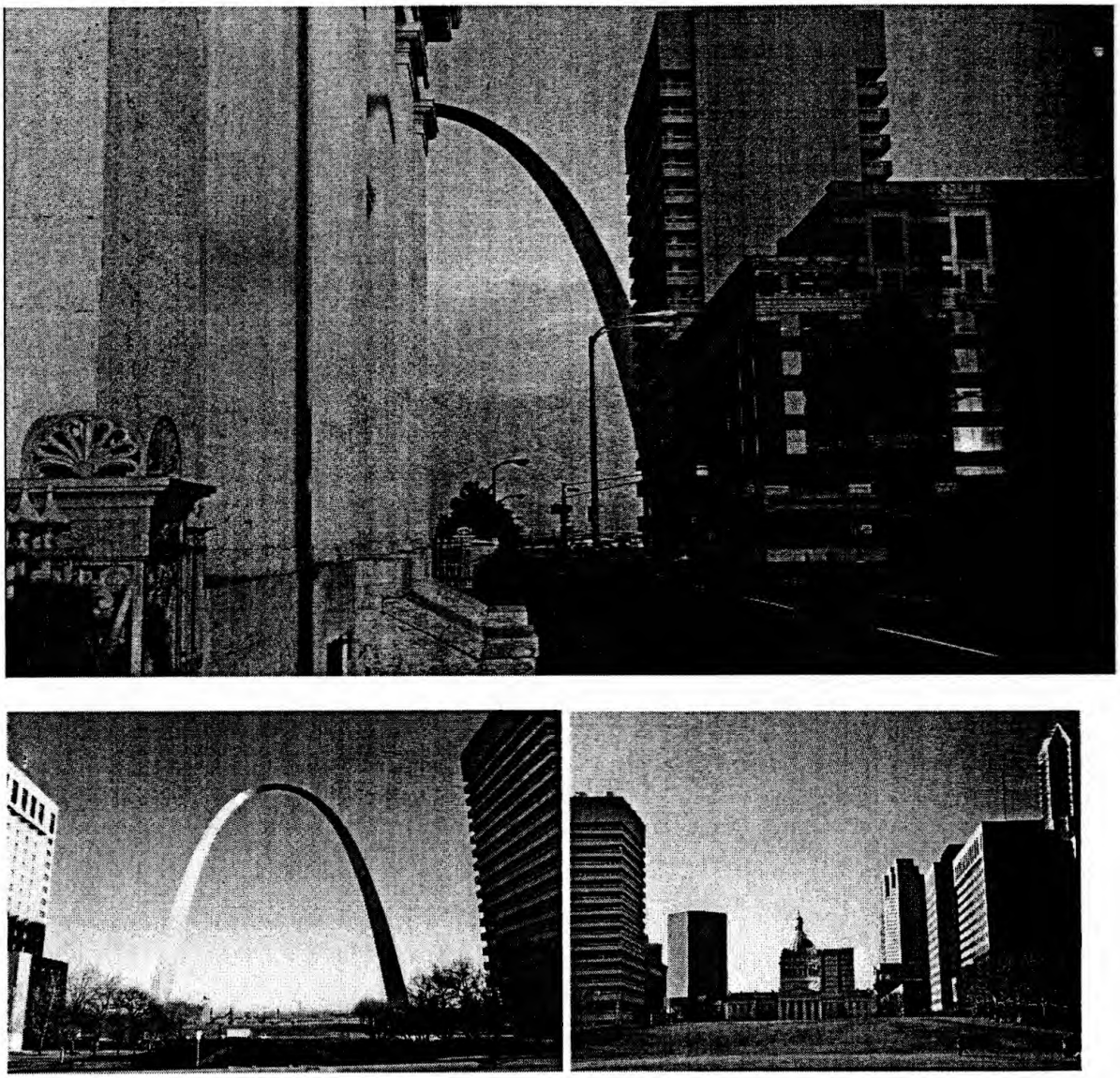

Figure 2.14 Highrisest buildings diminishing the relation between the old courthouse and dominance of the arch. (Source: Author)

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[36] "Saarinen feels buildings near St. Louis National Arch should not exceed 200 feet-but city rejects idea," *Architectural Forum* 113.1 (July, 1960) 7.

[37] W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p74.

Saarinen wanted an inviolate tract of nature set aside from commercial interests. The surrounding and future downtown buildings concerned Saarinen. He argued that excessive high buildings would hurt the Memorial. He recommended limiting buildings to 200 feet. Saarinen's intention was maintain the Memorial as the dominant feature of the St. Louis skyline so that its role as a national monument would not be diminished. As we see later, the political setup rejected his idea to establish height restrictions on buildings close to the Jefferson National Expansion Memorial and to establish design guidelines for future development.[38] Saarinen so accurately visualized the negative effect of other high-rise buildings.

Ideological association with Jefferson in Saarinen's own words:

> *The clearing from which the Arch would rise, in single magnificence, was the image of the primitive clearings in which explorers had camped, while the great Virginian – our only architect President, wished them westward, ever west ward, carrying forth the destiny of the nation and the world.*[39]

Saarinen carefully considered what the city needed, that would both be beautiful and attract visitors to the city. He recalls:

> *"I thought at once of a forest, because cities by their very nature have eliminated most of their forests from their midst. What would be more fitting than this expanse of green for city's front yard, linking it to the river that gave it birth?"*[40]

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[38] "Saarinen feels buildings near St. Louis National Arch should not exceed 200 feet-but city rejects idea," *Architectural Forum* 113.1 (July, 1960) 7.
[39] Saarinen's own words in an interview with Allen Temko. See Allan Temko, *Eero Saarinen*. New York: George Braziller, 1962. p24.
[40] W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p45.

The symbolism of the landscape has been dealt in an earlier section, but Saarinen's intention to create shows his effort to fashion an image of a natural, orderly urban society.

> *We shall create and build not only a national memorial of great beauty; we shall rebuild a great part of the economic value of our city, which has suffered years of neglect.*

If we dissect the wordings of the design brief, it reflects historic concerns of progressive civic leaders about the economic viability of the commercial downtown district. *Progressive Architecture* magazine commented:

> *Local interest in the competition ... has centered on a solution for the memorial site that will revitalize the riverfront and also provide a parking area or areas to serve nearby shopping and financial district.*[41]

The fundamental difference between national and local interests was clearly revealed in the design competition instructions. One section concentrated on the commercial benefits while the other focused on the historical significance of the Memorial to the nation as a whole. The symbol meant different things for different people from the very beginning. The winning design in the 1947-48 competitions embodied a masterful resolution of these competing interests. Many leading architects submitted entries for the prestigious $40,000 first prize in this national design competition. Nevertheless, the jury voted unanimously on the very first ballot for Design No. 44. One journal report of the competition noted:

> *The other competitors were prompt and vocal in their praise. It was easier to lose first place when the winner had so obviously been inspired.*

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[41] W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p62.

The Jury of Award selected Entry No. 44, a large stainless steel arch sited within a dense forest on the riverfront. It remarked that the design "tends to have the inevitable quality of a right solution".[42]

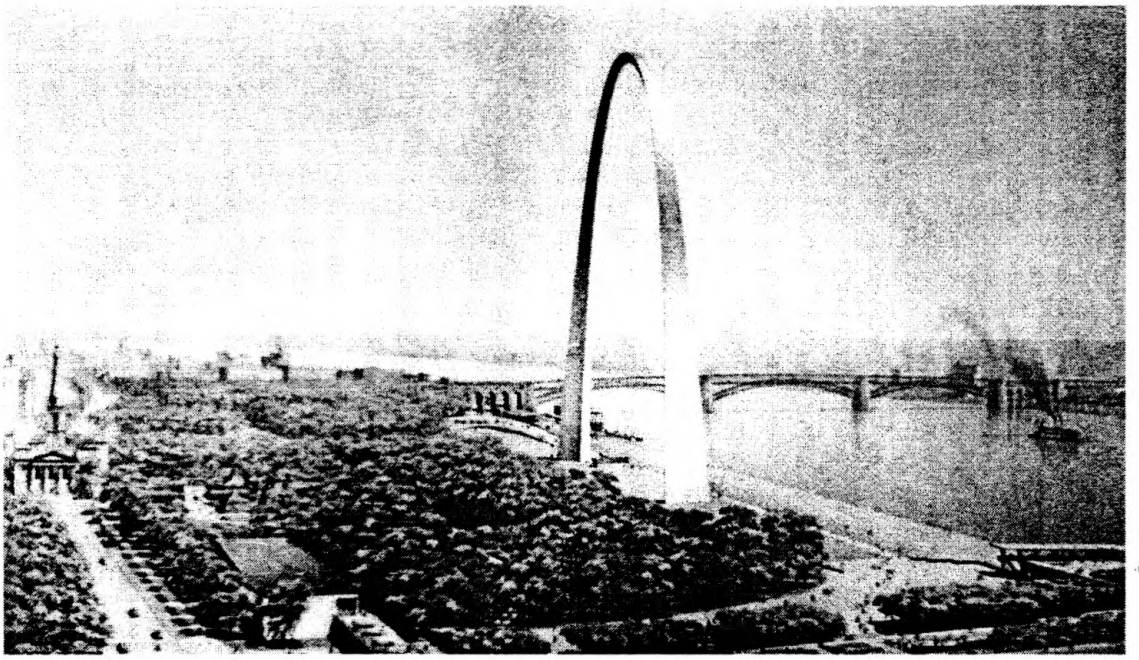

Figure 2.15 Box 18, Memorial Competition Drawings. (Source: W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p64.)

William W. Wurster, dean of the School of Architecture and Planning at Massachusetts Institute of Technology and Chairman of the Jury of the Award, told the *New York Times* that "the design's principal feature, a stainless steel arch 590 feet high, was in the same class as Washington Monument",[43] while the *Times'* architectural critic wrote approvingly of a "*slum area made into a gracious park*".

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[42] Jury of Award Report in W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p63.
[43] New York Times 19 Feb 1948.

The Gateway Arch also exhibits '**Threshold Symbolism**'. The bodies of water around the arch especially participate in this threshold symbolism. Passage through or across water represents starting a new way of life and giving up an old one. As Americans advanced from the deciduous forests of the eastern United States across the Mississippi river into the apparent limitless Midwestern prairie, they must have experienced a sense of renewal. This symbolism, so pronounced in the landscape of the Jefferson Expansion Memorial, seems appropriate for signifying the historic importance of the river city that was literally the Gateway to the West.

Construction of Eads Bridge in 1874, the world's first tubular bridge emerged out of fierce rivalry between the grids of St. Louis and Chicago for commercial dominance.

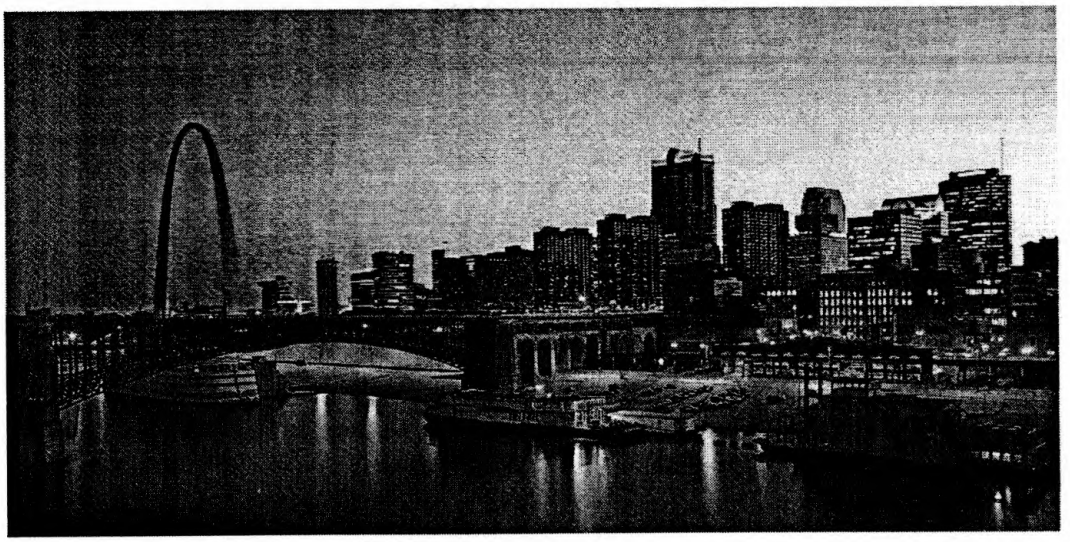

Figure 2.16 The spanning relationship to Eads bridge Photograph courtesy: National Park Service.

Urban rivalries like the St. Louis-Chicago competition stimulated the development of national transportation and communication. The construction of the Eads Bridge had exerted a major impact upon the urban form of St. Louis. Local merchants who were concerned with the declining riverfront formed an association to check deterioration of

the area. The formation of Civic Improvement League in 1902, the City Beautiful Movement and other reforms restrained the spread of inner city slums. The City plan of 1907 emphasized the value of the riverfront and engaged George E. Kessler as adviser for the riverfront who urged creation of a park at the now site of the Arch.

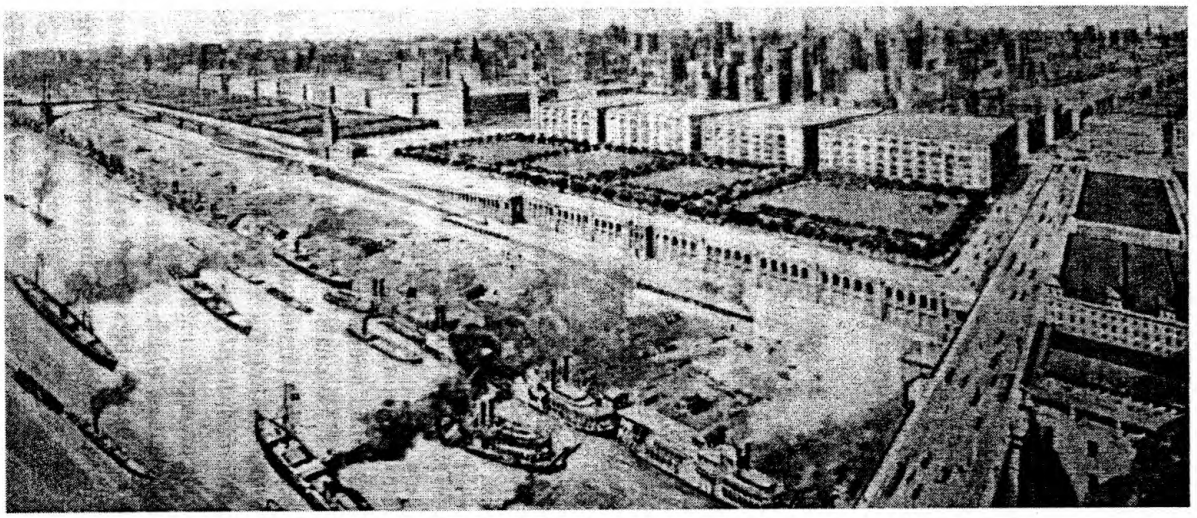

Figure 2.17 1907 city plan report view with riverfront commerce. (Source: W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p19)

The civic improvement movement drew upon the examples of Baron Haussman's Paris Boulevards; the Vienna Ringstrasse designed by Camillo Sitte and Washington, D.C. Old symbols were thus being transformed to accommodate industrialization. The city plan called for a large park featuring a monumental sculpture. The city plan stated:

> *Riverfront improvements are not antagonistic to the commercial development of a metropolis. In the case of this city, it would be an actual material benefit to commerce. Saint Louis has an opportunity of improving ... without interfering with her rapid commercial and industrial development.*[44]

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[44] Civic League, *A City Plan* in W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p51.

Advocating Kessler's plan some forty years later, Saarinen's broad green vista complements the high-rise commercial development of the city. Harland Bartholomew who was the chief engineer of St. Louis tabled a plan in 1928 with the riverfront memorial to Jefferson, but the idea did not take off.[45] However, it required the 'Great Depression', to effectively demonstrate the usefulness of the memorial.

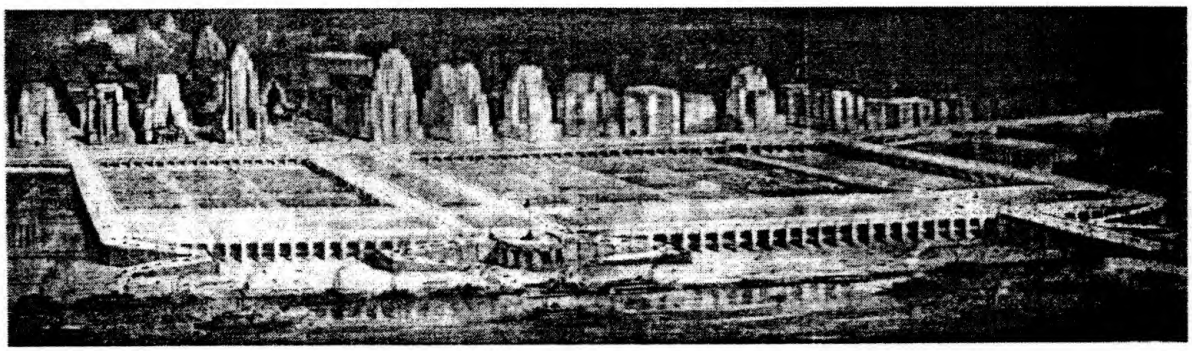

Figure 2.18 1928 City Plan with highrise in the background. (Source: W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p19)

Figure 2.19 Demolition of the historic riverfront buildings. (Source: W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p19)

The riverfront was razed. This symbolic sacrifice of existing buildings can be taken as rejection of actual urban history in favor of a more attractive setting. *National*

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[45] W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p53.

Geographic devoted a cover story to the city's urban renewal efforts. *Time* magazine reported on the close relationship between construction of the Arch and downtown revitalization.

2.3 THE SOCIAL CONTEXT

There is abundant evidence that the Arch has grown in the International consciousness as an eminent symbol. The Arch is visible from more than 30 miles. The experience of discovering and rediscovering the Arch, within the city, presents a varied feeling. It dominates the skyline from highways, but drops from view at a closer range when city buildings intervene. Then, suddenly it springs up behind a store or a house. The gateway form reads distinctly from a passing plane, and definitely, the symbolism becomes more pronounced from that height.

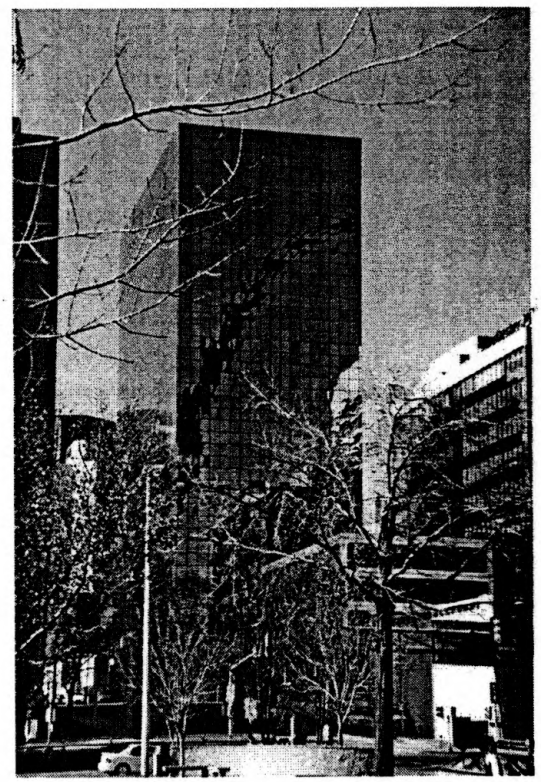

Figure 2.20 The Arch is reflected everywhere on the city of St. Louis (source: Author)

Fascist controversy: Many contemporary observers regarded the controversy as silly in the extreme; an editorial cartoonist for the New York Herald-Tribune depicted Thomas

Jefferson chuckling over the furious debate[46]. The incident is significant since it does two major things: one, it confirms that the arch is evocative and secondly, raises questions about the American culture.

As mentioned before that some sections of the public ridiculed the design and demanded a more functional "living memorial" like a stadium or heliport.[47]

Another charge against the design was leveled by the chairman of the National Fine Arts Commission, Gilmore D. Clarke, who in letter dated February 24, 1948, damned Eero Saarinen for replicating an arch envisioned by Italian dictator Mussolini as part of the 1942 fascist exposition. Clarke raised the serious question for post-war America as to whether the nation could in good conscience adopt a fascist symbol.

Lobbying by local civic leaders resulted in passage of joint resolution of the Unites States Congress in June 1934 creating the United States Territorial Expansion Memorial Commission. A February 23, 1936 article in *The Nation* severely criticized the project as a 'political boondoggle':

> *The project's sponsors proposed to sell back to the government at $325,000 an acre land that the government had bought in 1803 for four cents an acre and sold to settlers at $1.25.*

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[46] New York *Herald-Tribune* 27 February 1948.
[47] St. Louis *Post-Dispatch* 26 February 1948.

The Memorial was subsequently shifted to National Parks Service under the Historic Sites Act. In 1935, a hotly contested city bond issue to provide funds for clearing the old riverfront won despite widespread claims of voting irregularities and fraud.

Eero Saarinen did not live to see his creation realized, since the construction was delayed throughout the 1950s as the city and federal agencies haggled with railroad companies to relocate tracks.[48] It was president John F. Kennedy who authorized the final funds in 1962.

2.4 PUBLIC RECEPTION

At the official dedication ceremony on May 25, 1968, Vice President Huber H. Humphrey declared, "*from now on, St. Louis Arch is America's magnificent monument.*" Somehow the purpose of the Arch has been misunderstood and people talk/experience of it as a simply an attractively designed backdrop to the St. Louis riverfront. Just like the gridiron system of land development for real estate speculation instead of orderly development of small farmers, the St. Louis Arch is part of commercialization and not the loft ideals the architects intended. As *Wall Street Journal* editorialized:

> *This $32 million project, costing nearly $5 million more than the Louisiana Territory itself is an illustration of how government planning can go awry. The Memorial was conceived in 1933and among other things was designed as a four-*

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[48] See Sharon Brown, "The Making of a Memorial: Jefferson National Expansion memorial 1933-1980," (Ph.D. dissertation, St. Louis university, 1982) for a detailed administrative history of the negotiations involving the railroad tracks.

year economic pump priming project to stimulate business and increase employment.[49]

It is a shame that the above quotes, truthfully so mentions Jeffersonian ideals and lofty symbolism as just "among other things" and so accurately points out the political and economic goal of the whole project. Dollar investments and real estate values, rather than curator ship of land were typically cited as project's rationale. In addition, as the president of St. Louis chamber of Commerce noted: "*The memorial is a perfectly sound Business venture.*"[50]

This economic boom caused by the Arch has netted reinvestment of $1.25 billion from 1958 to 1982.[51] Tourism and leisure industries have also increased. Developers hoped that the Memorial would prove to be a second Eiffel tower drawing enough visitors to ensure the success of their ventures.

In 1974 the Memorial was listed as fourth-most visited human made attraction, following Lenin's tomb and two Walt Disney theme parks. The United States Travel Service reports it to be top seven modern attractions. The ability of the Arch to compete for visitors with Disney theme parks suggests that it has been increasingly assimilated into an image-

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[49] James, Richard D., "Poky Pump Primer: St. Louis' Depression Project Nears End – In a Boom." *Wall Street Journal* 19 June 1964: 8.
[50] Record of Reports in W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p84.
[51] W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p88.

conscious consumer society. In fact, civic leaders immediately solicited Walt Disney to build a major entertainment center near the arch upon its completion.[52]

Slow Emergence: Far before the arch even became a reality, it started to settle in people's mind. As the architectural critic of the St. Louis Post-Dispatch reflected:

> *The strength of this great form [the Gateway Arch] is indicated by the hold it exerted upon the community consciousness for so long before it had the slightest beginning as a physical artifact.*[53]

The Arch has grown to symbolize so much part of the identity of St. Louis, that it is being trivialized. The cultural affinity in the United States to commercialize and cash on a success is also very apparent here. For example, 1980 St. Louis telephone directory listed seventeen 'Arch' business firms, from the *Arch Bootery* to *Archvie*w Café, an *Archable* real estate firm, *Archco*, an *Archland Dome* and forty-nine Archway companies including a funeral home, a massage parlor, bartending school, a bible school, bank, corkball club, oriental herb, a brokerage house and a nightclub. Other examples include comedian Bob Hope's remark about the golden arch of McDonalds and the worldwide-publicized jump of Hollywood stuntman Dan Koko and the skydiving attempt of Kenneth Swyers whose parachute collapsed on impact with the arch and he slid down to his death.

The logos for *Pizzerias* to *Dog shows* incorporate the arch profile. Such use of the arch as a logo is normal if used by governmental or state agencies to promote tourism or build a

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[52] W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p90.
[53] George Mccue. *A Guide to the Architecture of St. Louis*. Columbia: University of Missouri Press, 1989. p5.

city identity. But when the logos are being used by individuals and for commercial purposes, the symbol starts to loose its purpose, the meaning starts to get diluted. Whether this occurrence is beneficial to the image in the long term is another question?

The National Park Service is now concerned with such use of the Arch. According to a U.S. Department of the Interior report titled "*Use of Photographic*", St. Louisians have used the National Monument for commercial uses more than any other locality, even more than the Brooklyn Bridge. The departmental report specifically stated that the use of Arch in advertisements, displays, and cartoons should now be used with restraint.

The Jefferson National Expansion Memorial has become part of the ordinary landscape.[54]

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[54] A term used by cultural geographer D.W. Meinig in W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992. p6.

Chapter 3: LA GRANDE ARCHE, Paris

In 1958, the French Government under De Gaulle decided to create a business center on the fringes of Paris so that that the existing noble and historic fabric of the national capital was not eroded by commercial development. The area selected was La Defénse.

The area became part of what is now termed as the *Grands Projets*. As the name suggests, the project is a showcase of grand architectural masterpieces.[55] *La Grande Arche* An ambitious program matched the unique site at the furthest extension of the historic axis of Paris for an '*International Carrefour of Communication*' (ICC). In 1983, President Mitterrand selected the proposal out of 424 submissions in an international competition. The project was chosen for "*well defined concept, the symbolic strength, the geometrical precision and the architectural poesy.*"[56]

A virtually unknown 53-year-old Dane, Johann Otto von Spreckelsen, won the international competition. Spreckelsen was a church designer and known for his belief in symbolism of horoscopes and astrology. He was also a professor of Architecture at the Copenhagen Academy. The political forces in France changed the distinguished

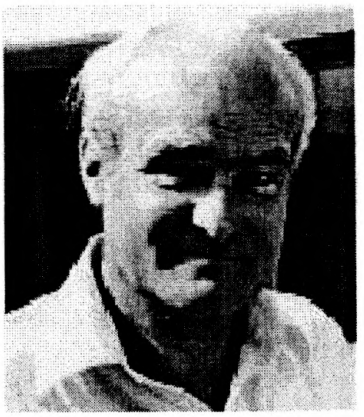

Figure 3.1 Johann Otto von Spreckelsen (Source: www.encyclopedia.com)

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[55] The Grands Projets are: *Institut du Monde Arabe* by Jean Nouvel; *Boulevard de Belleville* by F. Borel; *Opéra de la Bastille* by Carlos Ott; *Le Grand Louvre* by I.M. Pei; *Ministére des Finance* by P. Chemetov and B. Huidobro; *Parc de la Villette* by Bernard Tschumi; *Cité des Science et de L'Industrie* and the *Géode* by A. Fainsibler; *Cite' de la Musique* by C. de Portzamparc and *La Grande Arche* by Johann Otto von Spreckelsen.

[56] Peter Davey. "La Defense." *Architectural Review.* August 1989, v.186, no.1110, p48.

original ICC program to a routine office building. The administration also meddled with the architectural details and interfered in Spreckelsen's style of working. In frustration, Spreckelsen resigned from the project and handed it to Paul Andreu with whom he had associated after winning the competition.

The defense cube is a fully functional office block with 80,000 sq m of high profile offices at one of the most prestigious addresses in Paris. It was a design, which was acclaimed and derided in both French, and international press. It follows the traditional boxy form of triumphal arches in Paris but is an innovative building both technically and aesthetically. The imposing structure is 91meters high and 70 meters wide, opening back through the cube 70 meters to form a covered square or a voided cube. As a monumental construction, the Grande Arche is a *tour de force*.

3.1 ANALYSIS OF FORM

'Est-ce une Arche, est-ce une Cube?' The form of the La Grande Arche puzzles even the French who have a long tradition of boxy triumphal arches. Arches are short curved vaults but there is nothing curved about the Grande Arche. The query about it being an arch or a cube is universal. Prosaically speaking it is two parallel office blocks whose end walls are chamfered towards each other and spanning between them is an equal-thickness chamfered structure four stories deep. A full width staircase runs up the similar podium at the base. The outer elevations are gray marble. The inner ones, and the chamfer and the steps are pure white.

The Cube is an Arch in the sense that it has a void in between the two supports and a span connecting the two supports. On the other hand, the Cube is not an *Arch* because it lacks any curves. The Arch is a *Cube* because the three-dimensional box created by the supports and span is approximation of a perfect cube. Conversely, the Arch is not a *Cube* because of the prominent void punched through the center. The dual nature of the structure as a cube and as an arch accentuates the sense of curiosity. It also affects the meaning conveyed by the Grande Arche.

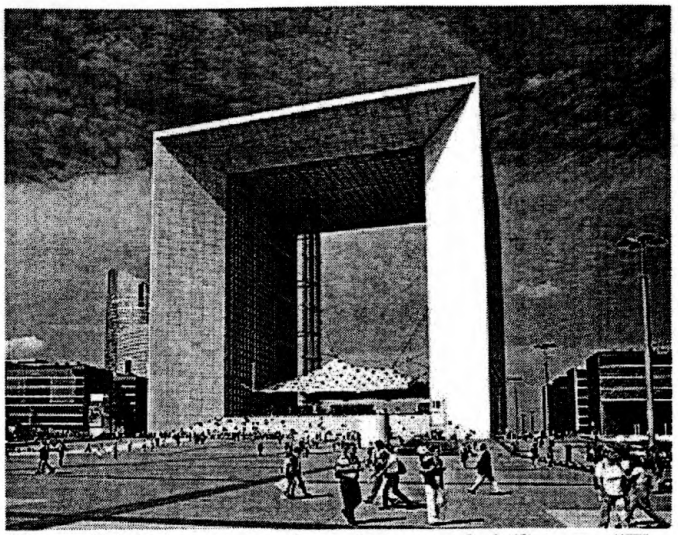

Figure 3.2 *Est-ce une arche, est-ce un cube?* (Source: "The Grande Arche, La De'fense, Paris." *Architecture and Urbanism.* No.9 Extra edition, Sept 1990. p216.)

As we see later, that Spreckelsen intended the hollow cube as an open window. The 'window' is by no means truly cubic; it is 91 meters high and 70 meters wide, opening back through the cube 70 meters to form a covered square. As a monumental construction, the Grande Arche is a *tour de force*.[57]

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[57] It is structured by means of four enormous post-tensioned concrete frames, tied together every seven stories and stabilized by diagonal walls at the corners. The frames and walls rest on neoprene cushions – the only movement joints – on top of 12 piles, each bearing 27,000 tons; almost four times the weight of the Eiffel tower. The superstructure itself is basically four 36 story high post-tensioned portal frames spaced 21 m apart, carried on the main piles and braced by four horizontal bands around each "leg", again every 21 m. the effect is to produce a total of 50, seven story high boxes held together with 1200 tons of pre-stressing cable.

The outside corners of the arch face east and west are rather sharp, and frames taper from them to the open window. The frames splay inwards from the corners to the 'window' by some 40 degrees on plan and 26 degrees in section, including the monumental steps from the 'square' down to the plateau of La Defénse.

If we study the plans, the design combines long tapering towers for the side of the cube deep enough to contain two range of offices, corridors, and central service cores. These connect two square 'saucers' – one open to the sky to form the roof and the other inverted forming the covered square over major facilities. The covered square also provides access to the Ministry of Urban Development and the new Communication building, which supposedly was to be housed in the cube itself. Under the square are large meeting rooms, cinemas and exhibition spaces. The typical floor plan shows a very conventional office layout in the supports of the arch. The plan at plateau level showing the crater and the external lifts which rise slowly and vertiginously up to the soffit.

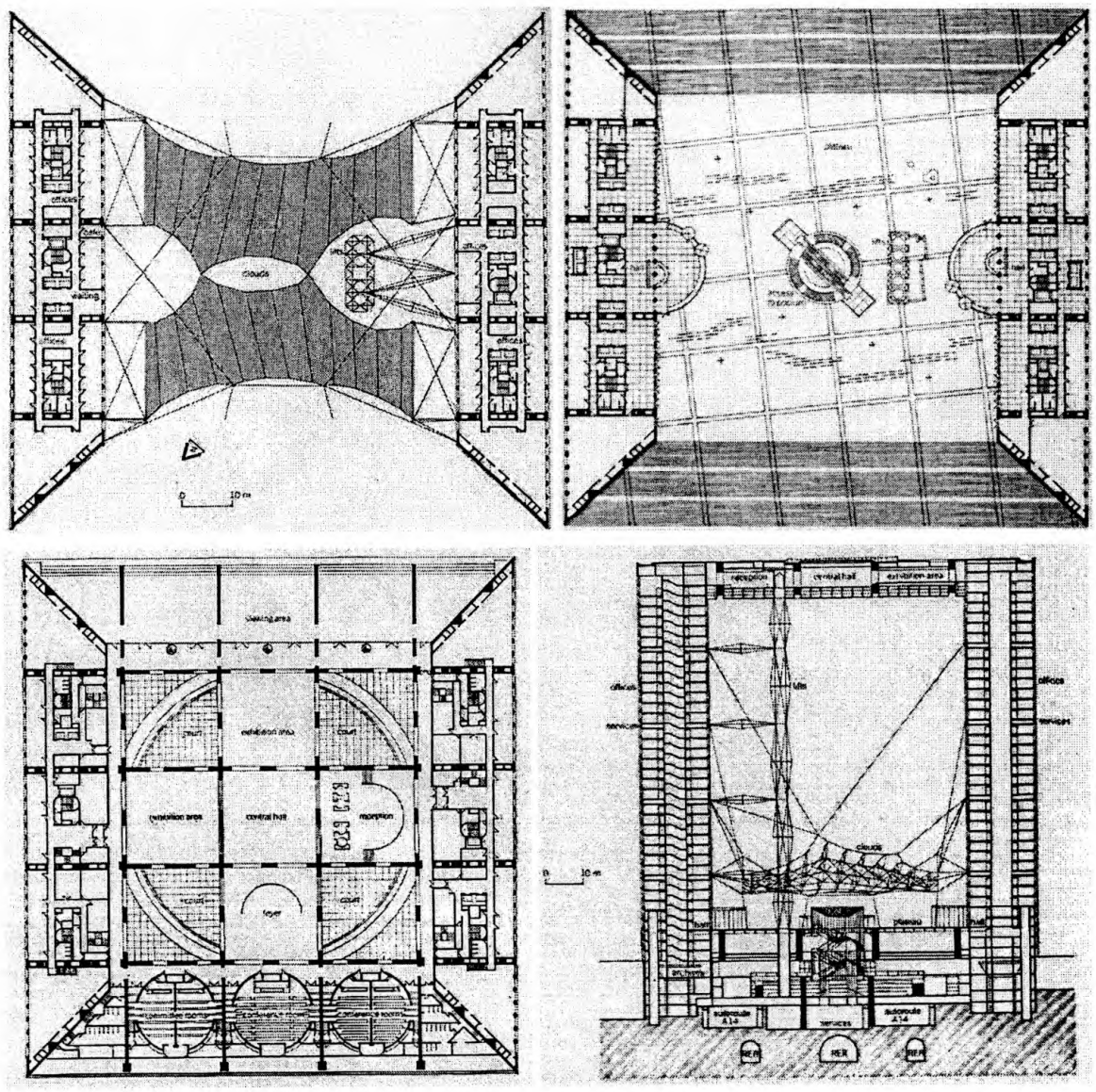

Figure 3.3 Top Left: Plan at Plateau Level. Top Right: Top floor plan. Bottom Left: Typical floor plan. Bottom right: section. (Source: "Canopy Structure: Tete Defense cube: J.O. Spreckelsen." *Architect's Journal.* V.190, no.2, July, 1989. pp 53-55.)

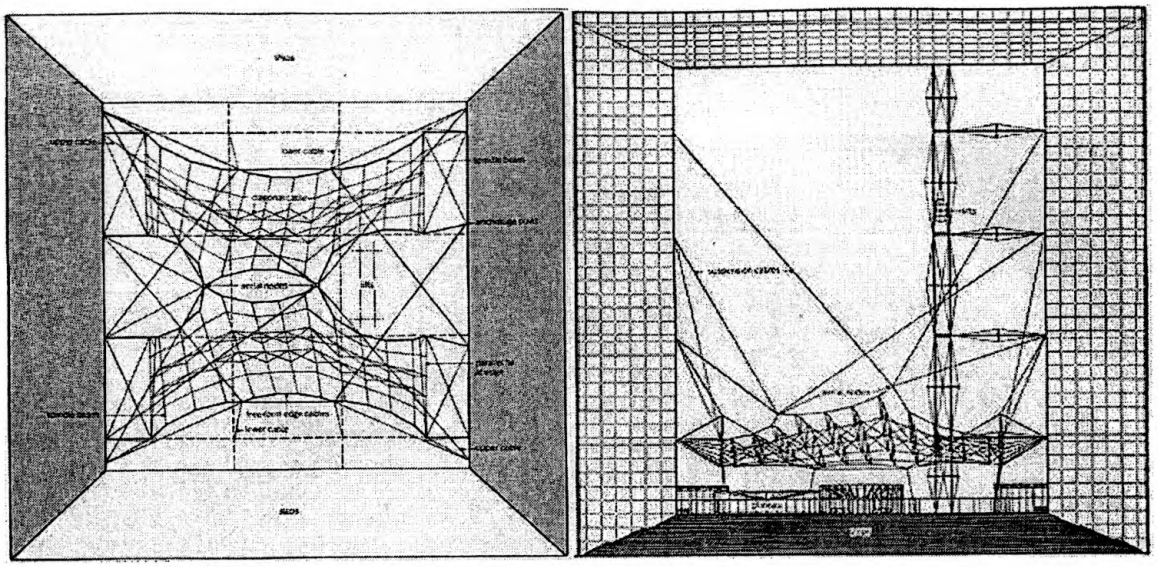

Figure 3.4 Left: Plan of the clouds. Right: Elevation. (Source: "Canopy Structure: Tete Defense cube: J.O. Spreckelsen." ***Architect's Journal.*** **V.190, no.2, July, 1989. pp 53-55.)**

The structure is visible only in the spaces in the podium and roof, but inevitably imposes severe constraints on the internal planning. Spreckelsen must have worked hard to keep his simple and pure shape in order to maintain his symbolic message.

It is hard to ignore the straight edges of the cube that shows the intended precision as intended by Spreckelsen. In the original scheme, the canopy was actually a glass cloud. But in the autumn of 1987, great gales swept Western Europe and the Arch acted like a big venturi tube. The location and shape of the cube produced whistling wind currents too strong for any sold structure to stand in the void of the cube. Even the Arche itself was threatened with demolition and it became clear that those ethereal glass clouds, which Spreckelsen wanted to soften up, the concrete block could never have survived. A much more robust one was designed as a suspension structure, and glass wind deflectors, baffles forming a kind of maze, placed towards the west side of the internal square.

The present canopy cloud seemed apt expression of the ephemeral and evolving activities of the Communications building, but with the drastic change in program (see political) the symbolism has been diluted to the extent that some expressions like that of cloud contain no meaning. The 'cloud' is a structure within a structure. It was intended that it should appear to float over the base providing shelter and human scale. It is visible from all directions so no part of the construction can be hidden from view.

It was to provide a living contrast to the clean geometry of the Cube, to introduce human scale, and to allow shelter and windbreak in a space that would creates its own microclimatic world – window to the world or a new world? The structure was supposed to symbolize lightness and spontaneity of a cloud, but the constraints of fitting around the freestanding lift tower, withstanding the winds and complying with fire regulations, coupled with the enormous cables limits that vision. The color of the cloud is pure white (initially it was buff which as anticipated bleached after exposure to sunlight) symbolizing heavenly purity and delicateness.

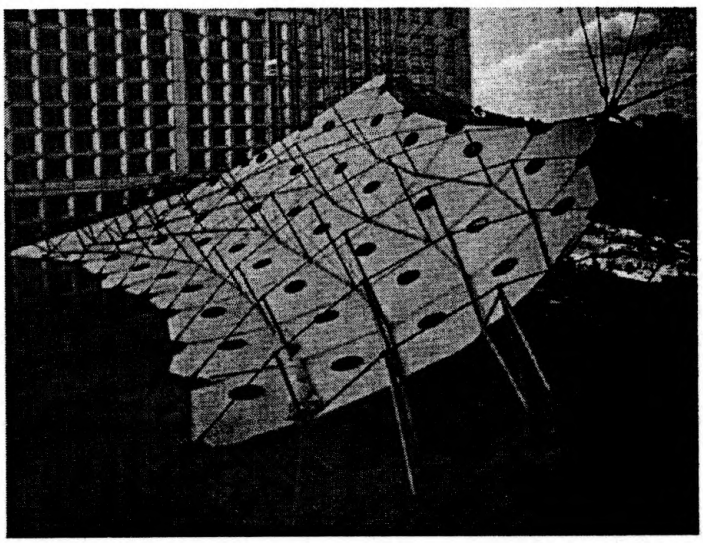

Figure 3.5 (Source: "Canopy Structure: Tete Defense cube: J.O. Spreckelsen." ***Architect's Journal.*** **V.190, no.2, July, 1989. p55.)**

The base or the plateau is envisaged as a 'grand public square' that symbolizes an open forum for communication. The facades of the cube are bright and smooth, '*symbolizing a*

microchip, showing the lines of microchip'[58]; it is a different matter that with no '*communication ministry*' the symbolism sounds hollow. Nevertheless, the effort to create a terminal where people can stand and communicate under the 'Triumphal Arch of Man' seems apt and poetic and in a way.

Externally, bands of marble mark the cube that outline 21m squares on the façades, each divided into seven stories and seven bays. This later related with the horoscopic symbolism. The vertical faces are clad with deeply coffered aluminum glazing units – the miniatures of the splayed cube itself and the outer sides have a further skin of glazing flush with the marble; the resulting surface is technically and visually superb.

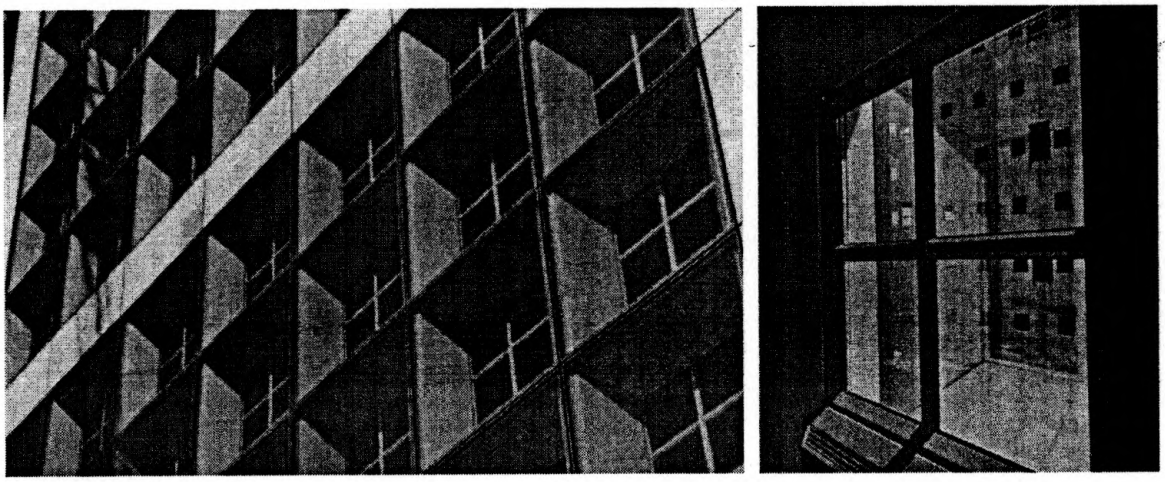

Figure 3.6 Left: Sin of glazing flush with the marble. Right: Wndow with splay just like the cube. (Source: "Canopy Structure: Tete Defense cube: J.O. Spreckelsen." *Architect's Journal.* V.190, no.2, July, 1989. p55.)

[58] These quotes are taken from Spreckelsen's competition report published in *Tête Défense*, Electa Moniteur, 1984, pp35-9.

The soffit is finished with projecting aluminum units – negative coffers, in effect – and the immense 'reveals' are clad with white Carrara marbles. From a distance the effect is dazzling, like a giant box of flawless, richly inlaid joinery, but a closer look reveals some chipping and unevenness at the corners detract slightly from the otherwise seamless microchip precision which Spreckelsen desired.

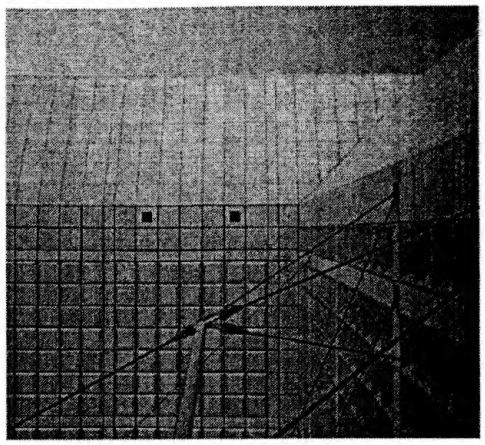

Figure 3.7 Looking up at the soffit, with negative coffers and suspension cables for the 'cloud' in the foreground. (Source: "Canopy Structure: Tete Defense cube: J.O. Spreckelsen." *Architect's Journal.* V.190, no.2, July, 1989. p55.)

The main entrance to the building is the 'crater' in the plateau, but it has become an object rather than a void. The cloud can be seen through the glass enclosure over the staircase at the entrance.

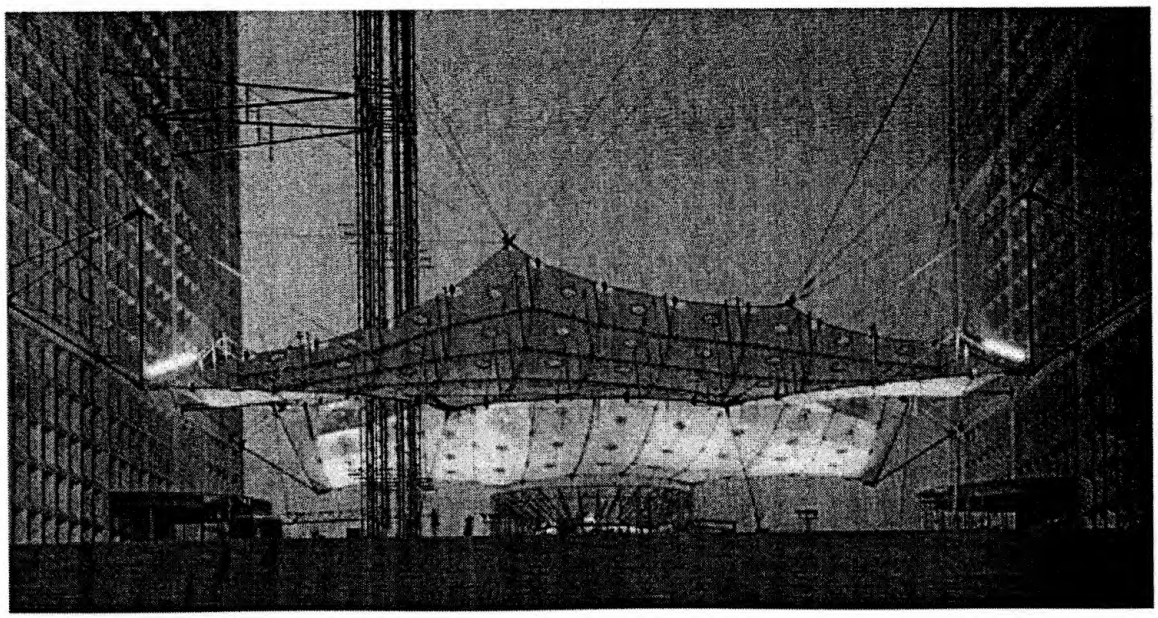

Figure 3.8 The monumental Entrance with clouds. (Source: "Canopy Structure: Tete Defense cube: J.O. Spreckelsen." *Architect's Journal.* V.190, no.2, July, 1989. p55.)

The 'glass clouds' of Spreckelsen have given way to a Teflon canopy designed by Peter Rice at his most exuberant. It seems over-structured, too stiff and 'technological show-off' to evoke the evanescence of clouds, but the scale is deceptive and the wind-loads enormous. Relate to tying down of the weightless floating cube as originally planned – maybe minus the clouds it would not be this earthbound. The suspension cables weave virtual volumes in the void. The canopy though brings down the scale establishing it more closely to the human – with the huge cube. The podium has become a cylindrical glass lobby containing escalators on the diagonal and a stainless steel staircase. Another central feature is the elevator, which free stands all the way up to the top public floors. It is scarier than wall climbing because there is no wall here. The result is visually restless; much less elegant than the spindly cages supporting the glass lifts which transport people slowly and vertiginously to the roof.

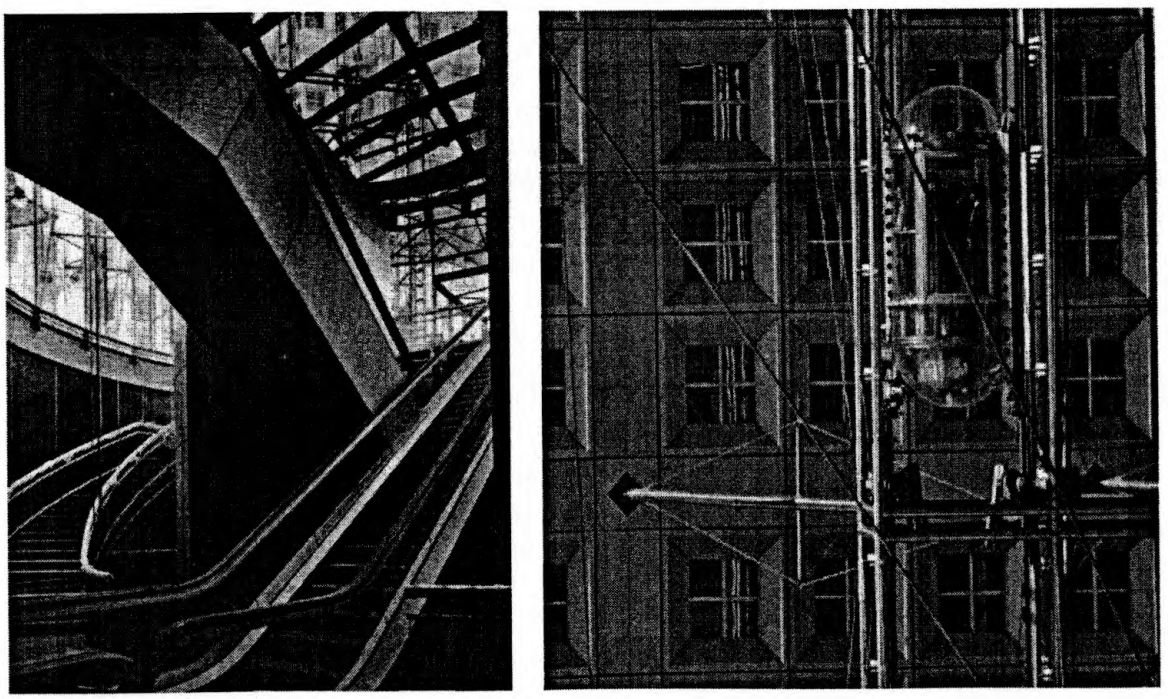

Figure 3.9 Left: The diagonal staircase. Right: Image of the central elevator: scary ride with no supports! (Source: "Canopy Structure: Tete Defense cube: J.O. Spreckelsen." *Architect's Journal.* V.190, no.2, July, 1989. p54.)

The top floors accommodate the '*Foundation for the Rights of Man and Development*' with four courts that are linked by a great circle of Yugoslavian marble incised with astrological signs. The elevator tower proportions the window opening and with its fragile lightness, emphasizes the form of the cube. The view from the 100 m wide granite stairs allows the viewer to survey the axis back to the Louvre and discover an unexpected secondary one linking the Eiffel Tower and the office tower at *Montparnasse*. The view from the roof is spectacular.

The grid of the paving is aligned along the axis (skewed) but the banding does not run through the immense marble staircase (as shown in the original competition drawings) thus creating a disappointing and disjointed emotion of something not right.

The small triumphal arch was 25 meters. Napolean's was 50 meteres and the third should be (cube) 100mts – the progression of numbers symbolic of tradition.

The symbolism of the cube is hard to interpret but not hard to find. The first clue is the form of the Arche itself as a cube. Cubes have been used for symbolic purposes along with spheres and pyramids since ancient times, but what they symbolize comes in several interesting versions.[59] In Paris, there are other *Grands Projets* which use such basic shapes.[60]

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[59] Ever since ancient Sumer, (around 2000 BC) there have been beliefs that the universe is composed of four basic elements: Earth, Air, Fire and Water. These ideas passed eastwards to ancient India and westwards to ancient Greece. They are described in *Rig-Veda* (1200 to 900 BC) and other ancient texts. Buddha (around 600 BC) refers to the four elements as composing the human body. So the 'psychic' centers of the body become the stages of a scared temple with a yellow square or cube at the lowest level

However, the Grande Arche is far more than a symbol of solid earth. It is a special kind of cube, a *tesseract* of the kind conceived late in the 19th century by mystic mathematicians such as Stringham, Manning, Hinton and Bragdon.[61] Like others of their time they yearned for ways of transcending our lives in three-dimensional by moving into the fourth dimension. One can generate a three dimensional cube by moving a two-dimensional square into the third dimension, which they tried to show in drawings by moving the projection of a cube back into the picture plane, connected to the original cube by the converging lines of perspective. Spreckelsen's Arch/ Cube is exactly like one of their drawings translated back into three dimensions. Since Spreckelsen was known to indulge in such mystic symbolism, it is highly probable that he derived the idea from drawings of these mathematicians.

Spreckelsen takes the symbolism further. The sidewalls of the Cube are covered with mirrored glass that Spreckelsen compares to microchip and abstract art; but it is fascinating to note that facades are divided into five bays. Also it is highly interesting to note that each of those bays are divided into seven by seven individual panes of glass.

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representing Earth, a white disc at the navel representing Fire, a green bow at the throat representing Air, and a blue flame in the brain representing Ether. Plato too in the *Timaeus* described the four basic elements as geometric solids. He tried to make them all equilateral triangles. Fire was a tetrahedron; Water was the Icosahedron (a sphere formed of 20 triangular facets). But it was hard to depict the cube of the Earth with triangles, so he divided them into isosceles triangle. Similarly, he had to compromise with the octahedron of the Air, but Plato's forms have resonated throughout the history. Refer to Eliade, M. *From Primitives to Zen*, Collins, London, 1967.

[60] Bernard Tschumi's *Parc de a Villette* is a square, a circle and a triangle in square grid. It was a trend in 1980s Paris to deal with geometry as exemplified by Fainsilber's City of Science and Pei's pyramid at the Louvre which employs basic shapes. For a more detailed description and view on Parisian architecture utilizing basic geometrical forms please see Hammad, M. Paper to Portsmouth Symposium, February 1991. from pj4 page 71.

Five and seven are magic numbers in the 'secret doctrine' of ancient Jewish mysticism, the *Cabbala*.[62] This provides an endlessly complex source for those who seek significance in numbers, and Spreckelsen seems to be one of them.

It is hardly surprising that several of these occur at various places within the Arche. Apart from the fives and sevens of the facades these include the major divisions of its internal planning: five squares by five laid – skewed by six degrees – over seven paving bays of the square plateau of the base. There are three flights of stairs, separated by landings, to the east and west, five at roof level, and so on. There are *Cabbal*istic numbers too in the sculptural ranges of the columns and spheres ranged along the plateau to the west of the Arche.

The symbolism is so steeped that Spreckelsen used them everywhere. The clinching feature however is to be found on the roof where four open square courts surround a fifth one, which is roofed. In addition, in the open courts, set in the floor, are fragments of a Zodiac. The major signs – Leo for Fire, Taurus for Earth, Aquarius for Air and Scorpio for Water – are all hidden under the floors of the surrounding rooms but each of the open squares contains two figures: Aries and Pisces to the northeast; Capricorn and Sagittarius to the southeast, Libra and Virgo to the southwest, Cancer and Gemini to the northwest.

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[61] Henderson, LD. *The Fourth Dimension and Non-Euclidean Geometry in Modern Art*, Princeton University Press, Princeton, 1983.

[62] Within the *Cabbala*, the God has ten divine names, some of which correspond to the basic elements like water, air and fire. To these ten names, were added the 22 letters of Hebrew alphabet, the *Gemetria*, each signifying some concept such as Father, Light, Shade and so on. So the *Cabbala* offers altogether 32 'absolute, real ideas' or 'paths to secret wisdom', from which other scared numbers are derived. See Pappus (Encausse, G) *The Qabalah*, The Aquarian Press, Wellingborough, 1977.

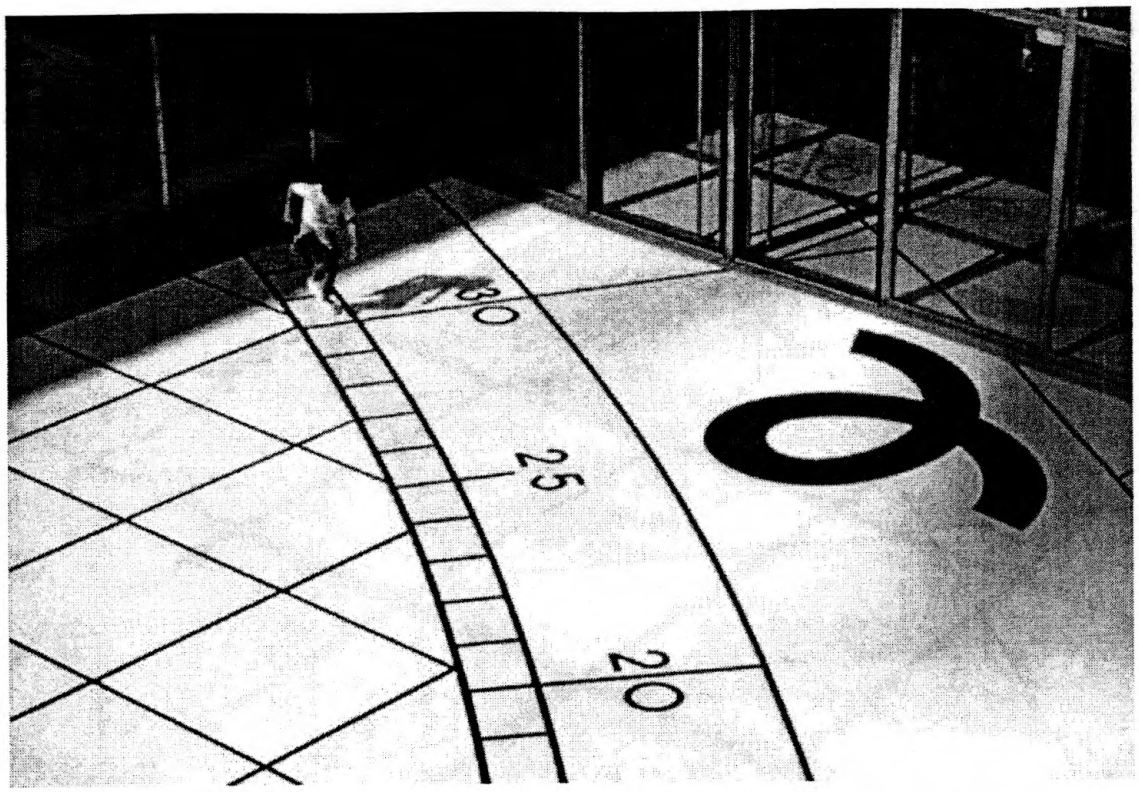

Figure 3.10 The zodiacal floor pattern. (Source: "Window on the World." *Architect's Journal.* V.190, no.2, July, 1989. p42.)

Is it just a decoration? It can be but knowing Spreckelsen's affinity towards horoscopes, most symbolists have assumed it is actual horoscope of someone. In addition, as noted earlier, Spreckelsen was a church designer, his chances of believing in such kind of symbolism seems pretty high. In order to decipher this horoscope, one has to know which zodiacal sign was in the ascendant at the time and place of the event in question and there is no indication on the zodiac embedded in the roof of the Arche. However, one of Spreckelsen's plans shows an alternative version. There is what looks like random clusters of circles laid across the roof where the horoscope is represented. There are 14 of these indicating the 14 planetary positions within which it seems that the biggest, Jupiter, the Sun and Mercury are well within the House of Cancer. Scorpio is in the ascendant

and curiously enough, the elevators from the covered square actually pass through the roof at this point. It seems to be a horoscope of someone born around 2:45 on the 14th of July in 1789. Moreover, it is said that the Bastille was stormed at 3.00.

It seems the two traditions come together in the Grande Arche at La Defénse; first the symbolism of Cube and then the horoscopic reference to the French Revolution. The unique site at the furthest extension of the historic axis of Paris was matched by an ambitious program for the '*International Carrefour of Communication*' (ICC) intended to symbolize 'the communication societies that our future of our civilizations'.[63]

It was a beguiling vision and a compelling formal response to the tricky problem of the axis. The 6° skew was necessitated by foundation conditions- the site is criss-crossed by tunnels containing a highway and rail and rapid transit lines but neatly counterpointed the similar shift between the Louvre's Cour Carrée and the Tuileries gardens. Of more immediate consequence, the skew establishes the internal volume of the cube more emphatically in perspective, providing an effective visual termination to the axis, yet at the same time leaving it open – as Spreckelsen put it in his typical poetic style[64]:

> *'... A window to the World*
> *As a temporary Grand Finale to the avenue*
> *With a view into the future ...'*

At first sight, the finished building appears remarkably faithful to the original scheme. Nevertheless, appearances are deceptive and various changes have significantly affected

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[63] Robert Lion, government official and president of the competition jury, in *Tête Défense*, Electa Moniteur,1984, p6.

its realization. Coordination and perfect symmetry of the design is upset in one important aspect- the central axis of the cube is six percent off the true east- west axis of the avenue. The private developer, *Societe d'Economie Mixte Nationale Tele Defense*, emphasizes this is the same degree of asymmetry as the Louvre, but the real reason is that the crisscrossing of road and railways beneath the building make it impossible to found the cube exactly on line.

The Cube has lost some of its monumental appeal because it holds too much in common with the day-to-day office buildings. The concrete framed glass structure, if that is how many critics describe it; *the Grande Arche* is no different from the numerous office buildings in France and so abundant in Paris itself.

The cover of the French Bicentennial Issue by *The Architect's Journal*[65] shows the Arche as a light blue foreground and the Arc de Triomphe lurking behind the void. The image reinforces the notion of the window but since the Triumphal Arche is off axis and seems tilted from the Cube, it relegates the terminal axial notion.

This huge cube of a building floats over the deck of La Défense, if seen from a distance on the grand axis but as one gets closer, the weightlessness begins to disappear and a earthbound figure starts looming up. Ironically, the glass cloud that Spreckelsen proposed was changed to a floating canopy with its plethora of tension cables. These cables appear

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[64] Peter Davey. "La Defense." *Architectural Review.* August 1989, v.186, no.1110, p44.
[65] "The Grande Arche, La De'fense, Paris." *Architecture and Urbanism.* No.9 Extra edition, Sept 1990. p216.

to tie the building down instead of the intended symbolism of fleetingness. The spiky tent with its jungle of heavy cables may be the reason for the transformation of a floating cube from a distance to a grounded bulk from close distance.

If one analyses the comments the competition jury made, one finds the echo of a review of a sculpture or a movie – like an art piece. The jury remarked about 'clarity of its concept' and its 'geometric precision' and 'poetry'. The initiator of the whole project President Mitterrand welcomed it with words like 'purity' and 'force'.

Spreckelsen's notion was that the Cube should appear as a monolith, as though carved from a block of marble. The marble should be so precisely cut, that it could be mounted with almost invisible joints, and the sheets should be so arranged on the façade, that one should see the structure of marble quarry. In concept, the plane, glass façades on the outside were also designed as continuous surfaces without visible mullions.

The splay of the cube on the east side simply accommodates a very broad flight of steps from where tourists can enjoy a dramatic view of down the grand axis. To keep the purity of overall form, the steps are too steep and completely lacking in handrails.

The landscape imagery – some critics consider the plateau with its crater, the clouds, the fountains and plants, maybe rightfully so, as synthesis of Nordic naturalism and French Rationalism, "an architectural abstraction of a landscape projected as an ideal world within an enormous Cartesian frame – again purity of imagery fused with geometric

precision. But in its development, Beaux Arts stiffness and formality have taken over the plateau which has become a daunting and inhospitable place for the informally activities originally envisaged there. Of course, one can question whether or not it could ever have succeeded as Spreckelsen intended: perhaps it was always destined and symbolized to be a wind swept void to be traversed, rather than an urban place to be inhabited: recall it was meant to be a window to the world – maybe it is just the framing for it?

It is a gateway – as Spreckelsen placed five lamps by Greco-French artist Takis[66] that create a light structure – they are kept in a small group behind the cube, towards the west. While defining the path of the axis through La Defénse, Takis' lamps will signal visitors both a welcome and a farewell.

In a limited competition to complement the Cube, the design was won by Jean Nouvel and Jean-Marc Ibos huge chimney like tower. They justified their tower by referring to the Spreckelsen's idea that, one day his cube might be complemented by a tower, like a square mosque with a free standing.

J. O. Spreckelsen was a church designer but the design is very secular. Spreckelsen designed the communications tower with his ethereal vision of a glass cube, void at its center. His intention to create an otherworldly entity is difficult to judge, since the form, which he sketched, is so vastly different from what has been built.

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[66] Peter Davey. "La Defense." *Architectural Review.* August 1989, v.186, no.1110, p44.

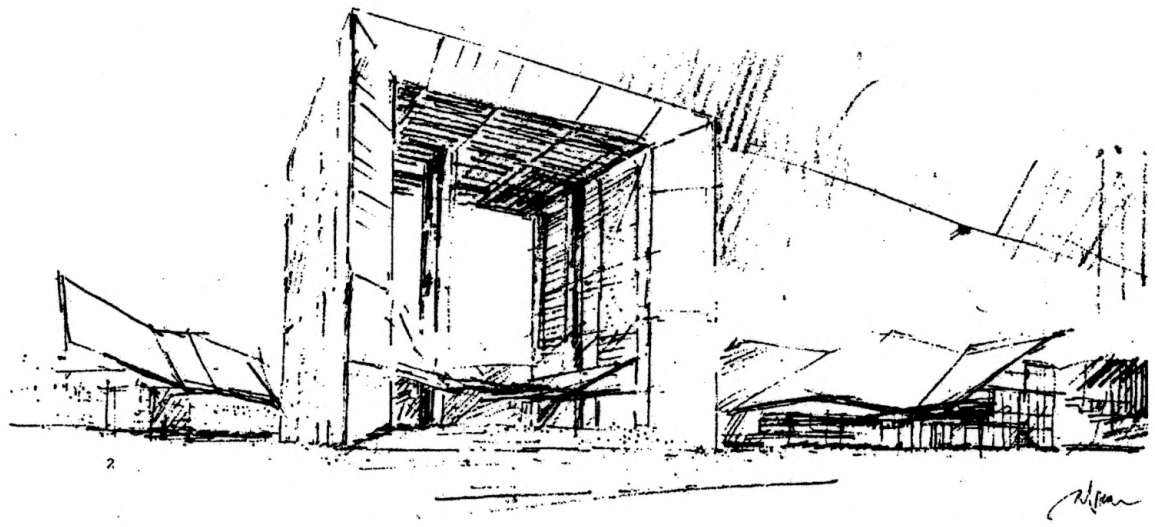

Figure 3.11 Original sketch with old cloud and collines. (Source: Peter Davey. "La Defense." *Architectural Review.* August 1989, v.186, no.1110, p44.)

His impressionistic sketches take a completely different approach of a cube sitting lightly on the earth like a balloon ready to take off. If one sees his sketches, the first impression is to see how the other monuments of the *Grands Projets* are bound to earth whereas the shimmering haziness of the Cube makes it mobile, an entity with movement.

Since the built design is so different from the gravity defying design of Spreckelsen, it becomes imperative to understand original aspirations and intentions of the building. The very first models show more of glass than the now visible concrete. The analysis of Spreckelsen's sketches reveals the lightness of the "*le toit*", the top cord of the cube. The vertical faces have a kind of semi-solidity to them, but the top cord seems ready to fly with its lightness. This gravity defying design has little resemblance to the structure that is built.

Von Spreckelsen had designed the cube exactly the size of the easternmost court of the Louvre, the *Cour Carée* and as noted earlier, like the court, it is titled exactly the same degrees north of west to the Grand Axis. This deliberate relation to the Louvre court is hard to explain. There seems to be a calculated attempt to relate the Cube dimensionally to the existing court.

Spreckelsen describes his arch as a cube with a hollow space as an open window.[67] Spreckelsen described this design in almost technical terms, writing of post-tensioned concrete, frames and cross walls, the distribution of forces, box sections, ribs, energy conservation and so on.[68] If we analyze his writings and the amount of mathematical and technical precision Spreckelsen wanted, it can be inferred that his intentions were to create something, which symbolized order and regulation. The complete non-chaotic approach to the arch stands for nothing but his desire.

The covered square as mentioned earlier is a place for recreation. Spreckelsen described this space as:

> *"... a chance to rest, have a cup of coffee, have conversations, to play, to promenade, to look out over all things ... So there were areas covered with sheets of glass, like hovering clouds ... moving slowly over folds and their junctions ... with living plants and small fountains."*[69]

The objective was to provide an oasis in midst of the concrete office jungle. Spreckelsen's idea did not materialize as mentioned earlier, which has resulted in a bare

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[67] Von Spreckelsen, JO, 'La Grande Arche de la Défensee' in Mitterrand, F and others, *Architectures Capitales*, Electa Moniteur, Paris, 1987.
[68] Peter Davey. "La Defense." *Architectural Review.* August 1989, v.186, no.1110, p47.

and unwelcoming square plateau. Spreckelsen was right in assuming that without any soft additions like fountains and plants the area would turn blank and desolate in the Parisian climate. Spreckelsen's pragmatic approach is present in his visualization of the oasis, but his intended symbolism is reflected in the tenuous poem he wrote:

An open cube.
A window to the world.
As a temporary Grand Finale to the Avenue
With a view to the future.
Here under the 'The Triumphal Arch of Man' people will come from all over the world to learn about other people, to learn what people have learned.
To learn about their languages, their customs, their religions, arts and culture.

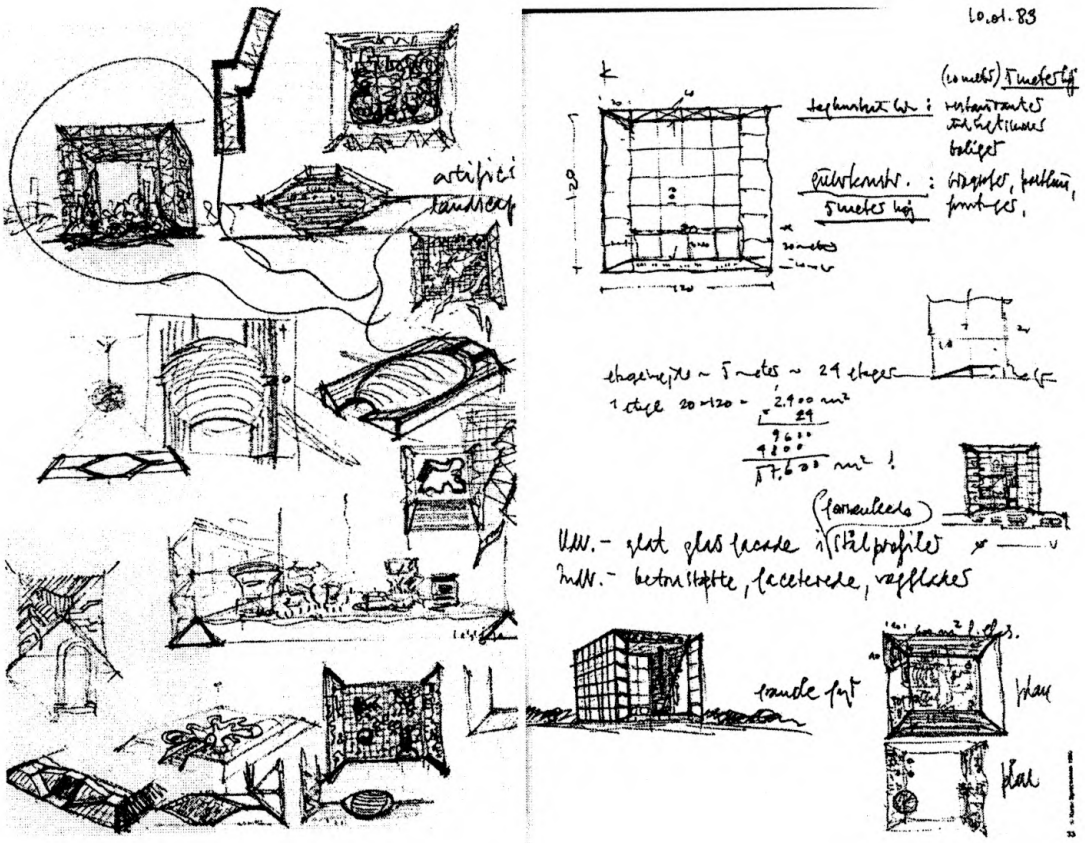

Figure 3.12 Spreckelsen's original ketches. (Source: "La Grande Arche." *Archithese.* July-Aug 1988, v.18, no.4, p26.)

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[69] Peter Davey. "La Defense." *Architectural Review.* August 1989, v.186, no.1110, p48.

Spreckelsen also describes the arch as a 'modern Arc de Triomphe', celebrating the 'triumph of mankind and a symbol of hope for the future'. These verses and exchanges, of course would have been reinforced by *Carrefour International de la Communication* if it had ever moved in. So much for Spreckelsen's formal agenda and much of it was not realized. There is more to Spreckelsen's symbolism than he ever wrote in his formal account. The analysis of physical form done in section, deals with that kind of symbolism, but since the form is so powerful component; it is highly probable that the symbolism discussed earlier was totally deliberate.

According to him, the mirrored glass sidewalls of the Cube:

> *The facades ... appear with a bright and smooth surface, symbolizing a microchip, showing the lines of communication: an abstract graphic work inspired by the most brilliant invention of modern electronics.*[70]

In the original scheme, there were four slender lift-shafts instead of the one now giving public access to the roof; also as mentioned earlier, the glass clouds were changed to the present canopy structure. If they would have been built, it would have heightened the symbolism of lightness and the public and critics would have been far less disappointing.

Spreckelsen envisaged his monument as a monolith within and around which rather more ephemeral things would happen. The idea of a monolith conjures up a image of heavy set; this seems ironical with Spreckelsen's other desire to make the cube float. Somehow, due to its construction details or façades the Cube has managed to achieve a little bit of both.

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[70] Paul Andreu and Robert Lion. "L'arche de la Defense: a case study." *Royal Society of Arts Journal.*London: Sept 1991, v.139, no.5421, p.571.

Spreckelsen wanted butterflies on the roof gardens – so he directed the landscape designer to achieve this – it turned out later that this could not be achieved – but it as Spreckelsen told later – he never wanted butterflies – but it was just his way to describe the ambience he sought to achieve in the roof gardens. As opposed to the cultivated perfection of the cube, the gardens should be organically warm and alive with change. The scale was to range from the human down to the smallest perceivable patterns, like the nerve strings of a leaf or the pattern on the furry wings of a butterfly.

The four civic projects were all winning products of international competitions. The Jury invited President Mitterrand to choose the winner from the selections they had narrowed. This handover of a crucial judgment from art critics to a politician shows the power of politics and the relegation of architecture. The choice that Mitterrand made was not always what the Jury wanted but kind of approved his choice. Therefore, it becomes imperative to analyze the arch from Mitterrand's view.

3.2 THE CONTEXT OF THE CITY

It was de Gaulle who decided to create *La Defense* – a Manhattan like concentration of skyscraper office blocks. Urban policy in Paris has changed radically in Paris, city planners who had abandoned the traditional grid to build tower and plaza has restored the primacy of streets and squares. Much has been written about the conflicting visions of politicians and architects, but the urban context changes so much with politics that it has been hard for the profession to come to an agreement.

Triumphal arches have been built in France ever since the Roman times.[71] The arches, of course were built for symbolic but their forms and their locations seem to be symbolic too. The *Grande Arche* at La Defense seems to be derived from such a complex symbolism. One author suggests that the westward extension of Paris started around 1200 when the kings found that any move westward from the Louvre were blocked by Bishops of Paris. So successive kings and now presidents have continued building along the westward axis, extending along the Champs Elysées, the Avenue de La Grande Armée and the Avenue Charles de Gaulle.

By 1958, building activity had gone beyond the end of latter and gone across the River Seine. The huge Exhibition Hall, CNIT and random clusters of towers – FIAT, Elf, Nobel, PFA has sprouted around here. Parisians have termed this concretization a '*mini Manhattan-sur-Seine*'. The site at La Defénse has had an architecturally fraught history.[72] When built, Napoleon's Arc de Triomphe was said to be the largest such structure in the

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[71] In Paris alone one thinks of Blondel's Porte St Denis an Bullet's Porte St Martin, not to mention the two Arcs de Triomphe built for Napoleon Bonaparte at either end of the Champs Elysées; the small one in the Place du Carrousel, the western most court of the Louvre and the big one further west, in the Place de l'Etoile (now Charles de Gaulle).

[72] Named after a heroic but unsuccessful stand against the Prussian army in 1871, it was for many years occupied by a traffic roundabout. This was the subject of a competition in 1931 for the improvement of the road, but the war intervened and it was not until 1958 that development was again envisaged. The 1960 master plan proposed a mix of high-rise offices, apartments and services buildings organized around an enormous axial promenade sloping down to the Seine and aligned on the Champs-Elysées. The plan was revised to include more offices. In 1973 schemes by Aillaud and Pei for the Tête Défense site became the focus of an intense but inconclusive debate about whether or not to close the axis. Pei suggested a pair of symmetrical towers linked by a parabola to form an open gate, while Aillaud envisaged two mirror walls symbolically returning the axis towards Paris. It was later proposed to build 100,000 sq.m of offices with height limits for the buildings to obscure them from distant view, but the result lacked monumental presence, and private accommodation was deemed at odds with the Parisian tradition of reserving such sites for monumental buildings. Finally, in 1981, the Government decided on the project that became the competition.

world but now Von Spreckelsen's Grande Arche dwarfs it, which is more than twice the size. The *Tête-Défense* complex has started becoming a pedestrian's nightmare due to the islandization of the arch with steel and glass high-rise buildings. As we see later that politics has have to do a lot with such effects of architecture. The speculation that the adjacent lands, too, will be converted into office buildings will severely compound this problem.

The huge space is directly oriented on the grand east-west axis of Paris, Le Nôtre's great projection from the Louvre, through the Tuileries to the Champs Elysées. It was terminated in Napoleon's time by the Arc de Triomphe and later continued outwards. Its visual relationship with historic Paris is odd. Looking west from the Louvre, the Arc de Triomphe terminates the axial view. Round it, one can se the silhouettes of few shambling towers. Yet only from the Arc de Triomphe can one see both the Louvre and the La Defénse. The axis seems so prominent on paper seems so broken if seen this way. The notion that this axis should be terminated somehow existed in the Parisian mind for years. They wished something monumental and imposing as the Arc itself.

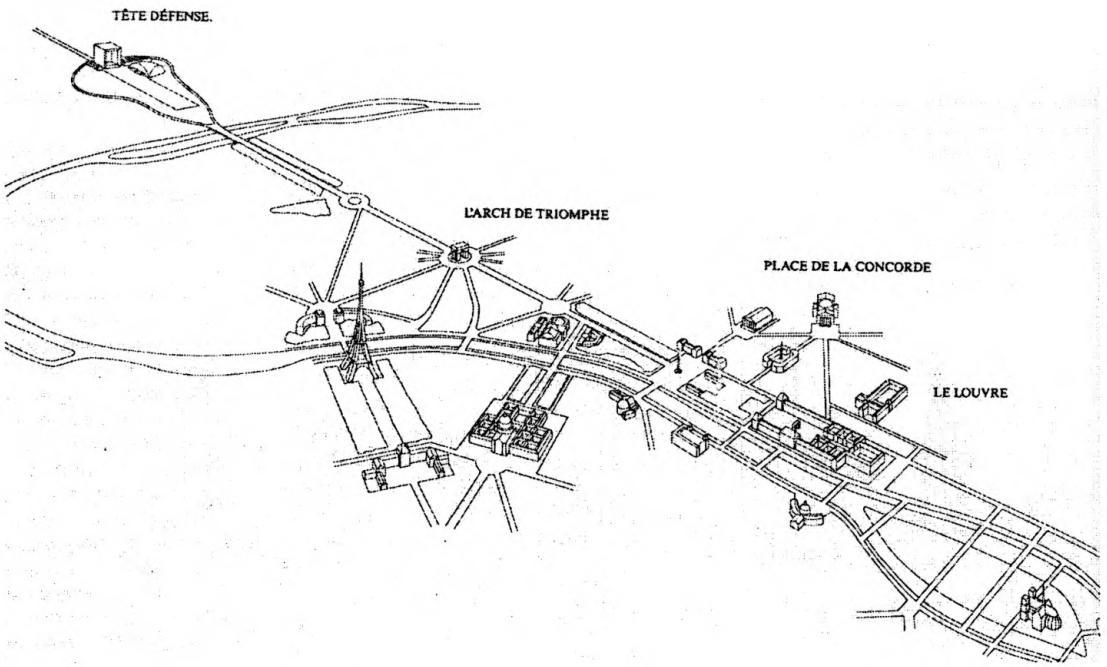

Figure 3.13 Axonometric view of the axis. (Source: Virginie Picon-Lefebvre. "La Grande Arche de la Defense." *Cahiers de la recherché architecturale.* 1992, no.29, p.129.)

The inflection of the axis does, in fact set it off from its uncouth neighbors and, by enabling it to remain a little aloof, gives it some power over them. The cube has been built exactly on the historic east west axis through the city, first conceptualized by Colbert in 1700. People can look straight down the Champ Elysées, past the Arc de Triomphe and on to Place de la Concorde, the Tuileries Gardens and the Louvre. The glistening white dome of *Sacre Coeur* on Montmarte and the Eiffel Tower are both clearly visible either side.

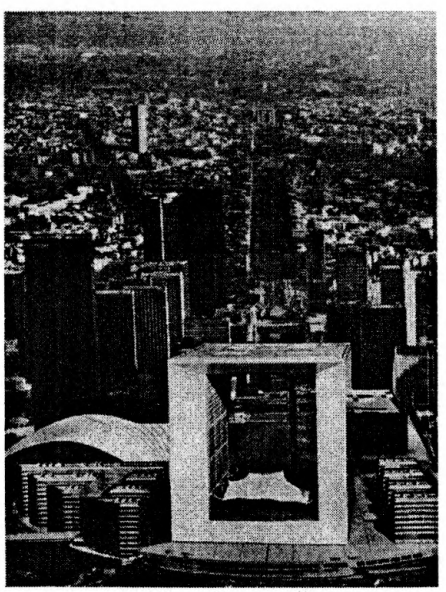

Figure 3.14 The context of the city can be realized from this view. (Source: Virginie Picon-Lefebvre. "La Grande Arche de la Defense." Cahiers de la recherché architecturale. 1992, no.29, p.129.)

The edge of the city is less pronounced though intentionally should be more pronounced in an urban context. There is lack of threshold symbolism.

3.3 THE SOCIAL CONTEXT

The 200th anniversary of the French Revolution of 1789 saw the nation and its capital in confident and ambitious form, which is marked in Paris by a series of monuments, the *Grands Projets*. The spirit of the celebration attempts to make high culture available to everyman.

During the last decade, the city's output of powerful ideas and buildings has rivaled that of Berlin or Barcelona. The effort has been devoted to generate a comprehensive urban character, fine urban spaces and social buildings. Paris has been the site of important experiments in late 20th century architecture, ranging from monuments to quite modest insertions into the existing fabric, from great parks and museums to small housing.

One of the reasons why Paris has become so active is that its local government was reorganized in 1977, just at the time when the planning and architecture professions worldwide were seeking new directions to wok with existing cities. Paris acquired an elected mayor and an administration with greatly increased power. Mayor Jacques Chirac wanted to reorganize the master plan "*to conserve the existing grain and traditional mould of our city.*" However, he was a thinking conservationist:

"while buildings in good condition should be kept, that does not mean that everything must be preserved ... Each period must be allowed to leave its mark on the city ... I would tend to keep away from imitating past styles, for I refuse to believe that architects today are less creative than those of the past."[73]

It was with this spirit that the *Grands Projects* were initiated; the schemes drawn by architects who were under pressure to create something new. Under Chirac, the new municipality decided that 'the general volumetric proportions of the city were to be respected that there was no longer any question of introducing bizarre objects willy-nilly into the existing fabric.' Large-scale urban road works were abandoned and the existing Parisian street pattern was retained.

In Paris, the developments are concentrated on the deprived eastern side of the city, in a crescent stretching from the 18th *arrondissement* to the 13th. The monumental side of the Parisian building program draws its inspiration from traditions much older than the Revolution. French heads of state, kings, emperors or presidents have always wanted to leave tangible memorials to their reigns in terms of built objects.[74]

Since de Gaulle, presidents have tended to concentrate their monumental work on Paris. Pompidou's Art center; Giscard d'Estaing's attempt to build a large monument by Bofill (which Mayor Chirac found too 'greco-bouddhique' and stopped). When Francois Mitterrand defeated Giscard; he changed the Defénse Arch into a '*Beaubourg de*

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[73] Paul Andreu and Robert Lion. "L'arche de la Defense: a case study." *Royal Society of Arts Journal.*London: Sept 1991, v.139, no.5421, p.571.

[74] The great canal system of France was instituted by Louis XIV's minister Colbert; Tiers initiated the construction of the city's great defensive wall in 1840's; Napoleon III's prefect at Seine, Haussmann, with his *grands boulevards*; de Gaulle's New Town building program.

l'audiovisuel et de la communication'. Mitterrand also added a new Finance Ministry at Bercy, the restructuring of the Louvre, the Institute of the Arab World, a people's opera house at Bastille, a rock concert hall and others.

Mitterrand's *Grands Projects* were started in haste because there were fears that the Socialists would not survive the 1986 elections. It was imperative to build so much that the subsequent government would not able to halt construction. The strategy worked well; only two problems encountered in the period of cohabitation between 1986 and 1988 (when Mitterrand had to co-exist with a right dominated parliament led by Chirac) were, first, the rebellion of the Minister of Finance who refused to leave the Louvre and second, the abandonment of the *Carrefour de la Communication at La Defénse*. This is political viewpoint becomes important because it left the arch with no real purpose or meaning, a lack that no amount of bureaucratic patching-up can conceal. This political play has played an important role for the Grande Arche.

Now the question is: Even if the communication center had been retained, would the arch have had much more meaning? Spreckelsen 'window on the world' would have worked differently had a real communications center be housed there. The purity of geometry would have been marred by continuously changing and covered with dishes and aerials.

When the project fell foul of the new right-wing Government's scrutiny of Mitterrand's grandiose architectural plans: the ICC was dropped and the developers – a partnership between corporations – were instructed to find commercial uses for the redundant offices

and to simplify some design elements – like the four shafts, the clouds and additional sheltered public spaces. The changes were too much for Spreckelsen who could not bear the high handedness of the politicians and resigned in much controversy. He died in Denmark the following year. After Spreckelsen, the project was handed to Paul Andreu with whom he had associated after winning the competition.

Most of the *Grands Projets* suffer from the same problem of emptiness, lack of meaning and lack of creative relationship to human use. The Opera reduces its visitors to consumers rather than participants. The follies *at La Villette* are just weak gestures. Only the Finance Ministry at Bercy has obvious meaning – the building expresses power and authority by stretching across the road.

The critics label the *Grands Projets* as meaningless monuments; stern and awesome symbols of state or architectural power. The new regal monuments attempt to make a coherent urban structure with new works either carefully relating to old or standing out as monuments in carefully chosen places.

A second of the *Grands Projets* the Opera at La Bastille is another victim of Parisian art politics following the dismissal of its art director. This has led the artist community to threaten not to work there and completely boycott the venue. In 1990, such politics caused it to lose its opening season[75] and thereby reducing a public monument to an

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[75] Daralice D. Boles. "Disappointment at La Defense, Paris." *Progressive Architecture.* Feb. 1989, v.70, no.2, p.24.

empty and functionless unit. "*Every single one of 'Grands Projets' has been threatened by politics*," says Bernard Tschumi.[76]

All the *Grands Projets* have survived a seesawing of favor and funding but the Arch and the Opera house have been drastically cut or dramatically modified by the conservative government of Jacques Chirac.

The overall reason for such grand buildings is not that the high culture should be available to everyman, as suggested as the spirit of the old and new revolution. It is, as rightly pointed out that; each head of the state wants to leave his mark on the city. That is why with the change in governments, the role of the monuments change; leaving them void and no function: something, which spells more disaster for a monumental expressive building than something like housing. In addition, the public supports this act of monumental building because for them they want Paris to have a fair victory in the battle to become the premier city of the EEC.

This battle to make Paris superior is noted with envy from architects in other nations particularly in Britain who would do anything to participate in such epoch making "*architectural blowout*".[77]

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[76] Thomas Vonier. "Monumental Modernism." *Progressive Architecture.* July 1987, v.68, no.7, p.94.
[77] See the editorial comments on the *Grands Projets* in the bicentennial issue of *Architect's Journal.* July 1989, v.190, no.2.

Yet, for all this grand buildings, the practice of architecture in Paris remains difficult because French architects are dependent upon the government for most commissions, which must by law be assigned by competition. Given the predominance of public over private commissions, it is inevitable that architecture in Paris should be highly politicized. The question of style, too, carries political overtones.[78] France also has the claim to the nationwide strike of architects against the government in 1975.[79]

3.4 PUBLIC RECEPTION

When it was announced in late 1983 that a huge 110 sq m, hollow, open, cube had won an international design competition for a monument at the western end of the Champs Elysées, few people thought there was any chance of the structure being built, particularly as it was the concept of a Danish, not French, architect.

As soon as the Arch neared completion, the French media echoed vehemently the disappointment felt by Parisians. The politicians had failed on their promise of a beautiful urban center. This was much more evident on the Arch which started as a graceful communications center and ended up as a commonplace office space with routine furniture and routine people. The comedown of the project from a monument to a spec office space was sad and distressing. It was not only the Parisians who were let down,

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[78] For a more detailed and interesting viewpoint and examples of politicization of architecture in Paris, see Thomas Vonier. "Monumental Modernism." *Progressive Architecture.* July 1987, v.68, no.7, p.69.

even the architectural press responded with glaring headlines like '*Disappointment at La Defense*'.[80]

The Defense Arch has been venue for light and music shows. As a new cultural 'place to be' it is gaining popularity with workers / office goers in the *Defense* area. The whizzing jet shows coupled with performances on the monumental steps to mark national holidays and communal activities depicts the usage of the Arch as a public square. The Arch has been used in commercial advertising. The arch as a symbol has been commercialized and trivialized.

Paris, city of light, symbol and center of French nationhood and culture has physically and socially reconstructed during the *Grands Projets*. This symbolizes a capital and a nation with more confidence in the future: architecture reflects eco as well as cultural state of the society.

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[79] For a more detailed description of causes and events leading to the strike by French Architects see – 'Practice: Working in France: Viva La Difference' by Gordon Wheatley pages 71-75 in *Architect's Journal*. July 1989, v.190, no.2.

[80] Daralice D. Boles. "Disappointment at La Defense, Paris." *Progressive Architecture.* Feb. 1989, v.70, no.2, p.24.

Chapter 4: COMPARATIVE ANALYSIS

4.1 ANALYSIS OF FORM

Both the arches represent duality of traditions. The St. Louis arch is a futuristic version of a traditional idea of a gateway. On the other hand, the Grand Arch is steeped in horoscopic symbolism while maintaining its microchip precision in construction.

Like the duality of stability and delicacy, both the arches take on different roles. As Cesar Pelli, who was working in Saarinen's office at that time, rightly pointed out the reason behind these multiple experiences was the powerful and simple design.

> *"St. Louis Arch was impressive in many ways. One is because of the design, so powerful, so simple. ..."*[81]

Both the arches are classical architectural forms erected by means of the most sophisticated modern engineering technology, but there is a striking difference between the two. At the time of construction of the St. Louis Arch, it was considered to be an impossible to make. It took 20 years of refinement and engineering breakthroughs, some of which only possible due to advancement in space technology. The simplicity of the form adds to the viewer's amazement. Even today, four decades later, people wonder how it was made. The Paris arch seems so '*easily buildable*' though in the engineering profession it was too, a challenging task. The heavy ground set form sends generates automatic responses in the mind of the viewer about its non-technology. On the other hand, the soaring images of 'flight' captured instantly by human mind after seeing the

Gateway Arch add to its marvel. The association with 'flight', which is a common human aspiration but uncommonly experienced adds to this emotion.

Another reason, which makes people wonder about technological wizardry, might be the fact that a superbly edited film entitled *Monument to the Dream*, sponsored by the American iron and Steel Institute is shown numerous times a day. The film is replete with breathtaking shots from high above the arch, celebrates the miracle of high technology and extraordinary teamwork of construction workers and engineers.

The archetypal form of an arch is easily associated with passage or expansion in human mind and culture.

Arch: The arch can be construed as the vault of the SKY. Various cultures link the arch to victory; Rome and France (L'arc de Triomphe) being two of the most prominent. Passing through an arch is the symbolic act of rebirth, of leaving the old behind and entering the new. They often mark access into holy places.[82]

Cube: The cube is a three-dimensional SQUARE; it is a symbol of stability and permanence, of geometric perfection. It represents the final stage of a cycle of immobility, it can be seen as the truth, because it looks the same from any perspective, it is commonly thought of as the counterpart of the sphere. The cube is, in essence, the

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[81] Allan Temko. *Eero Saarinen*, London and New York, 1962. p28.
[82] For more information, see
http://www.umich.edu/~umfandsf/symbolismproject/symbolism.html/A/arch.html

squaring of a circle. Scientifically, the cube usually represents salt.[83]

The symbolism of the Gateway arch is more pronounced since the idea of expansion is easily associated with its form. The example of image drawn by a high school girl testifies the easy and maybe automatic conveyance of the idea of expansion and progress.

Like Saarinen's idea for the Gateway Arch, Palladio derived his inspiration from traditional classical architectural forms, but Saarinen's and Spreckelsen's genius infused these traditional elements with a modern sensibility.

It has been pointed out in Christian Norberg-Schultz's that the basic symbolic forms possess pronounced Gestalt qualities of Similarity, proximity, continuity and closure. Examples from vernacular architecture are not a direct reflection of physical conditions and needs, but of symbolic systems.

They both exceed their utilitarian function and that by the traditional makes them eligible for being called as 'monumental'. Also since no precedent existed for a catenary arch and a cubic arch of workplace, elevates their status as a novelty – this also: makes them 'monumental'.

Both the architectural forms symbolize the tension between classical tradition and creation of new forms. They represent emerging and changing nature of their respective

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[83] See http://www.umich.edu/~umfandsf/symbolismproject/symbolism.html/C/cube.html

cultures. Both the Arches signify expansion. The St. Louis Arch signifies westward opening of America and the Paris arch does the same for west/east opening of business district / edge of Paris. Though the function is similar, the difference in magnitudes of expansion is significant. The former is a cultural expansion and the other is a more tangible expansion of plain real estate. Arches in France have symbolized war victories. This implies that expansion of territory is associated with the Arches. In this outlook, both the arches are quite similar, though one might say that one represents war and the other a peaceful treaty.

From dome to arch: This intention of openness symbolizes freedom that the arch also symbolizes a sense of lack of restriction. The idea was in Saarinen's mind he was looking for a form to accurately symbolize it. Moreover, as we see later in his Kresge Auditorium at MIT, the dome is touching at only three points; it seems the idea never left him and he used it when he felt it was appropriate.

The architectural style: Both the projects epitomize the basic virtues of the pure architectural traditions: Textural strength, meticulous craftsmanship, attention to detailing, and honesty of materials. They also achieve another more essential task: to transpose a complex problem to a simple whole. As both the architects have European lineage where as the saying goes, " *A plan should be so simple that it can be pissed in the snow.*"[84]

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[84] Editorial in *Architect's Journal.* V.190, no.2, July, 1989.

Both the forms are classical with historical associations; this makes them at once the oldest and newest monuments. The Gateway Arch and the La Grande Arche symbolizes a new frontier of a postindustrial society.

The simplicity of the Gateway Arch guarantees its timelessness; yet, the audacious engineering, the material, and the implications of science make it contemporary. Similar in this sense is the aesthetic transformation of a function building in the Paris Arch.

The Arches are after all simple arches, a form known to the ancients and associated with architecture for thousand years; but they are hollow usable structures engineered with considerable skill and daring, one more than the other. The chain and the cube are more like a circulatory system than a skeleton; crammed with unseen movement. Seen from a distance, the simple forms are deceptive; inside is the seething technology of modern world waiting to get out.

Both the arches are epitome of ideas – in some cases ideas winning over sense. Both the arches are BIG ideas – maybe because they are product of competitions – Both the arches are most heroic projects in intent, they supposedly brought some order to urban locale, and at the same time became symbol of progress and freedom.

The JOINTS: Both the architects wanted simplicity, in both the structures the structure is clad in simplest way possible but in one its emphasizes volume and in the other slenderness. This can only be attributed to their forms. The simplicity of both the arches

is stunning. The simplicity of the Gateway arch is more arresting than the Cube's because it takes a bit more time to understand its simplicity.

As the people behind both the projects desired and foresaw, the mighty arches have remarkable simplicity and purity, particularly when seen against its vulgar neighbors. The difference is in the way the two arches achieve this. The Gateway Arch is graceful but the Arch at La Defénse imposes an elegant presence on the commercial chaos due to its sheer bulk.

Both the arches are easy to make fun of – that is the reason they are considered frivolous or dumb by people – The Gateway Arch is just a curve, similarly the Cube is just an office block with a void at its center.

The STEPS: The steps are used in both the cases to symbolize something – in one case purity and dramatic enjoyment of the grand axis on the other – to accentuate the effect of rising and soaring if seen from the river and enjoy the riverfront. In both the arches, general public uses the monumental steps during events or just whiling away time.

The rectangle, square, cube or catenary curves are no insurance of artistically acceptable solutions; the reductionistic method does not necessarily lead to archetypal primary forms, although the probability of this is high. Both the arches achieve this merit by interplay between whole and detail, rhythm, daylight and sympathy with surroundings – making them convey their symbolism of grace and purity.

HIGH VISIBILITY: Both the projects have to survive the effects of high visibility – both the architects spent considerable amounts of energy in doing visual studies.

The Arches are a testament to modern man's pioneering accomplishments, a shining proof of the engineering and material developments. As Venturi said of the Gateway Arch:

> *It is very much of its time, kind of a great structural gesture showing off the technological structural abilities. I think it is one of the best things that's ever been done.*[85]

Both the projects have been considered by architectural critics as appropriate testament and final statement of career of the architects. As Rupert Spade wrote about Saarinen,

> *Here in a way Saarinen's quest both began and ended; the first major design to separate him from the work of his father ... and one of the last to be completed after his own death, the Memorial expresses both the ambition and the emptiness of the architect's meteoric career.*[86]

Saarinen wished his arch to rise up in a single, aspiring movement. The Paris Arch on the other hand, does so haltingly. Spreckelsen intention to create a sturdy form is different in this respect than Saarinen's arch.

The design teams of both the arches devised 'new forms' to realize their ideals. 'New Forms' because arches have historically been utilized in monumental architecture, what they did was to liberate the arch form from the physical restraints of old masonry and

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[85] Robert Venturi in Allan Temko. *Eero Saarinen*, London and New York, 1962. p38.
[86] George McCue. "The Arch: An Appreciation." *AIA Journal*, November, 1978. p57-63.

values. The arch form had traditionally been regarded as a strength caused by two weaknesses, the legs of the arch supporting one another. However, in both the instances, the architects have been able to evolve a gravity defying structure.

Mathematical Precision: As we studied in the previous sections, that both the architects vehemently insisted on mathematical accuracy of their form. However, the intentions were different. Saarinen wanted gracefulness and timelessness and naturalness while Spreckelsen it seems wanted grace and total order. Far from all of Spreckelsen's dreams were realized. Compared to Saarinen who almost got everything he wished – the pure thoughts were to some extent repressed in both cases and political conspiracy and intrigues changed the intentions.

Both the architects appear fascinated with Euclidean geometry and geometric forms as they become increasingly apparent in their work.

In order to elucidate monumentality one must have its antithesis. The butterfly roof gardens are just an example how Spreckelsen employed this method.

4.2 THE CONTEXT OF THE CITY

Saarinen had to consider Eads Bridge, old courthouse and the cathedral as immediate neighbors to his arch while Spreckelsen had the enormous task of adding a creation to the already monumental city of Paris.

The Americans have overthrown traditional attachments to places such as the hierarchical seating arrangements of the parish church or to a lord of manor but the French have yet to reach that stage. The city center of St. Louis was demolished to make way for the Gateway arch. On the other hand, the Grand Arch had to fit amongst the existing creations. French: made place for it without disturbing other urban centers.

Dream of Escaping the City: In the case of St. Louis, people were trying to create an oasis between the complexities of commercial development. On the other hand, Parisians were expanding and at the same time defining the limits of their city. In St. Louis, the return of the emphasis to the riverfront was a powerful factor in progressive development of downtown – reversing the tide of commercial building westward of sections that were 'dead'. The same was the intent behind the *Grands Projets*.

To understand American cities like St. Louis, one must also factor into account the interstate highways and suburban sprawl.

Tête Défense was a vehicle to keep central Paris as it is and cultivate commercial growth at the edges – on the other hand it was completely opposite at St. Louis. The scheme of Paris has been successful to a large extent; Paris remains free of gross office blocks similarly The Gateway Arch has been successful in rejuvenating the downtown.

Just as one sees chimneys and desolate backyards on one side of the Gateway Arch, the change in program resulted in deletion of observation terraces on the west that were

sacrificed to make conference rooms, so today one can only see Paris and not towards east and the land beyond.

The Arches are highpoints of the locality and the city. They symbolize the city for the people living there. It is their identity; therefore, it is understandable that these areas are well kept and cared for. The absence of poverty or squalor is intentional and requires hard work to make them photographable. Since it symbolizes them to the world, locals want to convey a nice impression.

St. Louis has a most unique and identifiable skyline because of the Gateway arch. While Paris has a unique skyline, it is not because of the Grand Arch.

4.3 THE SOCIAL CONTEXT

In both the case studies, politics have played an important role in accentuating and mitigating certain symbolic aspects. The 'landmarkness' of St. Louis arch is reduced by the act of politicians by allowing buildings to be higher than the arch. The 'empty gesture' of Paris arch is due to the sudden change in its program from a communications tower to a routine spec office building. President Mitterrand did the selection of the cube – though it was not the first prizewinner. The 20-year delay in building the Gateway Arch also altered the symbolism – in those 20 years the idea incubated, giving it time to relate with all the age groups.

The result of politics on the Grande Arche (change in program from communications ministry to office) has resulted in dilution of the symbolic meanings and converting the cube into an empty gesture – had the original scheme and program been continued – the building would have fared much better with the public as well as the architectural critics.

The fact that Saarinen could at least fight for height restrictions, though unsuccessfully, it shows the architects position in the hierarchical setup. Whereas in Paris, the *Grand Projets* were political inception and therefore Spreckelsen had very little in such sayings that affected his creation in an external urban context. It is a political statement that Spreckelsen resigned from the project while Saarinen saw the project until his death.

In themselves, the changes seem minor but they contribute to a fundamental shift away from Spreckelsen's intentions. Imagine such changes in the Gateway Arch regarding the capsule inclined lift – expand. Whatever Spreckelsen aspired his creation to be, it is now deprived of its *raison d'être* and significantly altered during the course of development, one cannot help but feel that the great cube is destined to stand as an empty monument, its vast void an apt if inadvertent commentary on the perils pf presidential ambition and the uncertainties of contemporary society.

The true purpose of the arch is evident in the eco-political context. It seems to be a game of public pride in Paris and St. Louis, though the cultural difference tries to achieve it in different ways. In case of St. Louis, the articles/ newspaper editorials give the impression that regaining the old glory of the past was more a factor than erecting a monument to

westward expansion by Lewis and Clarke's expedition. The expedition was just a vehicle/excuse for the monument; to a point that St. Louis was and can still be a major trade center without a monument to the expedition.

While reading about St. Louisians, it seems that the Arch is a daily centerpiece for them like a pet dog or cat or a new acquisition, they seem to pour affection on it, even though it is part of their daily life. They seem to glance at it quite often, and write stuff about it. The articles referring to arch are numerous and printed daily reflecting how ingrained it is in St. Louisians.

Such occurrences are uncommon in Paris, though the Govt. literature, billboards on buses, government publications depict the arch rather heavily, and the daily impact on people is very meager. Is it because the Paris arch is living under the shadow of Eiffel – but Louvre or even Pompidou Center seems to be evoking reactions? One British journalist pointed that the greatness of the architecture of the *Grands Projets* is being mitigated by public reaction because of its antipathy towards govt. Just because of govt. haste and inefficiency in other departments, the public seems to be turning away from the projects. Just like the decline of British architecture in 80s is so vociferously attributed to Margaret Thatcher.

It is hard to understand that public reaction against govt. be the cause for relegation of the Paris Arch. I believe, after the EEC becomes stable, the greatness of the arch will come to the fore. For Paris, it is the battle to become the most beautiful city in EEC – for St. Louis

it is to regain the importance it once enjoyed. One of the main purposes of the *Grands Projets* is to stimulate international interest in France. The job of Jefferson Arch is much more intimidating because it has to handle so many factors alone but the Paris Arch has the help of the whole government and Grands Projets. In order to measure their success individually – one has to ask whether the two arches did what was asked of them?

The 1904 Louisiana Purchase Exposition in St. Louis celebrated a century of expansion and conquest of wilderness. This is considered by some as the most valuable but understudied cultural artifact in order to study culture. On the other hand, the *Grands Projets* might make it to textbooks in City and regional Planning classrooms as a significant expansion to Paris, but won't make a significant impact on sociology and related fields. The reason being simply that it does not affect the whole growth of a huge nation or even a region. This might undermine the *Grands Projets* as just another building activity.

In addition, as studied earlier, that the *Grands Projets* are more symbolic of petty political rivalries than of high social ideals. The questioning of visions of the projects has already begun.[87]

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[87] Questions like: How much do sunbathers at La Villette know about Deconstruction? How a boycotted opera house will bring culture to masses? How much museum space a city needs which has the Louvre? Such queries are making the gestures of such grand buildings less convincing to the French public. For a complete editorial on Grands Projets, see, Noel Moffett. "Paris Quartet." *Building Design.* Oct. 1988, no.907, p24-25.

The competition system of France so envied by architects elsewhere seems to be going out of hand due to politics which is symbolizing functionless façadism or the victory of ideas over convenience.

4.4 PUBLIC RECEPTION

The horoscopic factor is appropriate for France where there have been long traditions of mysticism in the work of Hugues de Payns, Nostradamus, Gerard Encausse, Eliphas Levi and many others. The worshipping of technology is appropriate in the United States of America that has remained at the forefront of such advances.

Slow emergence: The slow emergence of Jefferson National Expansion Memorial as 'the' image of the city has resulted it in being deeply rooted in public mind than the *La Grande Arche* in Paris. This could be due to the time lag between its inception in 1948 and its completion in 1965. Throughout these two decades, the idea circulated amongst politicians, community welfare associations and the general public. Such a gestation period, allowed people to form opinions about it and settle it in their mindscape. People saw it growing with them; the natural growth of the image of the city is more easily appreciated than sudden emergence. This can be another reason why St. Louisians are more attached to the arch. The instant emergence of the Arch in Paris gave it an initial spot in the limelight that seems to have dwindled because other projects have taken their share of the public response. The fact that Paris arch was a project marred by political ambitions also gave negative boost to its popularity.

Another reason for Gateway arch's popularity is the fact that the image of the city is based on it, while Paris has its equivalent in Eiffel Tower and other landmarks.

Symbol trivialized: The difference in the usage of the arches in commercial advertisements and logos is stark. French advertisers have used the arch at Paris as a centerpiece of technology and as a sign of progress. Such depiction elevates the status of the Paris Arch; conversely, the blatant usage of St. Louis arch in trash ads has resulted in degradation of the symbol. Then again, this depends upon the cultural viewpoint/ perspective of the people.

Saarinen wanted an inviolate tract of nature set aside from commercial interests. This fundamentally contradicts the tendencies of American culture. Like the relentless exploitation of the Statue of Liberty for commercial purposes, the American impulse to "use" everything erodes the expression of its finest ideals like the expansion movement. The other side of this issue deals with advertising to sell the city itself. St. Louis has been promoting the arch as an identity, more so in than Paris. Parisians appear contented with the Eiffel, Louvre and the Defense projects as a whole. Besides the arches, it is worthwhile to note that Paris has café's and other cultural attractions, whereas St. Louis lacks such identifiable activities or landmarks.

The concurrent presence of *Jefferson idealism* and *Hamiltonian economics* is grounds for such occurrences. That is why the arch is being 'exploited' so much that its relationship

to Thomas Jefferson and American westward expansion is getting increasingly obscured and buried beneath the debris of commercialism.

Symbol being Elevated: Through the numerous state brochures and literature and events, the city of St. Louis is trying to instill the greatness behind the Arch into the public minds. They employ various methodologies to make a *myth* out of it. One example is the flyer which states:

> *The 19th century saga of trans-Mississippi West ... the land, its acquisition, the men [sic] who lived the story and its rich significance to our nation ... is reborn here below the arching Monument. (Artega 1)*

The Gateway Arch is christened as the "Monument to the Dream", which can be interpreted both as a frontier experience as well as romance with technological progress

Cultural Geography: Like the union of two legs, the Gateway arch holds two belief systems together: the technological and cultural. The Paris arch intends to do the same but the form, the urban context, the socio-cultural setup makes it just a cultural symbol instead of a technological spectacle.

Both the arches have been designed to specifically capture a widely shared historical sentiment, i.e. the Louisiana Purchase and the French revolution.

It is also to be noted here that the ideologies of Thomas Jefferson[88] can be related to the St. Louis Arch (though also to Hamiltonian economics too) but it is hard to associate ideologies of Mitterrand or Chirac to the Paris Arch. This maybe because of the *myth* and aura associated with Thomas Jefferson.

The St. Louis arch has a strong relation to citizen's commitment to the American dream since it was originated in the depression and the space race.

The Gateway Arch is now much less as a catalyst for urban revitalization than as image of the city. The Paris arch in turn is presently a catalyst but once it has achieved its goal of opening the edge of Paris for development, it might just be relegated to another office building.

Public Interest in Architecture: The international attention focused on France through Mitterrand's competitions and the excitement generated by them within the country, have stoked public interest in architecture. This can be related to the intention of Mitterrand to bring culture in grasp of commoners. The French are tired of politics invading their arts and culture but the way they support (and have supported) officials show their national love of architecture which seems to be different from the deprecatory attitude of the average Americans towards architects and artists. The difference in attitudes of the two nations is notable. The French government is keen to push through and publicize new projects, even against protests, which is often no longer audible after the project is

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[88] For a thorough analysis of Jefferson's Enlightenment world-view, see Daniel Boorstin, *The Lost World of*

completed, the protest giving away to the French natural love of things new and innovative. Especially in Paris, where architecture is a topic of lively interest at dinner, along with food, music, cinema and money, where civic pride is *fait accompli.*

Same sense prevails in taking decisions: if a building is worth preserving, it is preserved; if it is not, it is demolished. Paris is a city where citizens and administration care about town planning and civic amenities, but do not equate it with nostalgia and thinking contempt for the new. This is so different from St. Louis where the government is unwilling to take a leading role.[89]

The public has embraced the Gateway Arch as something very dear and inherent to their lifestyle while the Grand Arch has failed to impact people at the same magnitude.

Thomas Jefferson, Boston: Beacon, 1948.

[89] This is apparent from the fact that St. Louis is ranked as one of the top five cities leading in crime rate.

Chapter 5: CONCLUSIONS

Architecture can provide important insights into culture because it is bound up with the life of the period as a whole.

- Siegfried Giedion[90]

The two arches belong not only to the eye but also to the mind. In other words, they are cause of a visual analysis as well as a cultural analysis. It is no doubt that the two arches convey multiple meanings; meanings that are common to both and meanings that are polar.

The study reveals something about everything. In these next few pages, the disjointed yet pertinent thoughts are listed.

On Symbolism: Architectural symbolism allows for a more meaningful relationship with the environment. This relationship may or may not be logical or reasonable. If the purpose of Architecture is to make human existence more meaningful (instead of satisfying mere physical needs), then Architectural symbolism is indispensable.

Show me your city, and I will tell you what are the cultural aims of its population.

- Eliel Saarinen, *The City*

The forms of people's architecture provide important clues to their cultural values.

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[90] Giedion, *Space, Time, and Architecture* ...

On Symbols: Architectural symbols can be primitive or sophisticated. It is the level of complexity that differentiates between the two. This level of complexity can also act as a measure of cultural growth. Cultural growth can cause old cultural traditions and symbols either to be discarded or incorporated into new symbolic contexts in order to enable members of the society to understand their experience. If one defines culture in Cassirer's terms as a universe of socially accepted symbols, then cultural growth means that traditional symbols will have to evolve in response to collective social experiences. It does not represent a static condition. Therefore, the symbolism can never remain constant for a rapidly changing society like Paris or St. Louis.

On archetypal forms: The historical associations with archetypal forms are being rediscovered, reapplied and taken as point of departure for new expressions. The historical connotations (more so in the case of the arch) are commonly and strongly used. The perceptual qualities of archetypal forms remain ingrained in the minds of people for a long time although; their meaning(s) remain in a flux.

Archetypal forms or rather their meanings are not tied to a particular geographic location, much like a universal language. This promotes diffusion of culture(s).

Archetypal forms when imposed on a site create an artificial environment that may or may not be approved by the society. A forced archetypal form will still manage to evoke responses.

New archetypal forms cannot be created in vacuum. They have to possess a historical association. The amount of history associated with a symbol is a direct measure of its association with the public over a period of time.

On Monumentality: Monumentality is the ability of a building to evoke / move people. The other parameters of scale, grandeur, and luxury are just few of the many means that one can employ to make a building monumental. If we go by the definition that a building can be termed monumental only if it moves people, then the Gateway Arch is more monumental than the Grand Arch. The degree of monumentality can be judged by the extent of impact it has on the human experiencing it.

On Politics: There is definitely a loose connection between the political environment of a culture and the type of building it constructs. It is extremely difficult to prove this relationship.[91]

On Perception and Formal Analysis: The perception of building in terms of form, scale, rhythm, proportion, balance, composition etc. allows one to understand himself, others and the designer. In an ideal world, formal analysis should be kept separate from subjective analysis. In an analysis like this study, it is extremely difficult to separate the two. The 'fact' and 'symbol' seem to merge and one cannot ignore this merging.

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[91] For extremely excellent rhetoric on the topic of Political and moral overtones of built form, see Alan Holgate, *Aesthetics of Built Form.* Oxford: Oxford University Press. 1992.

On Subjective response to Built form: Buildings are associated with empathetic reactions such as nostalgia, awe, fear, admiration, insecurity, elation etc. The study of such reactions allow for a more complete insight and appreciation of a built form. These reactions are difficult to collect, and their analysis tends to have a bias of the researcher. The subjective responses collected from public media are a very helpful tool in the study of a particular culture. In the case of the Grand Arch, the lack of personal responses makes it more difficult to understand the attitude of people towards it.

On Language in Built form: A building can be associated with meanings in many ways like direct simile, use, historical reference and abstract concepts. The linguistic theories of Saussure and others have influenced the reading of built form. This language or grammar to study forms is dependent on culture and personal beliefs. The language of built forms induces arbitrariness and fuzziness, thereby making its application very difficult. Since all buildings have meanings for most people, and despite the difficulty of designing for such meanings and the variability of individual interpretations, it is impossible to avoid this phenomenon.

On Methodology: A study of this nature is extremely difficult for its conclusions are open-ended. However, the methodology of comparative analysis is an excellent tool in limiting oneself to a reference. An analysis of this nature allows comparison of specifics of one to the specific of another. For a comparative analysis to succeed, a boundary of specifics should be adhered to.

On study of cultures: This exercise is essentially a veiled study of culture and that makes the author a sociologist. A study of this nature is similar to a journey where new avenues are opened and new knowledge is assimilated.

Bibliography

Adrian Snodgrass, *Architecture, Time and Eternity*, vol. I. New Delhi: International Academy of Indian Culture 1990.

Alan Holgate, *Aesthetics of Built Form.* Oxford: Oxford University Press. 1992.

Allan Temko, *Eero Saarinen.* New York: George Braziller, 1962.

Architect's Journal. V.190, no.2, July, 1989.

Bacon, Edmund. *Design of Cities*. The Viking Press. New York. 1967.

Bateson, Gregory. *Steps to an Ecology of* Mind. New York: Ballantine, 1972.

Broadbent, G.; R. Bunt; and C. Jencks. *Signs, Symbols and Architecture*. Chichester: John Wiley, 1980.

Bruner, J. "On perceptual readiness." *Psychological Review*, 64, 1957.

"Canopy Structure: Tete Defense cube: J.O. Spreckelsen." *Architect's Journal.* V.190, no.2, July, 1989.

Charles Morris, "The foundation of the Theory of Signs," *Encyclopedia of the Unified Sciences*. 1938.

Christian Norberg-Schulz, *Meaning in Western Architecture*. New York: Rizzoli. 1981.

"City Symbols: Sacred and Profane," in *Ekistics: The Problems and Science of Human Settlements.* Constantinos A. Doxiadis, ed.39.232, March, 1975.

Daniel Boorstin, *The Lost World of Thomas Jefferson*, Boston: Beacon, 1948.

Dan Sperber. *Rethinking symbolism.* Cambridge; New York: Cambridge University Press, 1975.

Daralice D. Boles. "Disappointment at La Defense, Paris." *Progressive Architecture.* Feb. 1989, v.70, no.2.

Donald F. Dosch, *The Old Courthouse: Americans build a Forum on the Frontier.* Saint Louis: Jefferson National Expansion Memorial Association, 1979.

Edelman, Murray. *The Symbolic Uses of Politics*. Urbana: University of Illinois Press. 1964.

Eliade, M. *From Primitives to Zen*, Collins, London, 1967.

Eliade, M. *The Sacred and the Profane*, trans. Willard R. Trask. New York: Harcourt, Brace and World, 1959.

Ernst Cassirer, *An Essay on Man.* New Haven: Yale University Press, 1944.

Ferdinand de Saussure, C*ourse in General Linguistics*. London: Peter Owen, 1956.

Geertz, Clifford, "Centers, Kings and Charisma." Wilentz, Sean (Ed.) *Rites of Power, Symbolism, Ritual and Politics since the Middle Ages*. Philadelphia: University of Pennsylvania Press. 1985.

Gordon Wheatley, "Practice: Working in France: Viva La Difference." *Architect's Journal*. July 1989, v.190, no.2.

"La Grande Arche." *Archithese.* v.18, no.4. July-Aug 1988.

"The Grande Arche, La De'fense, Paris." *Architecture and Urbanism*. No.9 Extra edition, Sept 1990.

"The Grande Arche, La De'fense, Paris." *Architecture and Urbanism*. No.9 Extra edition, Sept 1990.

Gene Wise's article in "Paradigm Dramas in American Studies". *American Quarterly*, 31, 1979.

Geoffrey Broadbent; R. Bunt; and C. Jencks. *Signs, Symbols and Architecture*. Chichester: John Wiley, 1980.

Geoffrey Broadbent , " *Architects and their Symbols.* " in *Built Environment*. Alexandrine Press, Vol 6, no. 1. 1980.

George Mccue. *A Guide to the Architecture of St. Louis*. Columbia: University of Missouri Press, 1989.

George McCue. "The Arch: An Appreciation." *AIA Journal*, November, 1978.

Giedion, Leger, Sert, "Monumentality and the City", in *Harvard Architecture Review* IV, Spring, 1984.

"Grands Projets." *Architect's Journal*. July 1989, v.190, no.2.

Hammad, M. Paper to Portsmouth Symposium, February 1991.

Henderson, LD. *The Fourth Dimension and Non-Euclidean Geometry in Modern Art*, Princeton University Press, Princeton, 1983.

James Martson Fitch, "The Lawn" America's Greatest Architectural Achievement." *American Heritage* 35.4. June/July 1984.

James, Richard D., "Poky Pump Primer: St. Louis' Depression Project Nears End – In a Boom." *Wall Street Journal* 19 June 1964.

James S. Ackerman, "Monumentality and the City", in *Harvard Architecture Review* IV, Spring, 1984.

Jencks, C.A. and Baird, G. M*eaning in Architecture.* Barry and Jenkins, London. 1969.

Joel Meyerowitz. *St. Louis and the Arch.* Canada: Little, Brown and Company, 1980.

John William Ward, "The Meaning of Lindbergh's Flight" in *American Quarterly* 10. Spring 1958.

Kenneth Frampton. *Modern Architecture: A Critical History*. London: Thames and Hudson, 1992.

Kertzer, David. *Ritual, Politics and Power*. New Haven and London: Yale University Press. 1988.

"Monumental Modernism." *Progressive Architecture*. July 1987, v68, no.7.

New York *Herald-Tribune* 27 February 1948.

New York Times 19 Feb 1948.

Noel Moffett. "Paris Quartet." *Building Design.* Oct. 1988, no.907.

Pappus Encausse, G. *The Qabalah*, Wellingborough: The Aquarian Press, 1977.

"Paris Quartet: Reports from Paris on the progress of President Mitterand's Grand Projets." *Building Design*. Oct. 21, no.907, 1988.

Paul Andreu and Robert Lion. "L'arche de la Defense: a case study." *Royal Society of Arts Journal.*London: Sept 1991, v.139, no.5421.

Peter Davey. "La Defense." *Architectural Review.* August 1989, v.186, no.1110.

Pierce, C.S. *Collected Papers Vols I.* Ed. C. Hartshorne and P. Weiss. Cambridge, MA: Harvard University Press, 1960.

Preziosi, D. *Architecture, Language and Meaning: the origins of the built world and its semiotic organization.* Mouton, The Hague. 1979.

Rapoport, Amos. "Images, symbols, and popular design." in *Ekistics* 39.232, March 1975.

Richard Weston. "Window on the World." *Architect's Journal.* V.190, no.2, July, 1989.

Robert A. Dunlap. "Riverfront Arch Designed to Catch the Eye of the World." *St. Louis Post-Dispatch*, 19 January 1958.

Robert M. Pirsig. *Zen and the Art of Motorcycle Maintenance*. New York: Bantam, 1974.

Robert Venturi, Denise Scott Brown, and Steve Izenour. *Learning from Las Vegas.* Cambridge: MIT Press, 1977.

"Saarinen feels buildings near St. Louis National Arch should not exceed 200 feet-but city rejects idea," *Architectural Forum* 113.1, July, 1960.

Sharon Brown, "The Making of a Memorial: Jefferson National Expansion memorial 1933-1980," Ph.D. dissertation, St. Louis University, 1982.

Siegfried Giedion, *Space, Time and Architecture.* Cambridge, 1949.

Siegfried Giedion, "Symbolic Expression in Prehistory and in the First Civilizations," in *Sign, Image, Symbol,* Gyorgy Kepes, ed. New York: George Braziller, 1966.

Smith, E. Baldwin. *Architectural Symbolism of Imperial Rome and the Middle Ages.* Princeton, NJ: Princeton University Press, 1956.

Spreckelsen, JO, 'La Grande Arche de la Défensee' in Mitterrand, F and others, *Architectures Capitales*, Electa Moniteur, Paris, 1987.

Stern, R. "Post Modernism." *Architectural Design* 47, no.4. 1977.

St. Louis *Post-Dispatch* 26 Feb. 1948.

St. Louis Post-*Dispatch* 27 Jan 1963.

Smith, E. Baldwin. *Architectural Symbolism of Imperial Rome and the Middle Ages.* Princeton, NJ: Princeton University Press, 1956.

Tate, Cecil. *The Search for Method in American Studies*. Minneapolis: University of Minnesota Press, 1973.

Tête Défense, Electa Moniteur, Paris: 1984.

Thomas H. Creighton, *The Architecture of Monuments*. Reinhold Publishing Corp. New York, 1962.

Thomas Vonier. "Monumental Modernism." *Progressive Architecture.* July 1987, v.68, no.7.

Tunnard and Henry Hope reed, *American Skyline: The Growth and Form of our Cities and Towns.* Boston: Houghton Mifflin, 1955.

Virginie Picon-Lefebvre. "La Grande Arche de la Defense." *Cahiers de la recherché architecturale.* 1992, no.29.

W. A. Mehrhoff, *The Arches of Classical Antiquity.* Bowling Green State University Popular Press, Ohio. 1992.

W. A. Mehrhoff, *The Gateway Arch: Fact and Symbol.* Ohio: Bowling Green State University Popular Press, 1992.

"Window on the World." *Architect's Journal.* V.190, no.2, July, 1989.

Wheatley, Paul. "The ancient Chinese city as a cosmological symbol." *Ekistics* 39.232, Mar. 1975.

Whitehead, Alfred. *Symbolism: Its Meaning and Effect*. Cambridge University Press. 1928.