





Memorial Chapel at Virginia
Tech

What do these stones mean to you?

By William David Miller

Thesis

submitted to the Faculty of
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirement of the degree of
Master of Architecture.

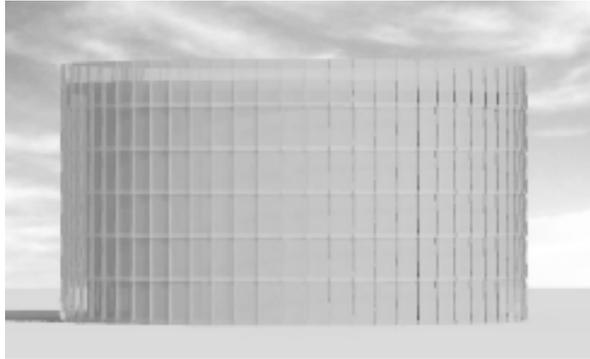
January 15, 2001
Blacksburg, Virginia

Heinrich Schnodt committee chair

Michael O'Brien committee Co-chair

William Brown

William Galloway



Dedicated to
MERLIN PARKER
1918 - 2000

investigation - abstract

introduction - Origins

influences - Biography

- What do these stones mean to you?

intuition - Observations

- The Pragmatism of Memorials

- Object

- Site

- Path

introspection - Confession

- intuition vs. interpretation

imagination - The project

- The Martin Luther King Memorial

interpretation - Conclusion

APPENDIX

intermission - Kovak Memorial

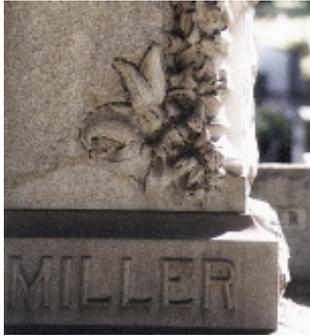
*Vision is now completely focused. It sees and looks for only one thing. It is driven to capture one thing again and again with an almost unfulfillable desire. It is then that I begin to wonder whether the building is concealing something I may never be able to capture in its entirety. **Can it be that the building has a soul?***

- Helene Binet



¹ Handprints, painted cave ruins, Arizona.

They lay claim to space...



...and give us something to be next to...

What do these stones mean to you?

At some point in man's history, there came a moment in time when he realized an inherent need to be remembered. Whether it was man's first sin and its immediate consequences of earthly mortality. Or whether it was the progress and development on an evolutionary scale where man emerges and with it invention and time to contemplate his existence. I cannot say. There is however a moment when man discovered the concept of self and the reality of death.

I am. I think. I will.

My hands... My spirit... My sky... My forest... This earth is mine...

What must I say besides? These are the words. This is the answer. ¹

With this answer, this knowledge, the concept of memorial was born. Man's physical manifestation of his existence in this world. We recognized the power of objects - of Architecture.

Stones were raised upright to mark open land. Planted deep in the earth like artificial trees, these tall shafts became signposts of permanence, of civilized life.

These monuments, towers, obelisks, pyramids, and the like command attention and mark a center. They lay claim to space and give us something to be next to... They help us inhabit places and stand in for us when we were not there. ²

If we are not there and we can not represent ourselves, can it be these stones have a soul?

...they help us inhabit
places...



...and stand in for us...



...when we are not there.



Cemetery in Easton, PA.

It is important for me to reflect about architecture, to step back from my daily work to take a look at what I am doing and why I am doing it. I love to do this, and I think I need it, too. I do not work from a theoretically defined point of departure, for I am committed to making architecture, to building, to an ideal of perfection, just as in my boyhood. I used to make things according to my ideas, things had to be just right, for reasons which I do not really understand. It was always there, this deeply personal feeling for the things I made for myself, and I never thought of it being anything special. It was just there.

- Peter Zumthor



F.D.R. Memorial - Washington D.C.



Vietnam Memorial,
Washington D.C.

Ever since I was a child I have been fascinated with memorials. I'm not sure why that is. At one level it may stem from an interest in the human need for remembrance. A natural reaction in all of us is to want to be immortal. Our own thoughts, accomplishments and memories rendered in some tangible and permanent way. Or it may simply stem from my father having been a history teacher. Most of our family vacations were spent on historic sites and on historic battlefields. I stood before many memorials while my father quietly told me the history behind the event which had taken place and in turn the reason this object had been erected and commemorated. I was taught from an early age respect for these objects - these memorials. They became special to me.

My interest in these memorials at that time in my life was not purely architectural. I think it had more to do with meaning and memory. After all I was young and trying to find my way in the world. I sought to understand the need for memorials. Their purpose and how they worked. When I stood in front of an object of remembrance erected in some field, I wasn't studying the design of the object. I was looking at the names of the dead, how old they were, and where they were from. I wondered what they looked like. I wondered what they had gone through and even how they died. I considered how their contribution to the world may have been different if their lives had not been taken in some horrific conflict. I thought, were they like me?

Lincoln Memorial,
Washington D.C.



In retrospect the architecture of memorials, the rooms, walls, columns, obelisks, markers, carvings and sculpture was much different to me than the architecture of the everyday - house, school, office etc. I can recall its effect on me. They exerted their power on me and some still do to this day. I can remember as a child having a different attitude toward memorials. The way I viewed the “**memorial**” was completely different than any other object made by man. I don’t know if it was a quality taught to me, instilled in me by my parents or demanded of me by the object itself. Whatever the case I know I viewed memorials with wide eyed fascination. Their effect on me and the people around me was intriguing. I have vivid memories of how I was influenced. How my demeanor changed as I approached. How I became quiet, fixated on the object. The surroundings seemed different. As did the light and sound. It is wonderful to realize that it is Architecture that has the power to effect these changes in perception.

My view of memorials has changed with age. I honestly wish that were not the case. As a child I viewed memorials with a naive optimism. Memorials made me contemplative, solemn, thankful, and proud. As an adult I have become more skeptical. I am more cynical maybe even suspicious of the memorials purpose and intent. That may have come with maturity or come out of the culture of our times.

Memorials have changed their meaning and their purpose. Particularly in the 1980's and 1990's. Once grounded in the shared populist ideals, these commemorative symbols now, more than ever, seek to revise history, settle society's old scores, or validate special interest groups in the margins. The post-modern age I grew up in has fostered my cynicism toward the design approach with respect to memorials and their design.

Memories and romantic associations, psychologically important for postmodernists, find their way to present-day design techniques as a series of conceptual assumptions: (All of which I personally disagree)

- *fragments are more stimulating than wholes,*
- *accidents are more amusing than clarity,*
- *contradictions are more psychologically fulfilling than overall harmonious unity,*
- *collages are more colorful than a single stylistic orientation,*
- *historical references and adaptations are more enriching than modern detached purity,*
- *irregularities are more conceptually challenging than regularities,*
- *informality is more human than monumentality,*
- *stylistic mannerism is more creative than comprehensive rationality,*
- *the historical ruin is more interesting than a well-preserved structure.*

Thus, a broken pediment is looked on with admiration while a solid one is viewed as unfortunately banal; a skewed spatial sequence is more fun and eventful than

Jefferson Memorial,
Washington D.C.



a straight ones; ornate surfaces are artistically richer than stripped ones; and picturesque compositions are viewed as aesthetically more pleasing than refined, ordered arrangements. Obscurity turns out to be creative, while comprehension is dull.

As a result of such taste, Postmodernism has often been criticized as responsible for the avalanche of kitsch in recent architecture and the architecture of memorials. Consequently, because of its failures the entire territory of memories and memorials could be considered as no longer valid in this not very sentimental, technological epoch of ours. ³

Hence my cynicism and my confusion.

To start fresh, to start over, to start anything you have to know where you are. To get somewhere else, its necessary to know where you are standing right now. The process of redirecting our lives is often painful, slow and even confusing.

Graduate thesis has been for me a year long process of redirection and rediscovery. It has been a moment in time to stop and look at myself and my past and find the things that have influenced me. It has also been a year that I have looked day to day in the present to find inspiration. I cannot know what the future holds. I can only imagine.



Washington Monument,
Washington D.C.

The roots of our understanding of architecture lie in our childhood, in our youth; they lie in our biography. Students have to learn to work consciously with their personal biographical experiences of architecture. Their allotted tasks are devised to set this process in motion.

- Peter Zumthor

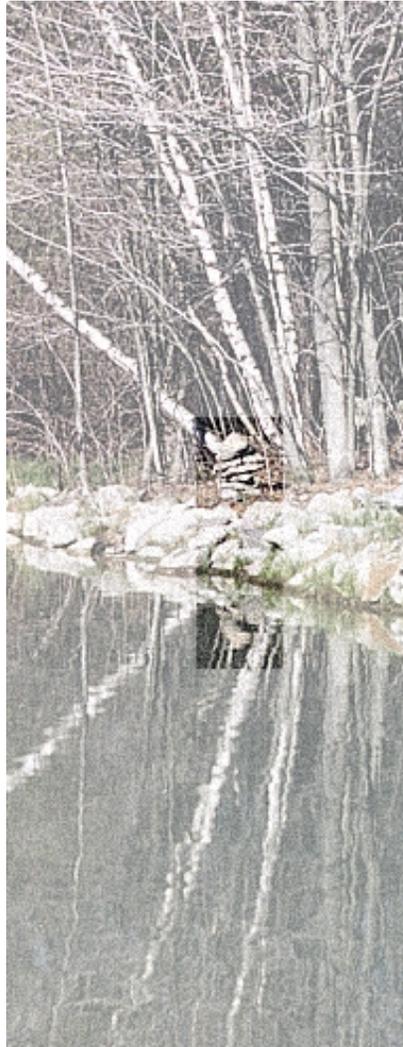


Gabrielle and Reagan at the Lincoln Memorial.
Washington D.C.

And it came to pass, when all the people had completely crossed over the Jordan, that the Lord spoke to Joshua, saying: "Take for yourselves twelve men from the people, one man from every tribe, and command them, saying, 'Take for yourself twelve stones from here, out of the midst of the Jordan, from the place where the priests' feet stood firm. You shall carry them over with you and leave them in the lodging place where you lodge tonight.'"

*Then Joshua called the twelve men whom he had appointed from the children of Israel, one man from every tribe; and Joshua said to them: "Cross over before the ark of the Lord your God into the midst of the Jordan, and each one of you take up a stone on your shoulder, according to the number of the tribes of the children of Israel, that this may be a sign among you when your children ask in time to come, saying, '**What do these stones mean to you ?**' Then you shall answer them that the waters of the Jordan were cut off before the ark of the covenant of the Lord; when it crossed over the Jordan, the waters of the Jordan were cut off. And these stones shall be a memorial to the children of Israel forever."*

Joshua 4:1-7



Memorial to a successful marriage, built by my wife and I in 1994.

² Stones



Stones ³.



A few years ago my wife and I attended a marriage retreat in the mountains of Pennsylvania. It was a weekend intended to help educate married couples in the do's and don'ts of married life. This was a concentrated moment in time to reflect on our marriage and our commitment to one another. The lessons were of communication and cooperation. As a final exercise couples were encouraged to create for themselves a memorial to the successes of the retreat and to the continued success of our marriages. Little did I know at the time that this would also be great lesson in the architecture of memorials.

The program was a simple one. As a couple, we were to select twelve small stones and together we were to position them next to each other in any manner we chose. This simple project tested every lesson we had just learned during the retreat. At first I didn't really want to do it. I guess I thought it was a corny exercise. My wife convinced me that it wasn't and she encouraged me to go with her outside and get started.

Where should we build it we asked each other? We walked together in the cold. We were both looking for a significant place for the memorial we would build together. We searched the landscape of the campground. The terrain had a great deal of variation. We explored the fields and meadows. We searched the woods. Walking along a stream we discussed how we wanted the object to be viewed. Should it be hidden or in plain sight. Should it be an object only the two of us would know where it was located. We talked about what someone might think if they found our manmade object in the middle of the woods. Maybe it should be more easily seen. Placed in a location where passersby would daily come in contact with it. We decided on the latter.

The retreat property had a small lake on it. Walked along a crushed stone path that surrounded the lake. The trees reflected in the water and we thought it might be nice to have our memorial stand at the waters edge. So it too could be seen reflected in the water from the other side. We found a small outcropping of land that jutted slightly into the lake. Agreeing this would be our site we made a clearing for our memorial and we began to collect stones.

4. Stones



Stones 5.



What type of stones should we use to build with we asked each other? We collected stones that varied in size, color and texture from the immediate area. The first two stones came together. Then the next two. Then the next. We looked at each other and realized we were just making a pile of stones. We stopped. Each of us began dismantling the pile. We started looking for stones that fit together. Our selection of stones became much more deliberate as did the way we placed them together.

What should we build we asked each other? The choice of stones effected the shape of the objects we built. At first we didn't have any idea what our memorial should be. We experimented with the materials that surrounded us. No plans were drawn. No tools were used. The stones were our only resource. The stones came together then were taken apart. My wife and I experimented with their configuration. The voids between the stones were as much apart of the construction as the stones were. After much experimentation we determined to build a small tower.

We placed the stones one next to and on top of the other. The tower took shape. We made adjustments, taking stones away and replacing them with others. From time to time we ran to the other side of the lake to view our object. Only to run back and make changes. Finally we selected a stone to be the top. The cap stone was rounded on the top and flat on its bottom. This particular stone was chosen for its shape and its color. It had an interesting pattern of red throughout. My wife and I took hold of that last stone and together set it into place, adjusting it slightly and carefully releasing it, gravity settling it in position. We stood back from the object, the memorial, we had made together. The two of us were pleased with our investment of time and the resulting object we had built.

I took a few photographs of the memorial from different locations around the lake. Each of us reached down to touch the object we had made for the final time. This was after all a camp ground and I imagined that our memorial of stone would be little more than rubble after the first campers arrived. I pictured a group of boys toppling our stone tribute and using the flatter stones to skip them across the

6. Stones



Stones 7.

water. My wife was a little more optimistic. She envisioned that same group of boys adding stones to our tower. Reinforcing the base and adding to its height.

The two of us decided to find the other couples to see what they had made. Everyone seemed to have finished at the same time and we began meeting each other on the trails. Each couple describe their memorials and its location. We split up, each couple looking for the others memorial.

Every memorial was different. They all took on a different form. One took the form of a wall. Another the form of a pyramid. Another the form of a circle, the stones each touching slightly. There was another tower. One memorial was a series of smooth round stones set in a line on the top of a large boulder half exposed from the earth. Other memorials looked incomplete. They had a ruin like quality about them. Maybe they had fallen victim to a couples cold hands or their cold feet.

The memorials were different in their use of materials. Each object made from different types of stone. The colors were different, The textures were different. The shapes were different. The palette was as varied as the terrain. A small slate quarry on the site provided participants with flat gray stones with which to work. The stream provided round smooth multicolored stone. The fields and forests gave up stone which characteristic were more rectangular, rough and monochromatic in color.

For all their differences these memorials had many qualities which were the same. The couples involved in this exercise were not architects, designers, planners or builders, yet they produced memorials which were dynamic and memorable. Their results were not based on precedent studies but were based more on intuition. Most if not all held qualities inherent to memorial design that have existed throughout history. Their results were not based on pragmatism but on poetry. There isn't anything pragmatic or logical about couples standing in the cold, collecting stones and shaping objects of memorial. However, there is something altogether poetic about couples standing in the cold, collecting stones and shaping objects of memorial.

*The notion that our work is an integral part of what we accomplish takes us to the very limits of our musings about the value of a work of art, a work of architecture. **Are the effort and skill we put into them really inherent parts of the things we make?** Sometimes, when I am moved by a work of architecture in the same way as I am moved by music, literature or a painting, I am tempted to think so.*

- Peter Zumthor



⁸ Caplutta Sogn Benedetg

From a rational point of view the very idea of making a memorial didn't make much sense to me. I thought it would be a complete waste of time and effort. However once we had constructed our memorial I perceived it from a completely new perspective.

From a poet's standpoint our memorial made complete sense. To see it "standing there" from different locations around the lake legitimized its existence for me.

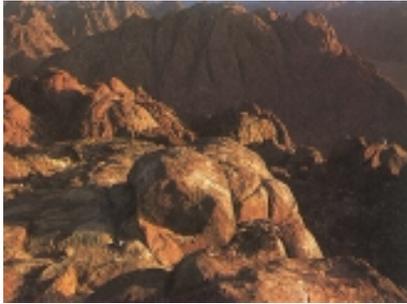
The approach to the site was controlled. The first view of our memorial was from across the lake. The object, and its image reflected on the surface of the water. The site we had cleared, in order to set the memorial apart from its surroundings, was no longer a patch of flat earth but hallowed ground. The object itself wasn't merely a pile of stones. I associated its creation with meaning. The object was finely crafted by two people who love each other. Its creation was born of romance, poetry and even irrationality. Two mind's, two soul's, two heart's, had made a memorial. Pragmatic, no. Poetic, yes.

The architecture of memorials is in the same realm as poetry. (as all architecture should be, as much as possible or as much as "pragmatic") We don't need poetry to exist or to communicate, yet we desire to write poetry. We don't need memorials, yet we continue to build them.

Memorials may not produce anything immediately useful or constructive. However, that final cultural usefulness in architecture can't be calculated in terms of functional, economic and structural efficiency. The true architectural contribution to historical culture is also related to the realms of fancy, even if its origin may be eclectic and may look to the past for inspiration. ⁴

I had always thought that any attempt to justify the “need” for memorials would have to come from a purely pragmatic position. However, I have come believe, memorials are founded upon the creative, poetic desire to go beyond rational frameworks of our existence.

This has always been difficult for me, as a student and, as an architect. Always torn between being the pragmatist and the poet. I have always felt the need to justify every architectural thought or any design in terms of function and economy. I don't want my designs seen as impractical. How ironic it is then to, as a thesis project, be working on a memorial. The very practicality of memorials is their



Mount Sinai⁹.

Natural formations served as places of memorial before we began moving stones.

OBJECT - Recently a vivid image came to my mind. As a father I often sit with my daughters and we draw pictures. We sketch together making up stories as we go along. Trying our best to illustrate our ideas. Inevitably one of my daughters will ask me to trace her hand on a piece of paper. My other daughter will ask the same of me. I trace her hand on top on the same sheet. My wife places her hand on the paper and I trace it. Finally I place my hand on the paper and outline it. We look at our four hands outlined on the single piece of paper. Sometimes we compare it to earlier versions we had traced months or years before to see how our hands have changed and grown.

Looking at that sheet of paper I was reminded of one of the most powerful images I have in my memory. The image is that of the outline of a single hand painted on a rock outcropping in the plains of Australia. It is said to be the earliest known physical manifestation of man's desire to be remembered.

Even before man had the ability to move stones and shape his environment he recognized the power of natural objects as memorials. These objects were used as places of worship, of gathering and of memorial. Mount Sinai is one such place. This mountain was at once a sacred object to seek God, to serve God and to submit to Gods' laws. Mount Sinai served as memorial, a tangible object connecting a people to the intangibles of memory and meaning.



Stonehenge¹⁰.

With the ability to move stones upright, we realized the power of architecture to serve our purposes of ritual and memorial.

11. Challenger Memorial

????



From these objects in nature man turned to the creation objects of his own desire. We at some point in our history rallied ourselves to overcome nature. We moved stones upright and marked our ability to do so. These early memorials were memorials to our own achievements. These stones civilized us. They defined our superiority over nature, other animals and most importantly other people groups. The architecture of memorials served as warnings to other cultures. They expressed a people's ability to work, to think, to cooperate and to build. These memorials were objects of nationalism. They rallied a nation while intimidating others.

Stonehenge is an example of a people group being able to plan and execute the construction of a place of ceremony and memorial. An object made by man. Some "thing" to attach meaning to.

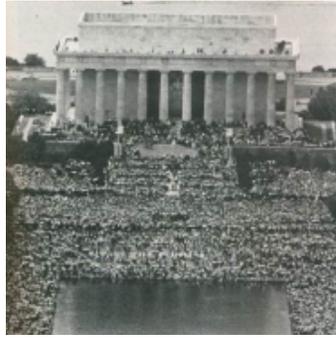
We to this day are creating objects of meaning. With all of our technological advances we still have a need for memorials. The stones of Stonehenge mark a place on earth and illustrate the movement and our understanding at that time of the unknown heavens. The challenger memorial marks a place on earth and movers with a known universe. The challenger memorial is dedicated to loss of life and the technology of man.

A simple stone bench may be all that is necessary for memorial. The early technology of moving a stone into place may be enough. The hands on approach to its carving and construction may hold the answer to why we need memorials. Our hands made this object to help us remember.

12. Bench,
Salem Witch Trials
Memorial

Our hands made this object
to help us remember.





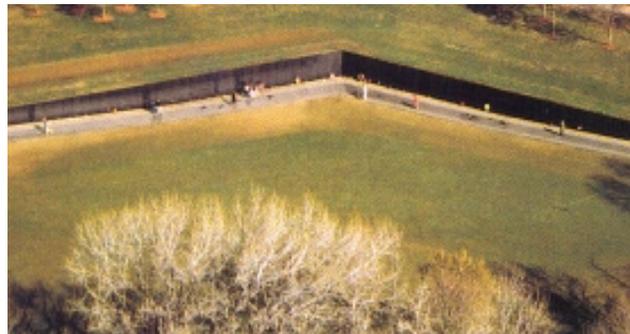
Lincoln Memorial ¹³.

The site is raised to hold the memorial up for all to see.

SITE - My wife and I recently had the privilege to take our two daughters to Washington, D.C. It was their first time. They asked us where we were going first. My wife took out a penny from her purse and showed them the tail side of the coin. The girls were looking at the image of the Lincoln Memorial. As we passed through the last of the trees, they now stood, coins in hand, looking up at the actual memorial. They smiled and so did we.

We began our long walk up the steps. Watching the girls make their way up brought back memories of my first encounter with this site. They, as I did began to count steps. About halfway up they stopped to see how far they had to go. They turned and looked down to see how far they had come.

It isn't until you stand at the threshold of the entrance to the Lincoln memorial that you recognize the power of the site. From there the girls had a view of the mall, the Washington Monument and the Capital beyond. You realize the significance of this site, its location on the axis and its being built, raised high, in order to hold up, for all to see, an object of memorial.



Vietnam Memorial ¹⁴.

The memorial carves its site out of the ground.

^{15.} Aids Memorial

This memorial by its nature makes, with its contact to the ground, its own "place".



The Vietnam memorial takes the opposite in approach to siting. It carves out the earth to mark its place. Its site frames the memorial. The grade slopes down to its base and is level at its top.

The aids memorial is an interesting paradox. It is both the object of memorial and is also the site. The memorial quilts once laid on the ground its own place. It marks its territory by engulfing the landscape by its sheer size.

It may well be, however that a simple wall crafted of stone is enough to define a site and make a place for memorial. It marks territory that is slightly different then its surroundings. It is the demarcation of what we hold as sacred and what we know as profane. We choose our hallowed ground.

^{16.} Wall,
Salem Witch Trials
Memorial

We choose our hallowed
ground.





Mortuary Temple at Hatshepsut ¹⁷.

The path organizes and directs attention.

PATH - With any trip to Washington D.C. you do a lot of walking, the memorials are typically approached by foot. After a day of sightseeing I found myself carrying my daughters from memorial to memorial. The sheer distance between them, as well as the elevation changes, the slopes and steps, had taken their toll on our girls little legs and feet.

The way to our sacred sites is the way of the pilgrimage. The path is often difficult. It is often controlled. The approach to our sacred places and our objects of memorial sets the time for our experience. The path tests our will. It tests our resolve to face difficult events of the past and the prospects of the future.

The Egyptians knew of the power of the controlled path. They advanced the idea of axially organized orthogonal space. The approach was head on, shoulders square to the subject. They recognized the path as having the ability to organize and direct attention. The path orients our focus.

Pilgrimage routes of the medieval time period were not as direct. These were the paths less traveled. The objects of memorial were something to be found and it was up to the pilgrim to keep searching. The way was long, the roads dangerous and the paths determined the pilgrims resolve to reach his goals.



Medieval pilgrimage routes ¹⁸.

Not as direct, these paths left the pilgrim to find his way

Path at Vietnam Memorial

The simple act of ascending and descending along a path can control focus, sound and perception.

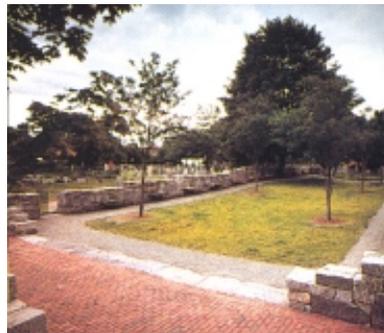


The controlled path of the Vietnam memorial is informal in approach. The memorial reveals itself as you walk along side. The path allows the history of the war and the sacrifice of lives to be told. This walk way controls sight and sound. As you descend along its length your focus is drawn to the wall, to the names, and to the reflections. As you descend further the sounds of the everyday, the sounds of traffic fade to the sounds of footsteps walking on pavers.

A simple informal path and a gate or a threshold may be all we need to define our way. Helping us to change our thought and testing our will to make pilgrimages to our sacred places. One step on a controlled path leads us to our hallowed sites and our objects of memorial. We determine our own paths.

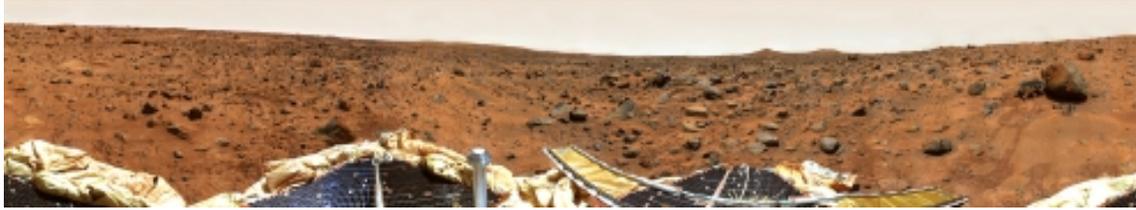
¹⁹. Threshold, Salem Witch Trials Memorial

We determine our own
paths.



*Practicing architecture is asking oneself questions,
finding one's own answers with the help of the teacher,
whittling down, finding solutions. Over and over again.*

- Peter Zumthor



Pathfinder,
Carl Sagan Memorial,
Planet Mars ²⁰.

Initiating the design process and getting started on this particular project, this particular building type, was a difficult task for me. What is the motivation for the creation of a memorial? Can you create a memorial from the beginning of the design process without having a cause, an event or person that the memorial will be dedicated to? Does knowing who or what the memorial is for influence the design and the architecture? It's a little like starting your thesis by asking the question what came first the chicken or the egg?

My difficulty stemmed from my belief, right or wrong, that you could not design a memorial without first having something to which this object would be dedicated. I have problems thinking a bench bought at Wal-mart with a small bronze plated plaque nailed to the seat and placed in a park becomes a memorial. It seems so trivial and so trite.

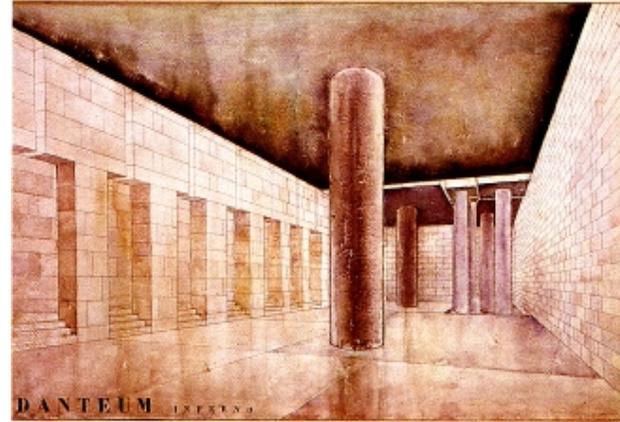
To add to my confusion was the discovery, during my research, of two memorials, which clearly represented the opposite ends of the spectrum in terms of design approaches. The first was the Danteum by Giuseppe Terragni and the second being the Carl Sagan Memorial designed by NASA. For me these two projects were tangible, physical evidence of my struggle with the subject.

On one hand the Danteum was designed with the knowledge of what it was dedicated to from the beginning of the design process. In a sense the subject was the catalyst for the memorial.

On the other the Carl Sagan Memorial was designed specifically as a spacecraft and research vessel. Its initial purposes to gather data from the surface of Mars and send it back to earth. Upon the death of Mr. Sagan in 1998 the spacecraft was dedicated as a memorial. I can understand the desire to dedicate something to someone so instrumental to the furthering of the goals of space exploration, but to attach the word memorial to a spacecraft seemed an afterthought.

What do these stones mean to you?

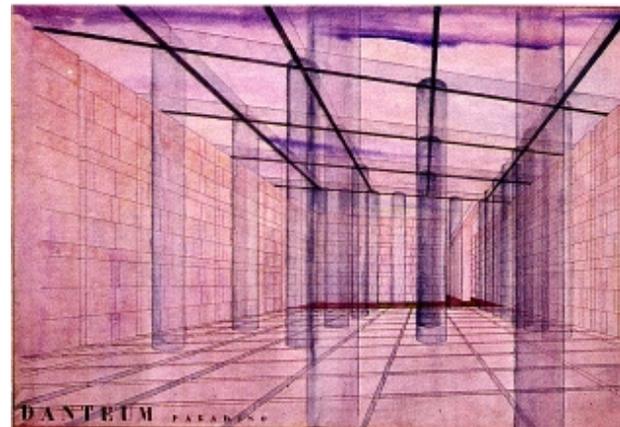
21. Danteum – inferno



22. Danteum – purgatory



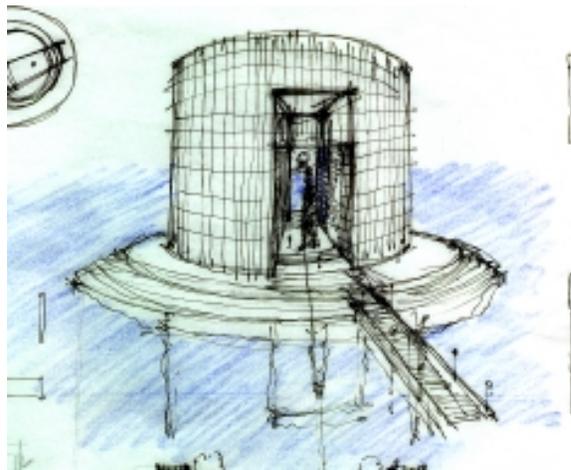
23. Danteum – paradise



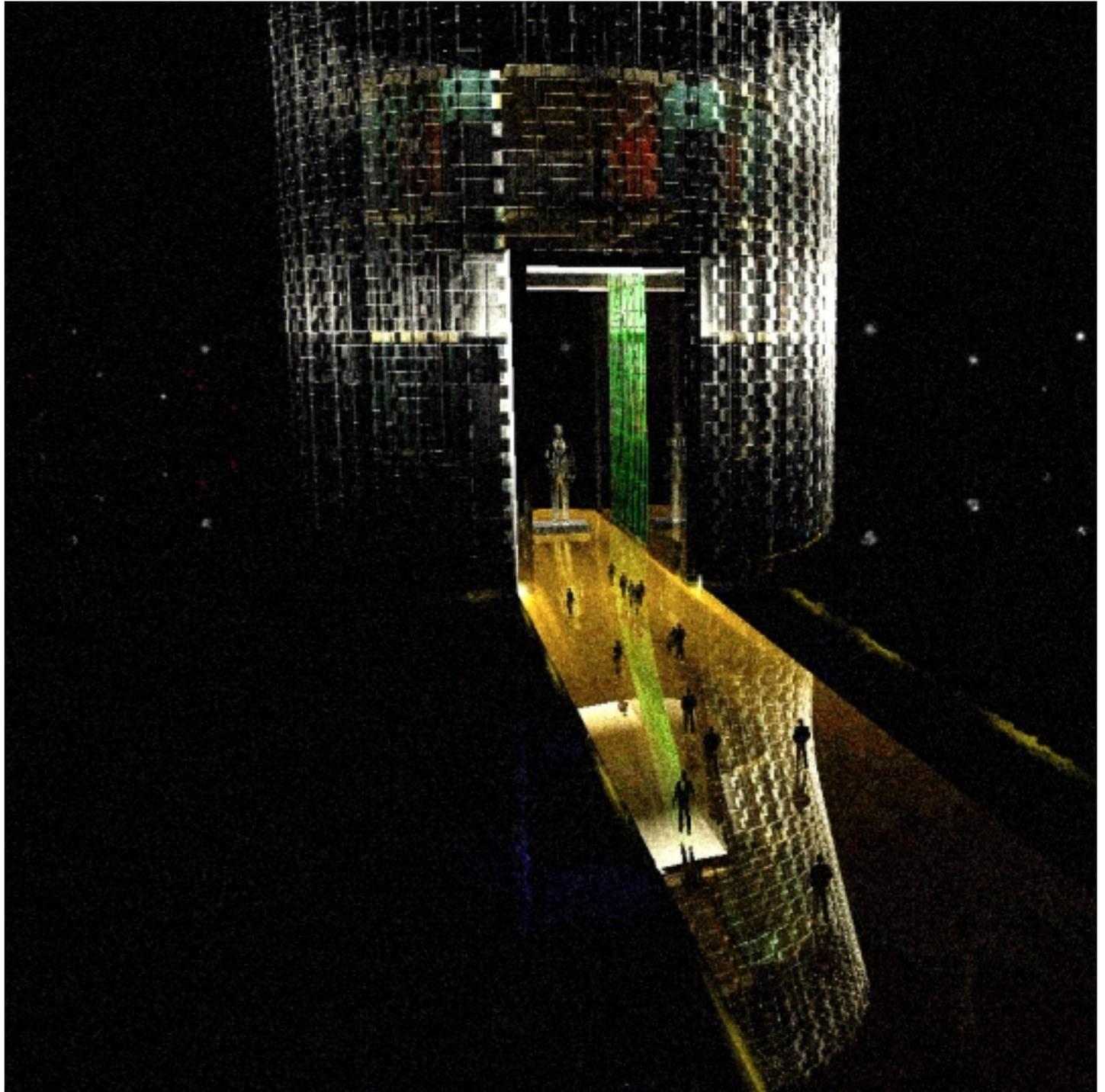
i**m**agination

Producing inner images is a natural process common to everyone. It is part of thinking. Associative, wild, free, ordered and systematic thinking in images, in architectural, spatial, colorful and sensuous pictures - this is my favorite definition of design.

- Peter Zumthor



Design sketch for the Martin Luther King Memorial Project.

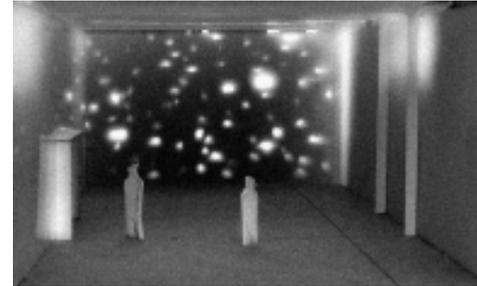


Concept Model for M.L.K. Memorial project. Statue inside stone core. Steel frame wraps stone core. Glass panels are hung on steel frame.



The Martin Luther King Memorial stands 600 feet out in the Tidal Basin. On axis between the Lincoln Memorial and the Jefferson Memorial at first sight it is perceived as being an object of all glass. The glass panels look to be hung like shingles, each row overlapping the other. Because the memorial is round the panels use the geometry to overlap each other in the horizontal in the same fashion. The glass is sand blasted which makes it somewhat opaque. The amount varies row to row vertically giving the structure an almost masonry appearance. But as you approach and as the sun disappears behind the clouds and then reappears, and as the light reflects off of the water of the basin the building reveals more of its construction.

Behind the glass façade of the memorial is a steel frame, which supports the independent glass panels. The steel frames run continuously around the memorial and serves as a pedestrian walkway or gallery independent of the exhibition spaces and the central memorial hall. They are broken where the portals through the memorial cut their way through the memorial. The steel frames extend to the roof of the building, and are terminated at the top with a continuous glass skylight. In this space the full height of the memorial is revealed. Because the glass panels have open joints to the outside fresh air and the sounds of water lapping against the memorial's side make their way to the interior.



Concept Model for M.L.K. Information Center. Glass box inside stone walls. Stone is dry stacked within a steel frame allowing light to penetrate the spaces.

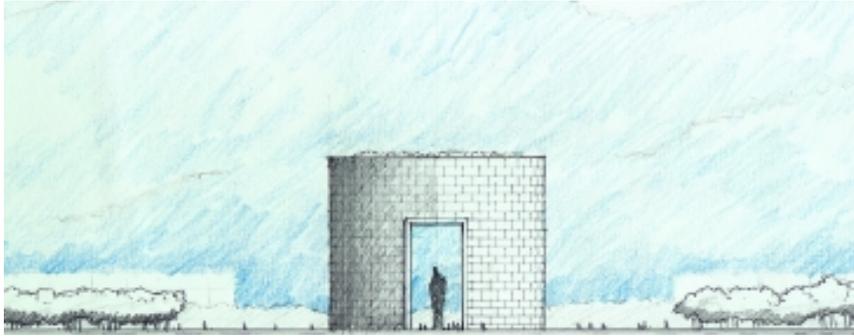
Moving into the exhibition spaces the perception of the memorial changes. The walls of these spaces are made up of finally hewn stone, to a point 15 feet above. From that point the wall transitions to glass block. This allows light collected from outside to enter high in the exhibition space and continue thru the building to the glass walls off the Memorial Chamber. The concrete floors are stacked like plates on the interior walls, elevator core, and stair towers. The steel frames to the exterior support the floors about the perimeter. The steel frames serve as scaffolding to build the masonry walls and poured in place concrete floors. They remain in place as structure for the glass panels.

In the exhibition spaces are displays depicting the life and times of Martin Luther King Jr. and the civil rights movement. From these spaces there are views thru colored glass to the Memorial Chamber, to the inside. When standing on the axis between Lincoln and Jefferson there are views to those memorials as well as to the bronze figure of Martin Luther King.

The final exhibition spaces reveal a roof top garden and reflecting pool to the inside of the memorial. The pool serves as a skylight to the Memorial Chamber below. The light refracting through the shallow water creates ripples of light, which dance in the Chamber below. Roof top vines and plantings find their way down from above and wrap the steel frames at the gallery.

At this garden level the glass panels are clear and provide views to the city of Washington, DC.

Concept sketch view of
M.L.K. Memorial from plaza
observation level.
Jefferson Memorial on axis
beyond the statue of
M.L.K.

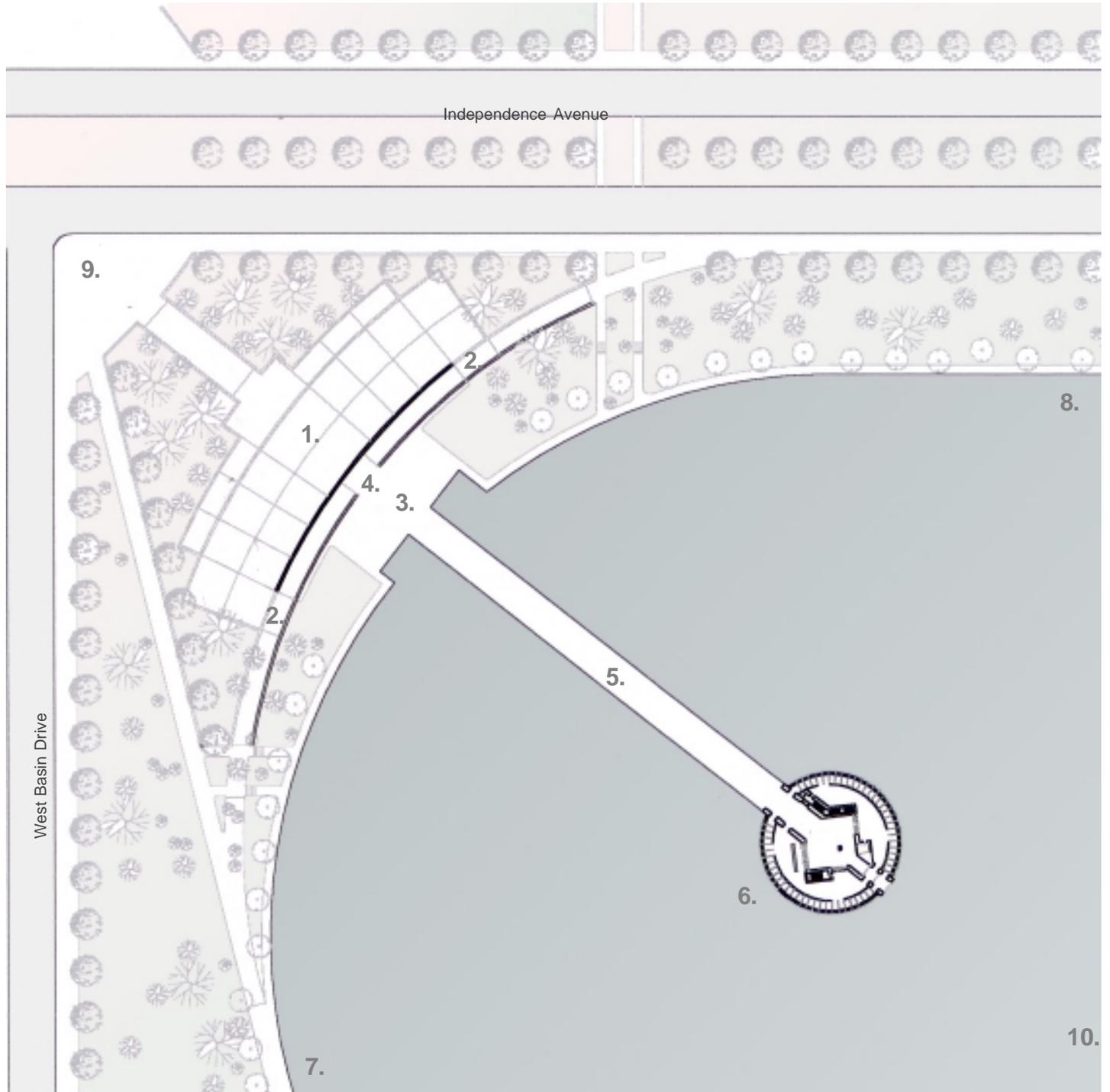


SITE PLAN - PLAZA OBSERVATION LEVEL

1. Plaza - street level
2. Ramp
3. Plaza - basin level
4. Entrance - information center
5. Causeway
6. M.L.K. Memorial
7. To the F.D.R. Memorial
8. To the John Paul Jones Memorial
9. To the Lincoln Memorial
10. To the Jefferson Memorial



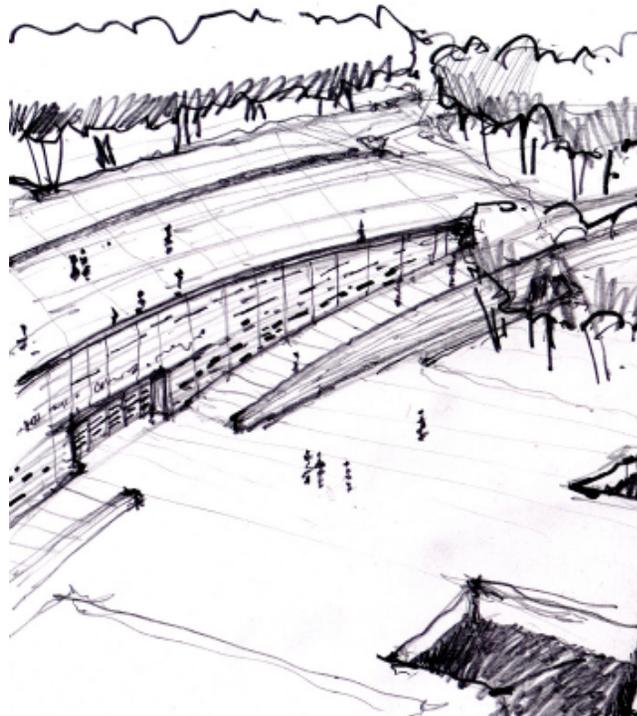
Site sketches reveal
design advantages to a
position in the tidal basin.
1. Isolation of the Object.
2. Water as Site.
3. Dynamic approach Path.



ENLARGED SITE PLAN - PLAZA OBSERVATION LEVEL

1. Plaza - street level
2. Ramp
3. Plaza - basin level
4. Entrance (below) - information center
5. Causeway
6. To the M.L.K. Memorial
7. To the F.D.R. Memorial
8. To the John Paul Jones Memorial
9. To the Lincoln Memorial

Sketch showing the plaza at street level, the ramps down to the plaza at the basin level, the entrance to the information center and the causeway leading out into the tidal basin and the MLK Memo-

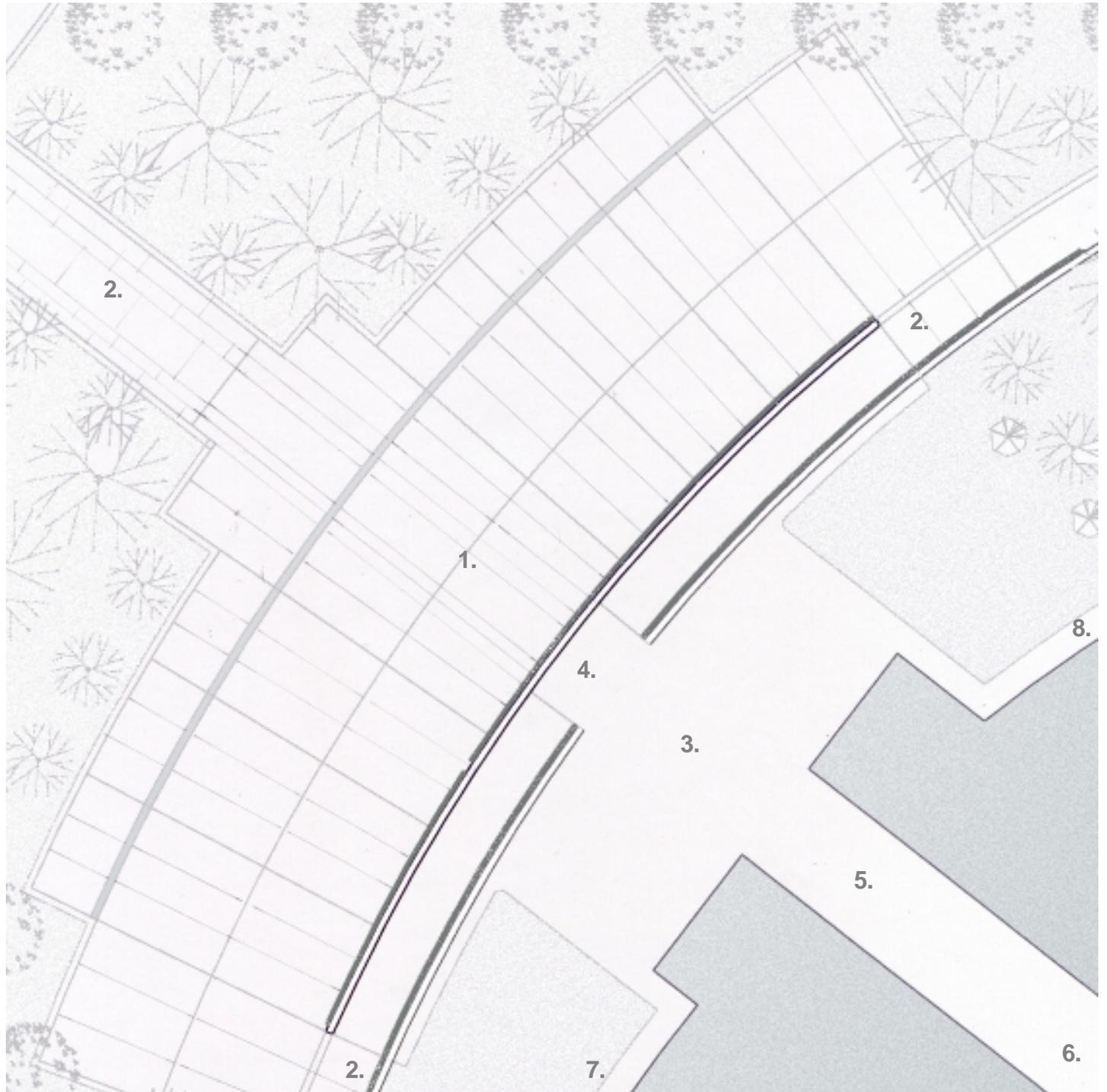


Steel frame work is continuous around openings. Vertical steel members become horizontal pattern in plaza and the frame for the exterior glass panels.

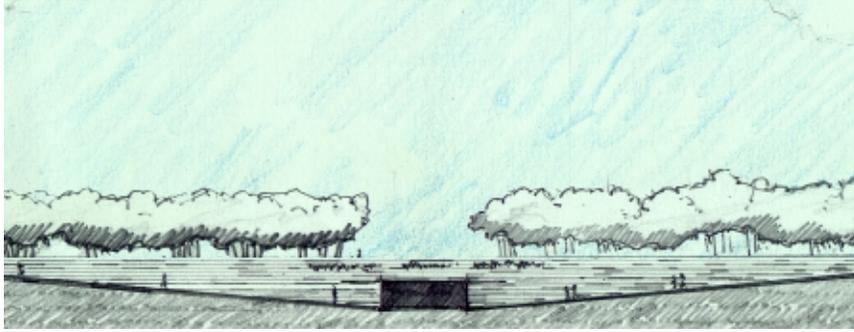


Space in-between glass exterior and stone of the information center. Dry stacked stones are placed within a steel frame to hold them in place.

9.

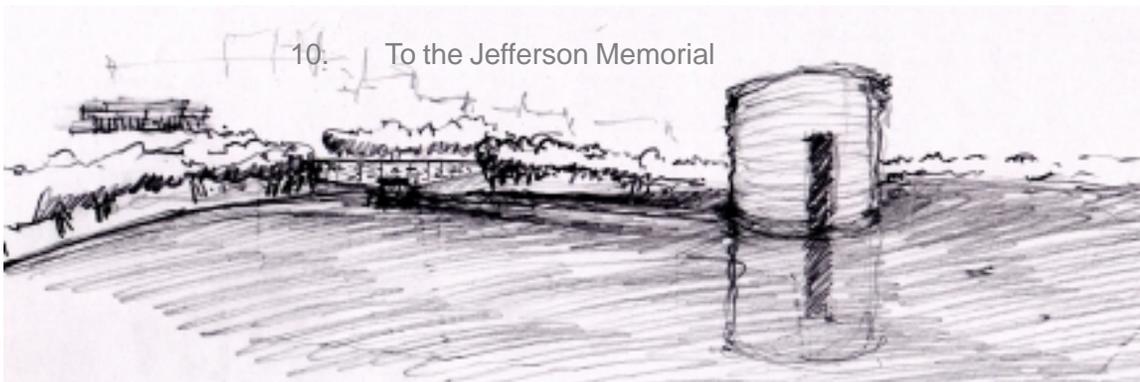


Concept sketch view of information center from plaza at the basin level. Lincoln Memorial on axis beyond.

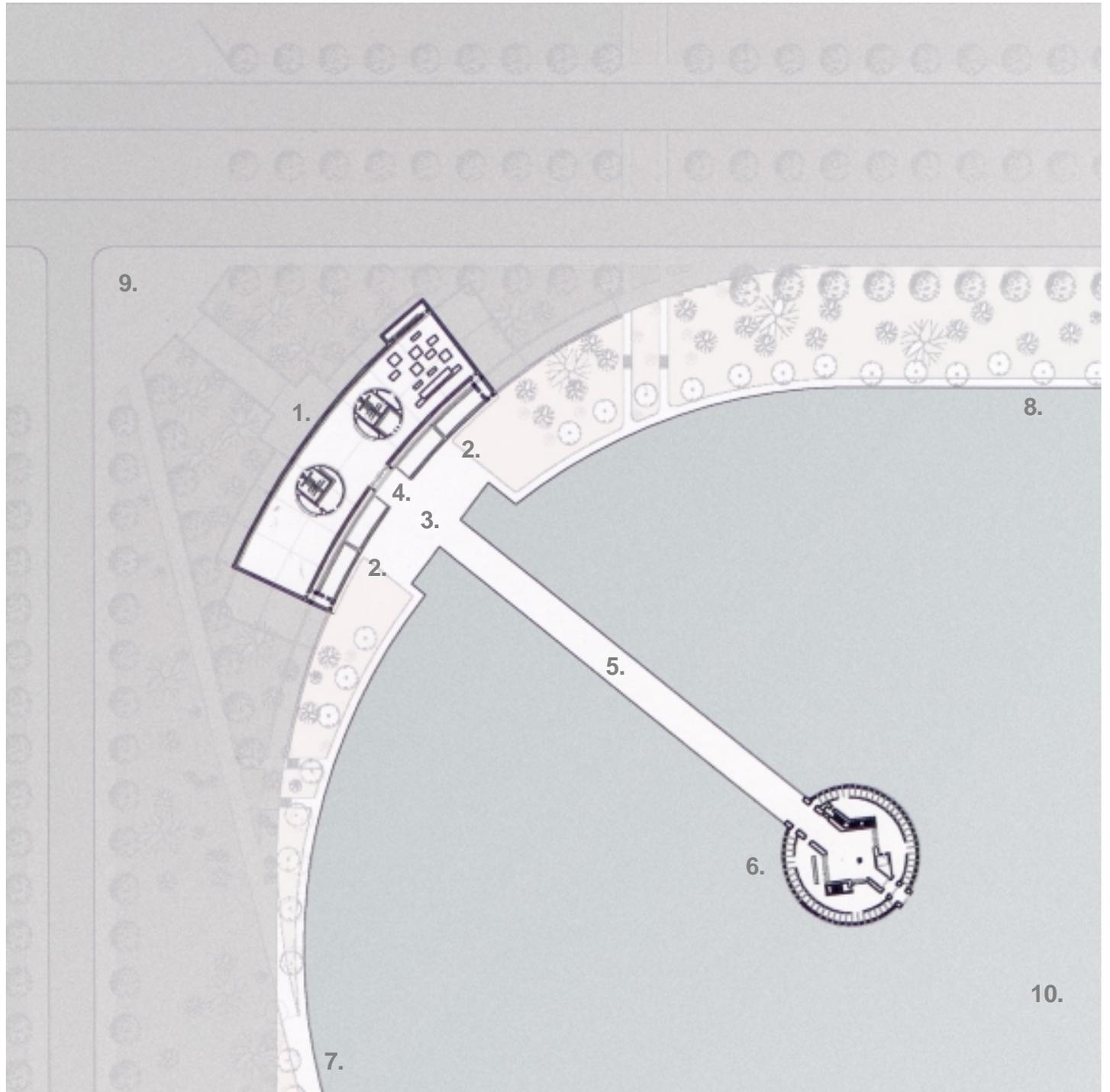


SITE PLAN - BASIN OBSERVATION LEVEL

1. Plaza (above) - street level
2. Ramp
3. Plaza - basin level
4. Entrance - information center
5. Causeway
6. M.L.K. Memorial
7. To the F.D.R. Memorial
8. To the John Paul Jones Memorial
9. To the Lincoln Memorial
10. To the Jefferson Memorial



View of MLK Memorial from tidal basin. Observation plaza ramps down to the basin level and the entrance to the information center. The causeway leads out to the Memorial Chamber and exhibit spaces.



SITE PLAN - BASIN OBSERVATION LEVEL

1. Plaza - street level

2. Ramp

3. Plaza - basin level

4. Information Center

a. lobby

b. lecture room

c. stage

d. souvenir shop

e. storage

f. toilets

g. exits

5. Causeway

6. To the M.L.K. Memorial

7. To the F.D.R. Memorial

8. To the John Paul Jones Memorial



Early section of information center.



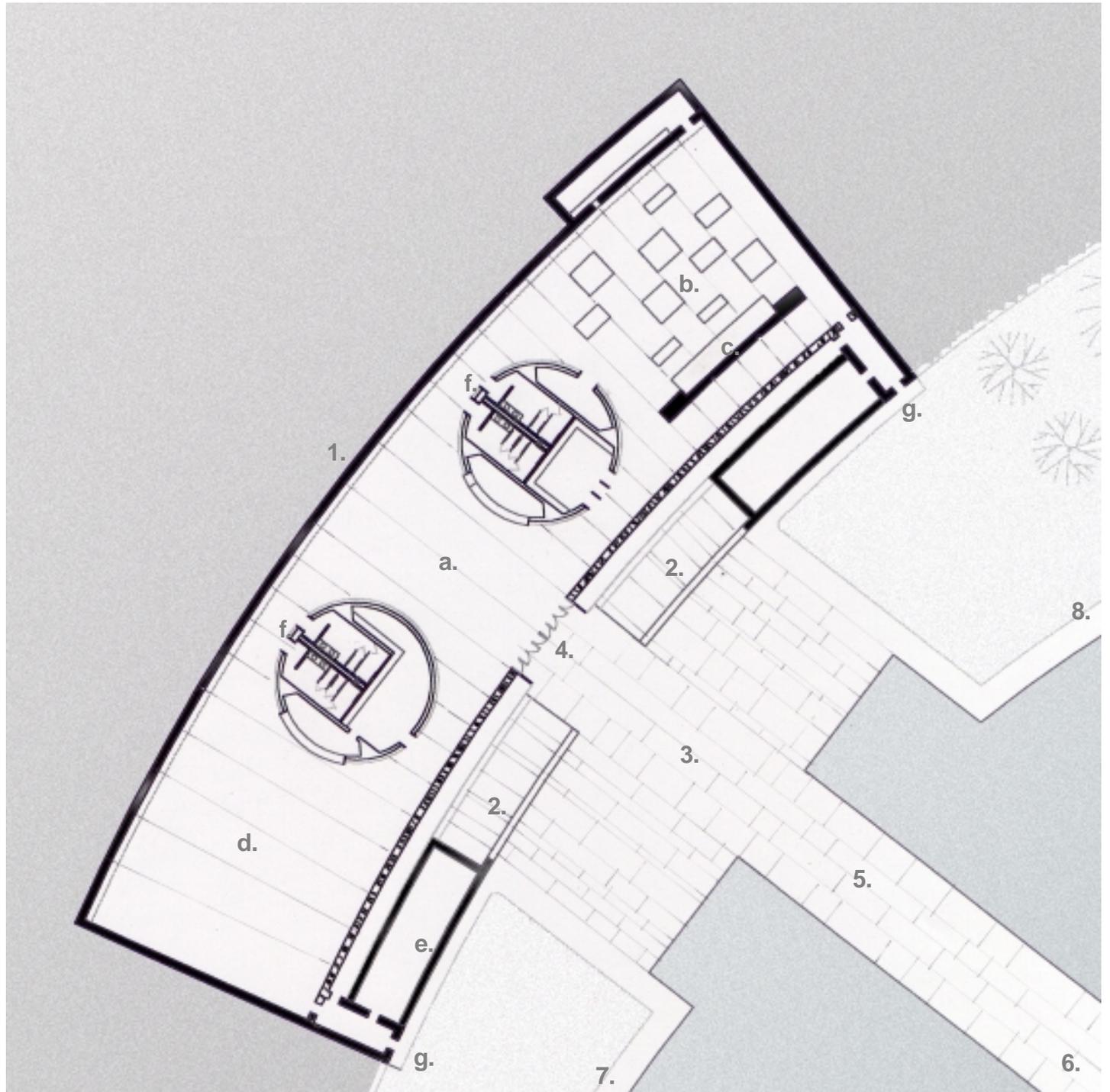
Drystacked stones allow light to penetrate walls.



Interior view of the lecture room. Large stone slabs rise out of the floor pattern to differing heights to accommodate seating.



Cross section of the information center. The rear wall, a retaining wall, is curved and sloped. At its top a skylight allows light to wash its stone surface. The front wall is a glass exterior envelope and drystacked stone. The space in-between allows light to reach the lower levels of the stacked stone letting light to enter at floor level.

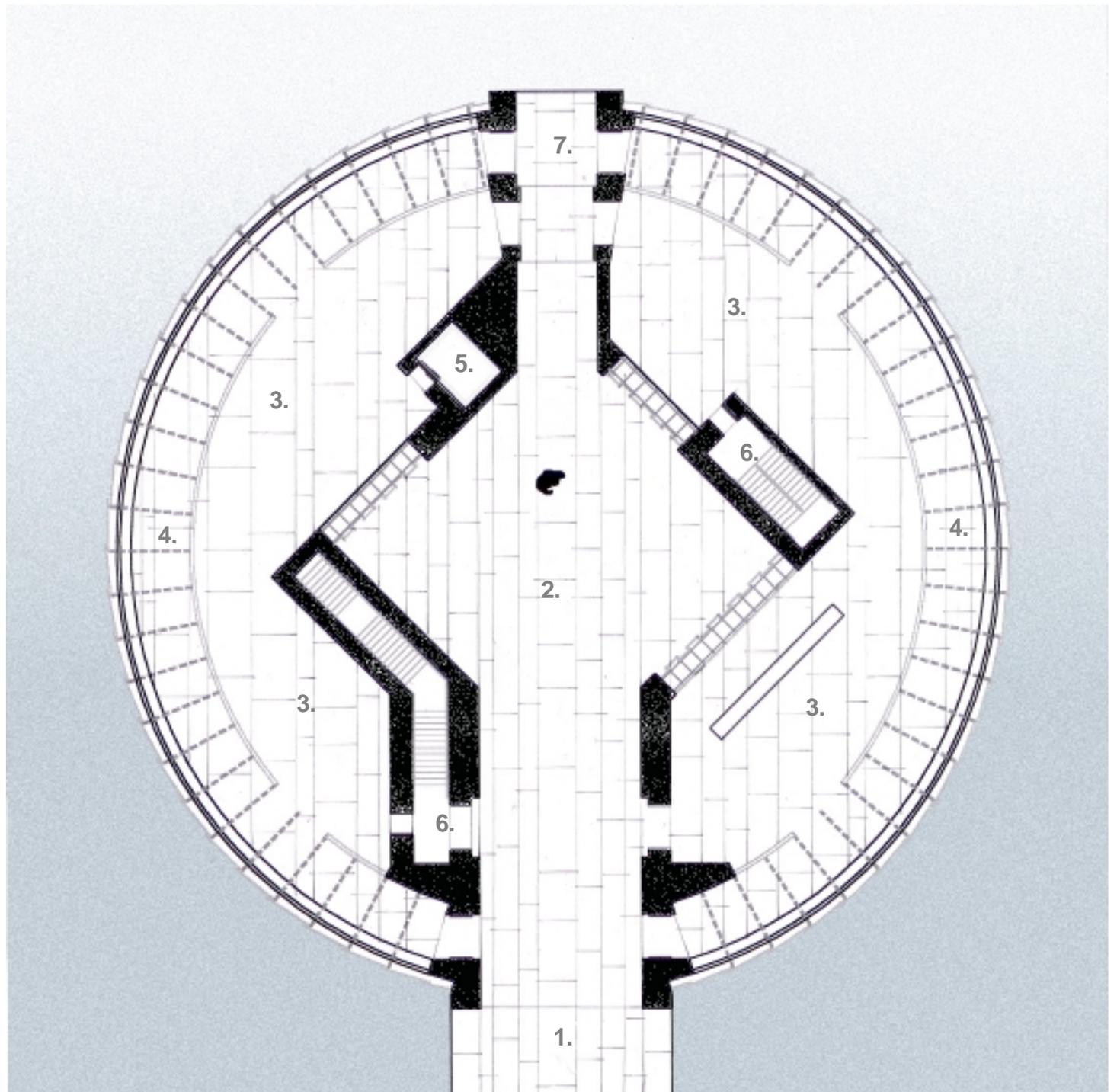


M.L.K. MEMORIAL - FIRST LEVEL

1. Causeway
2. Memorial Chamber
3. Interpretive Gallery
4. Gallery
5. Elevator
6. Stair
7. To the Jefferson Memorial

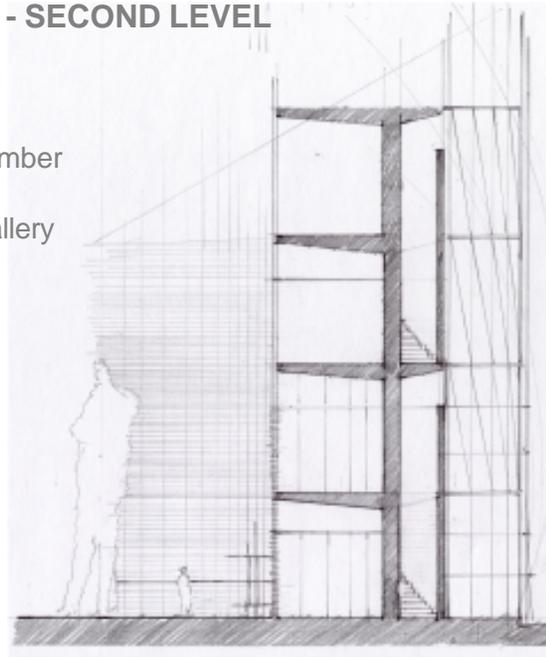


Elevation view of the M.L.K. Memorial from the basin observation level. Jefferson Memorial on axis beyond statue of M.L.K. Depending on day lighting conditions the steel frame and stone core interior becomes more or less apparent.



M.L.K. MEMORIAL - SECOND LEVEL

1. Causeway
2. Memorial Chamber
3. Interpretive Gallery
4. Gallery
5. Elevator
6. Stair

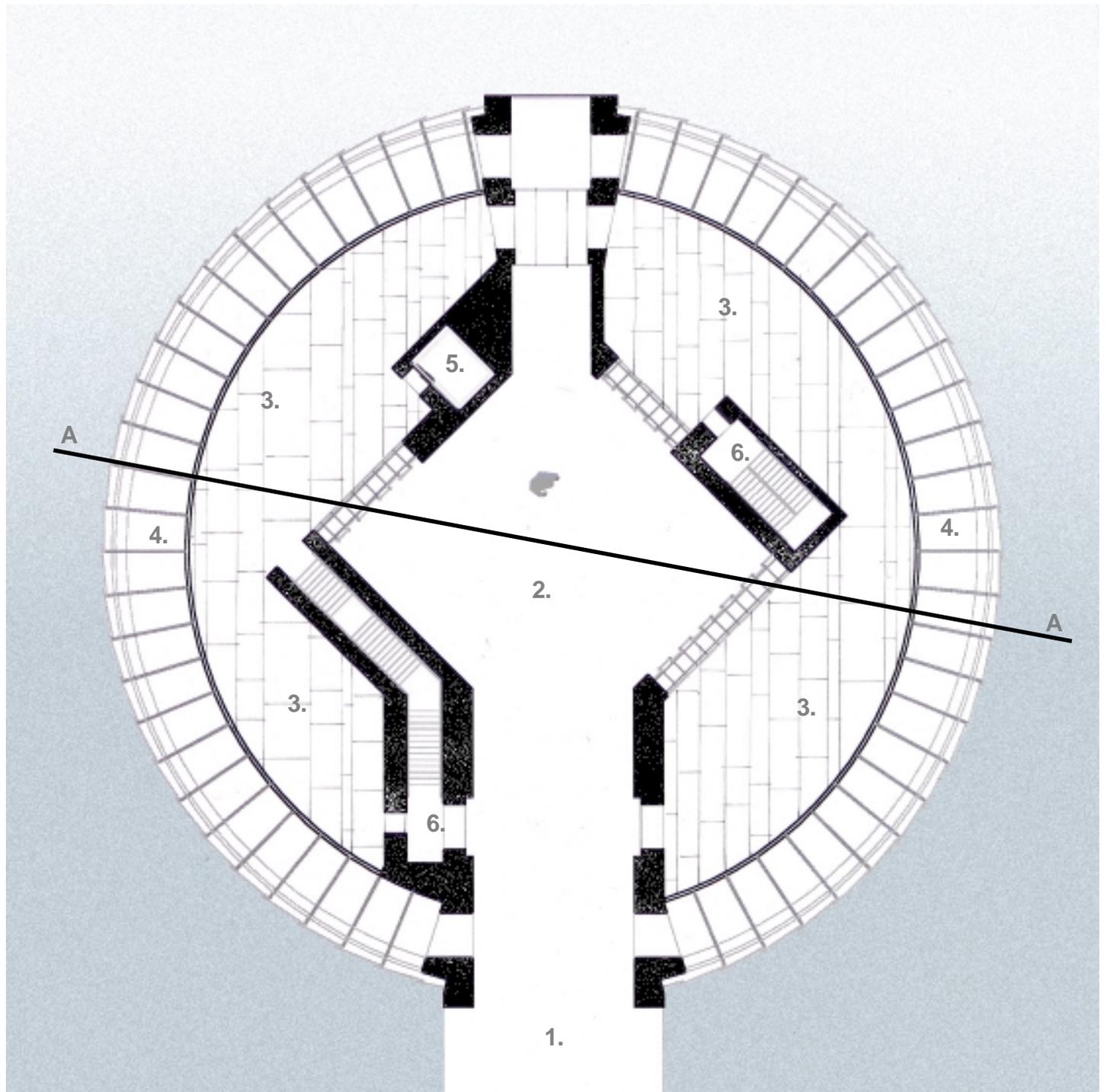


Building section developed as "thick" wall section, stone core, steel frame and glass panels serve as the walls for the Memorial Chamber



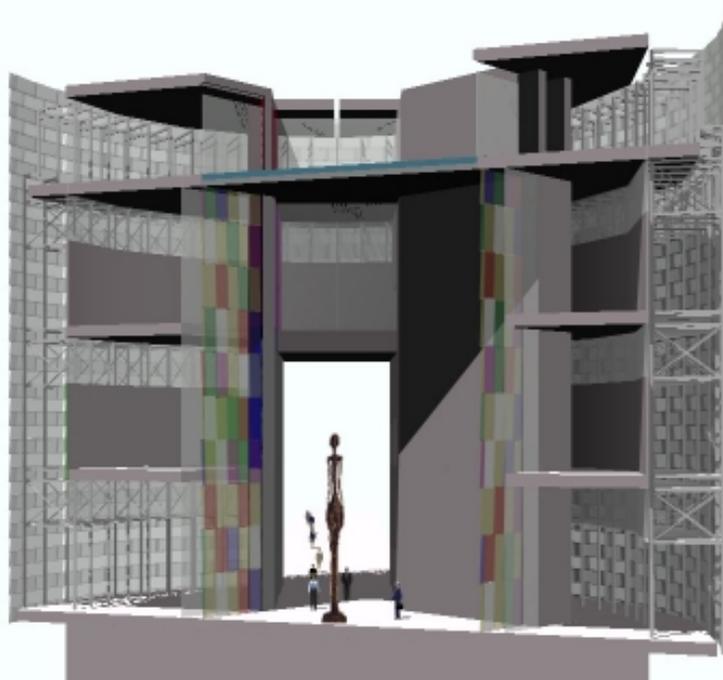
SECTION A-A

Section of M.L.K. Memorial cut toward the Jefferson Memorial beyond. Thick wall section of stone, steel and glass wraps the Memorial Chamber. The interpretive galleries are contained within the "thick" section.



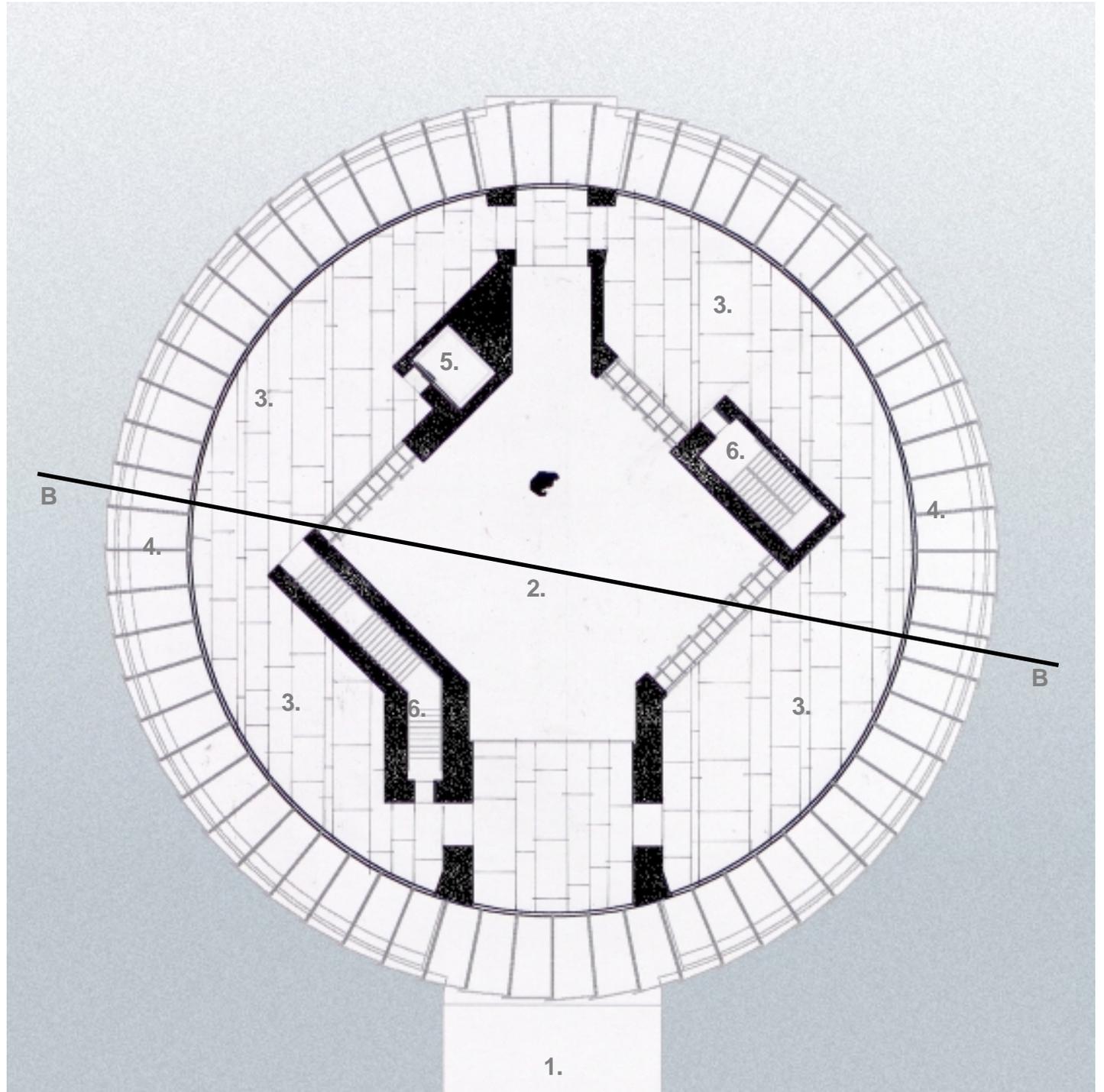
M.L.K. MEMORIAL - THIRD LEVEL

1. Causeway
2. Memorial Chamber
3. Interpretive Gallery
4. Gallery
5. Elevator
6. Stair



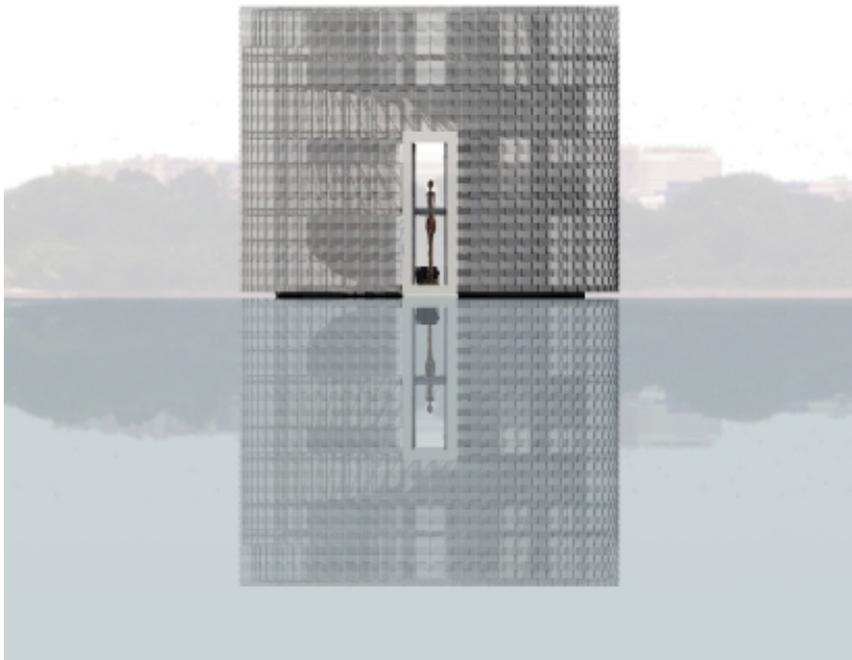
SECTION B-B

Section of M.L.K. Memorial cut toward the Lincoln Memorial beyond. Natural light works its way through the wall section to the Memorial Chamber.

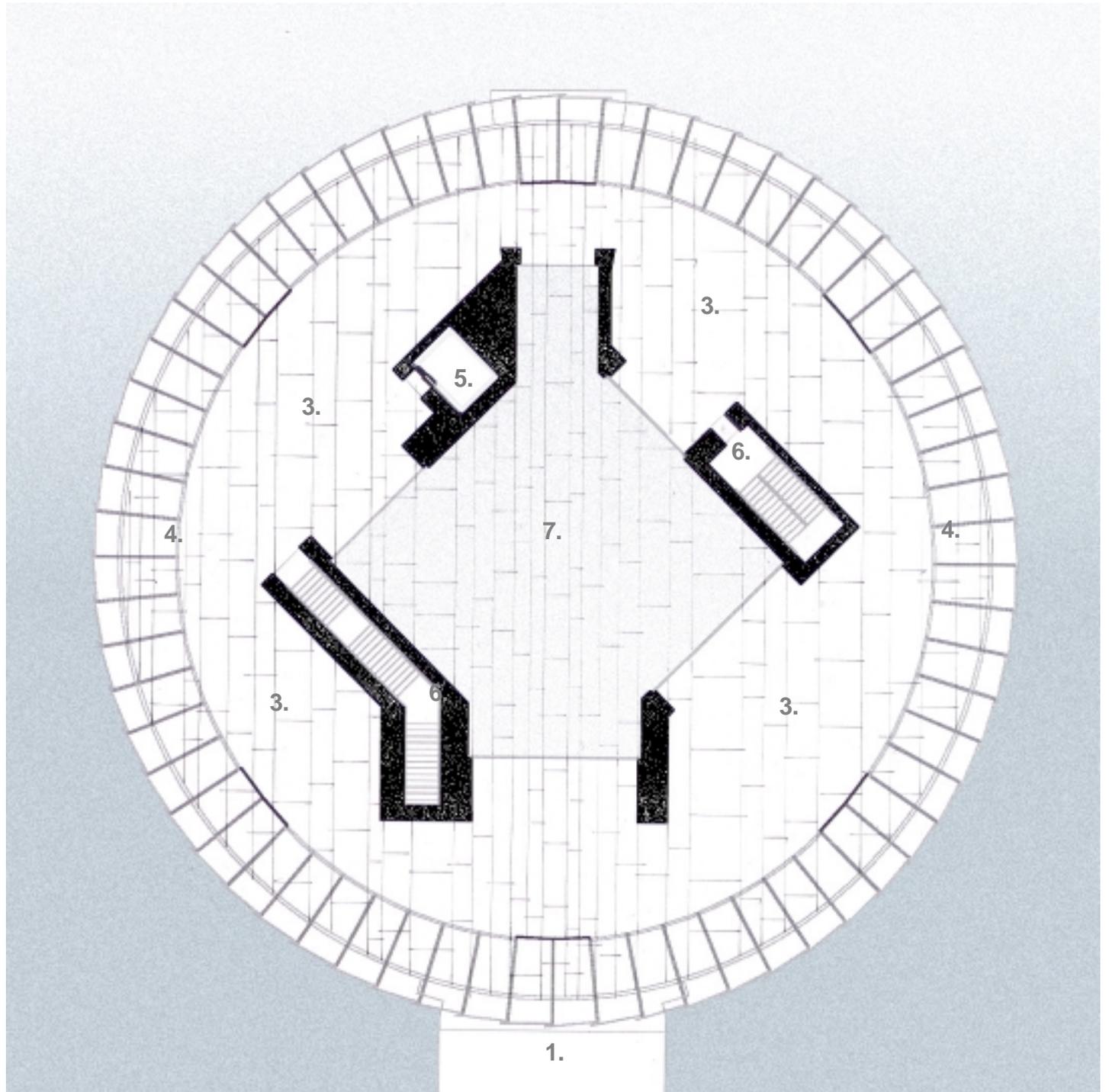


M.L.K. MEMORIAL - OBSERVATION LEVEL

1. Causeway
2. Memorial Chamber (below)
3. Interpretive Gallery
4. Gallery
5. Elevator
6. Stair
7. Reflecting Pool

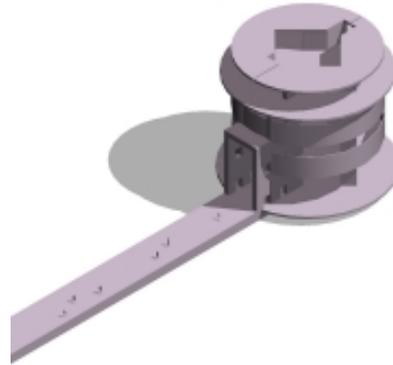


Elevation view of the M.L.K. Memorial from the Jefferson Memorial. The Lincoln Memorial is on axis beyond statue of M.L.K. Situating the Memorial in the tidal basin allows the memorial independence from its counterparts. The memorial can be seen reflected in the water from any vantage point along the basin promenade.

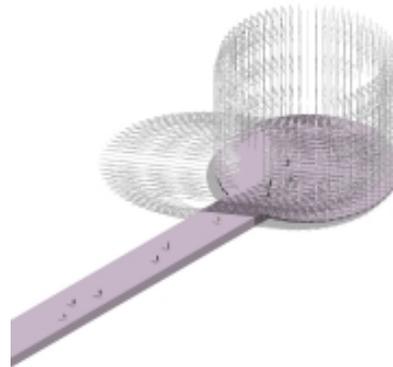


The project can be seen to have three distinct parts:

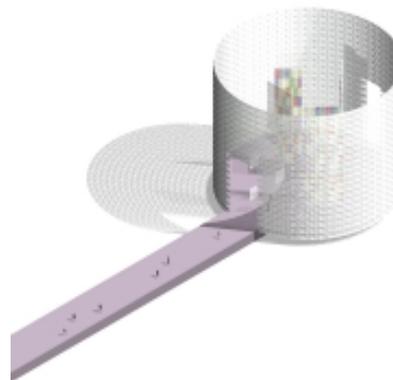
1. A stone core which makes up the memorial chamber and interpretive galleries.



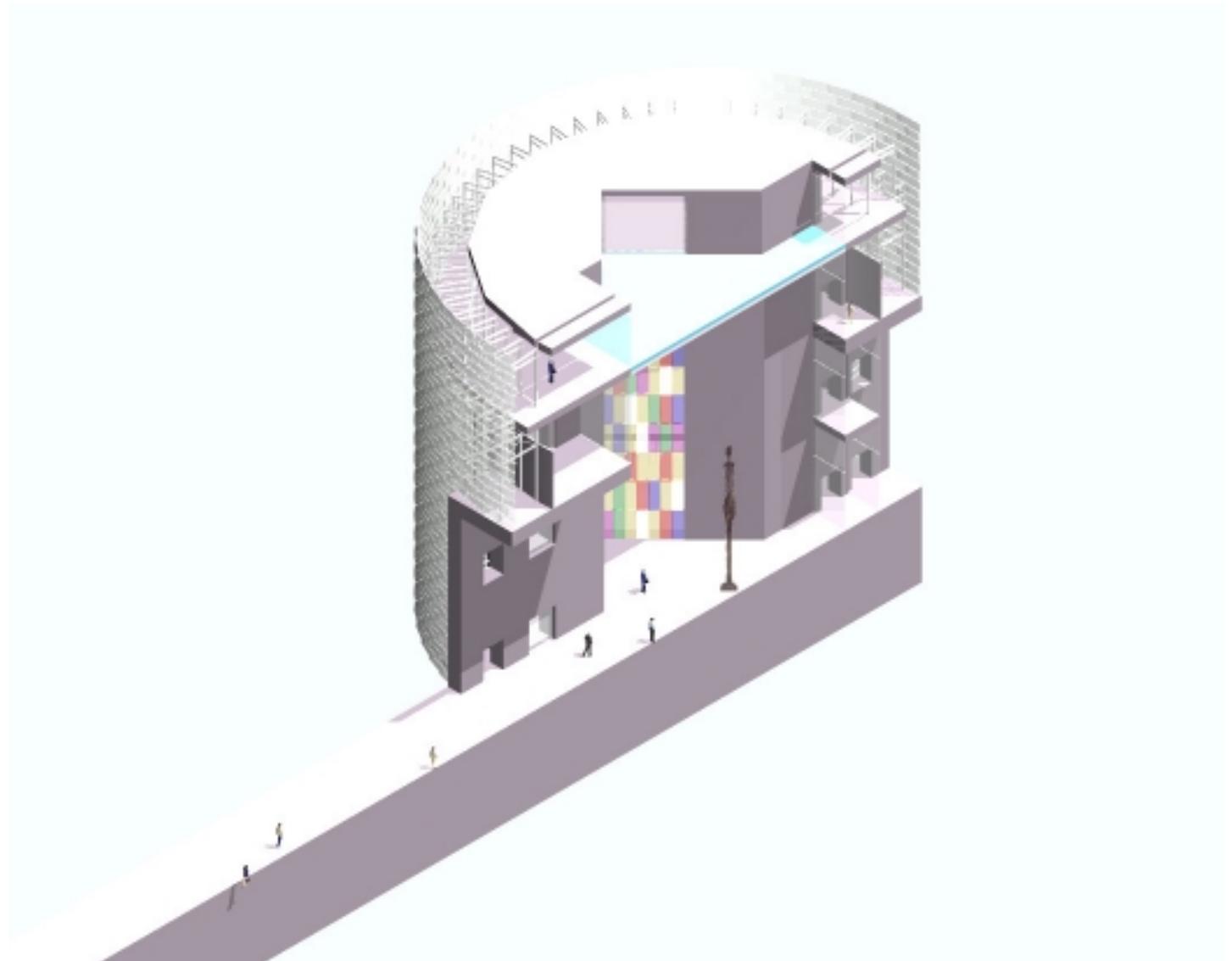
2. A steel frame which surrounds the stone core and makes up the exterior galleries and circulation spaces.



3. A glass envelope hung on the steel frame, which allows natural light thru to the interior and gives the exterior a uniform materiality.

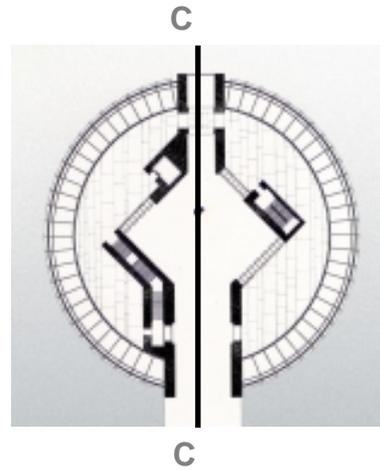


Section along the axis between Lincoln and Jefferson Memorials showing causeway, interpretive galleries and circulation. This reveals how stone core, steel frame and glass envelope serve as "thick" wall section for Memorial Chamber.

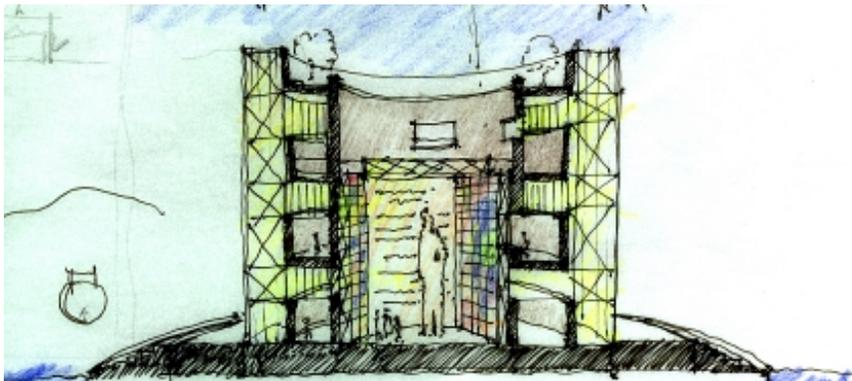


SECTION C-C

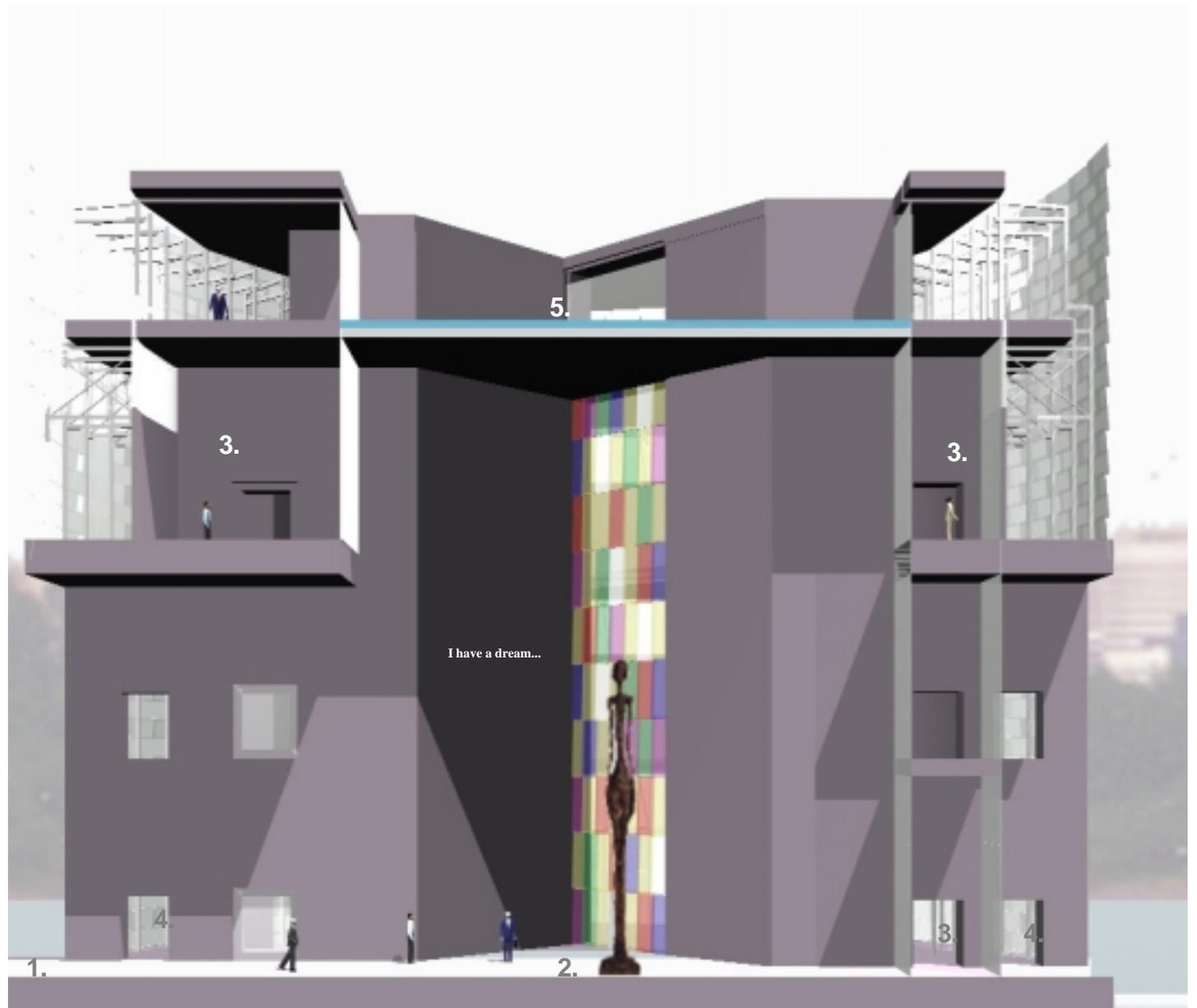
1. Causeway
2. Memorial Chamber
3. Interpretive Gallery
4. Gallery - circulation
5. Reflecting pool



Design sketch showing natural light working its way through the thick section to the Memorial Chamber



Section through memorial
along the axis between the
Lincoln and Jefferson
Memorials



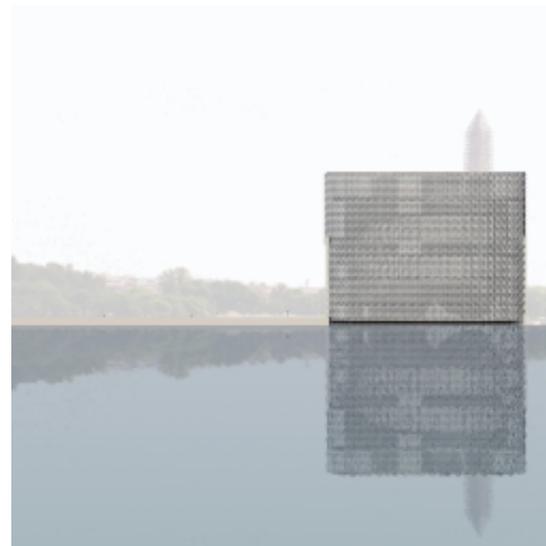
Lincoln Memorial



Washington Monument

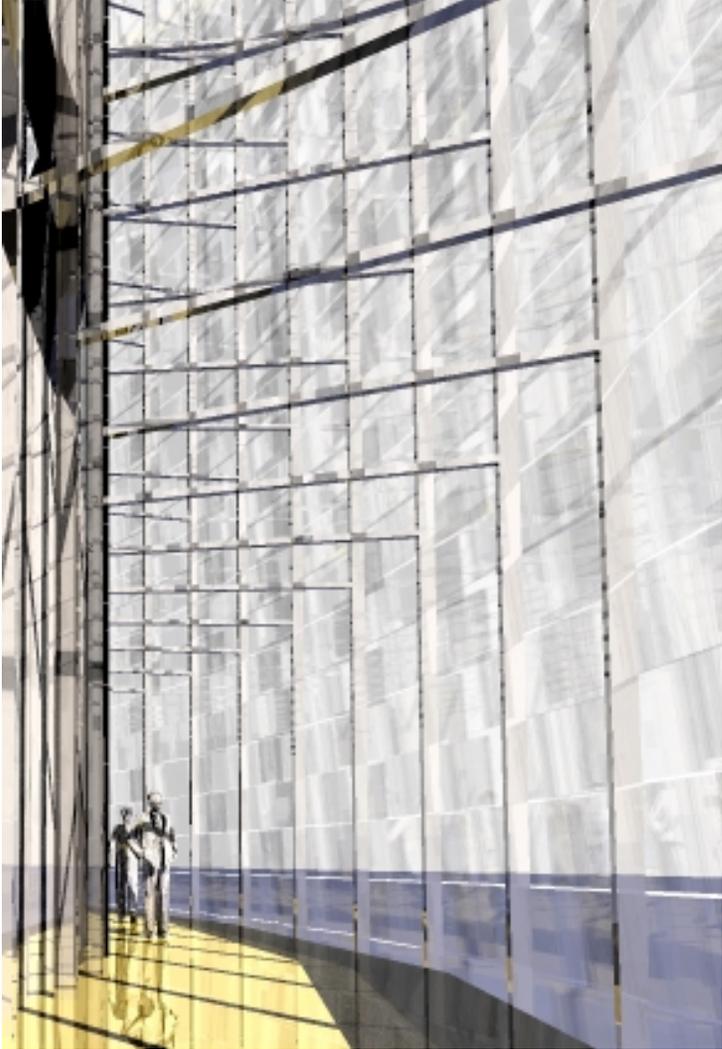


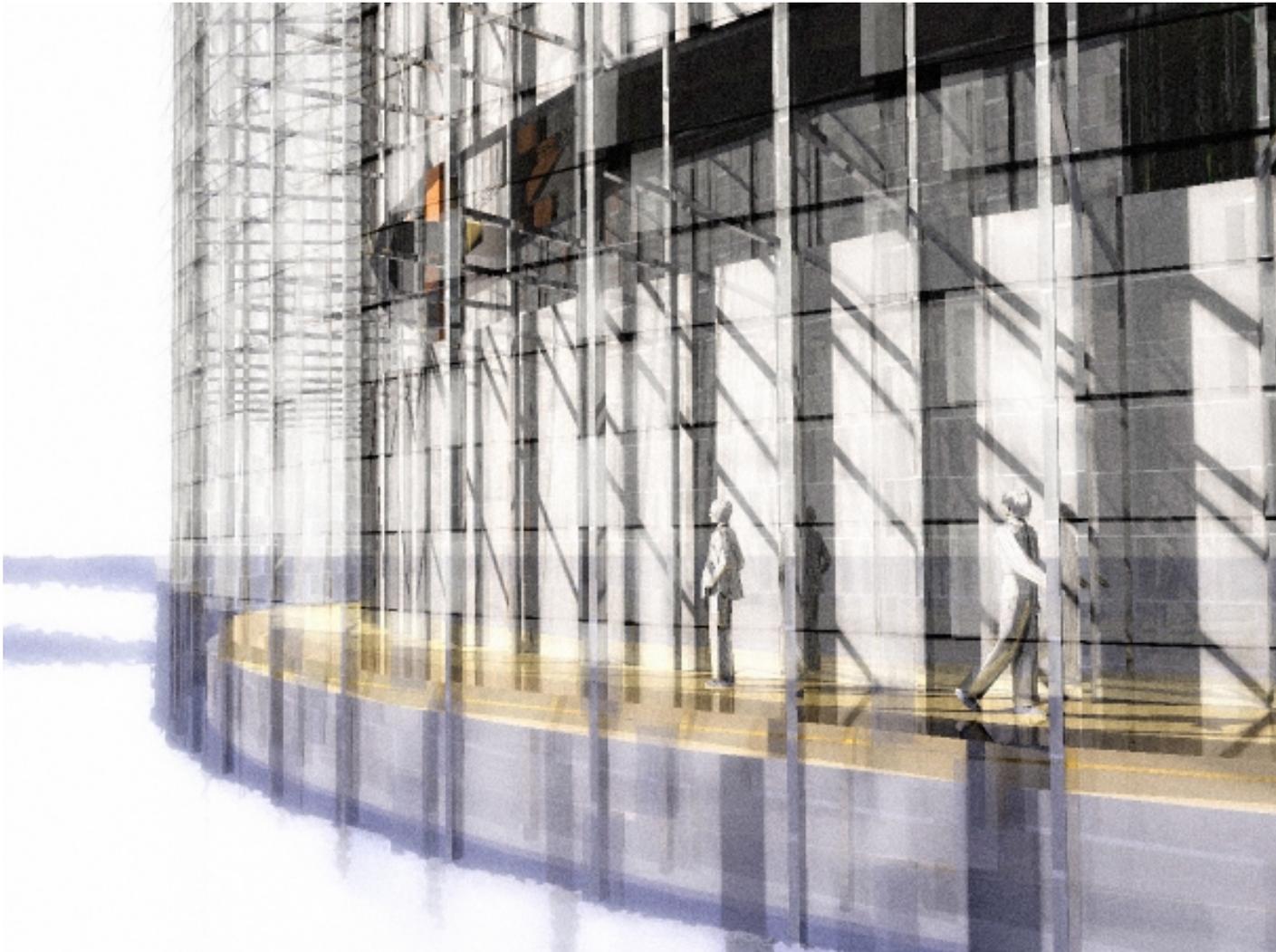
Site Section along the axis between the Lincoln and Jefferson Memorial



Elevation of The Dr. Martin Luther King, Jr. Memorial as seen from The F.D.R. Memorial. The Washington Monument can be seen beyond.

Interior view of outer circulation gallery. Sandblasted glass panels are hung on steel frames. The panels overlap vertically and horizontally like shingles. They are spaced to allow fresh air and the sounds of water lapping the base of the memorial to circulate within the gallery.





View of the outer circulation gallery from the Tidal Basin. The sand-blasted glass envelope serves to give a uniform materiality to the memorial and reinforce its "objectness". It allows the natural light to penetrate and reveal the steel and stone structure behind as shadows.

The F.D.R. Memorial

The Lincoln Memorial



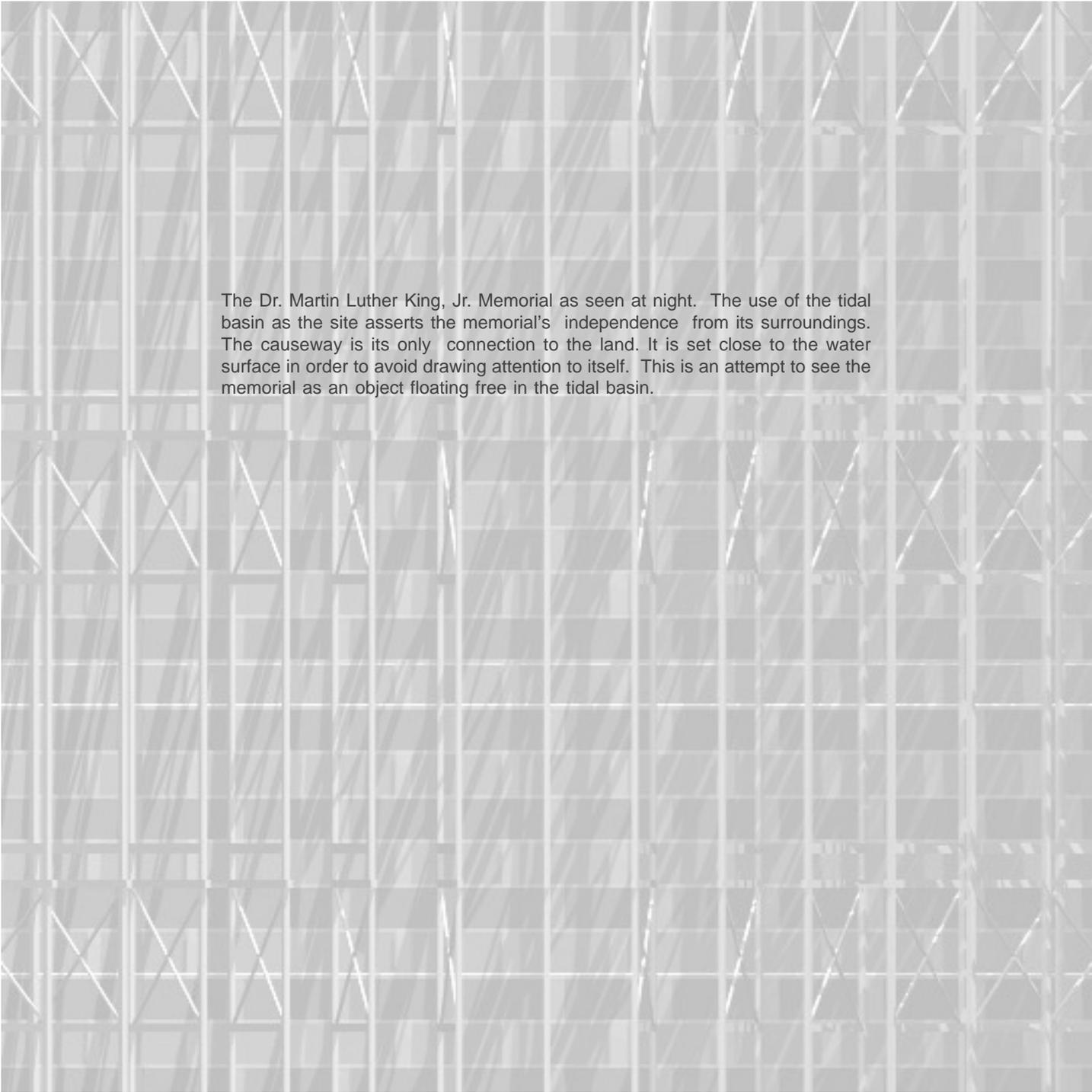
The Jefferson Memorial

The Dr. Martin Luther King, Jr. Memorial

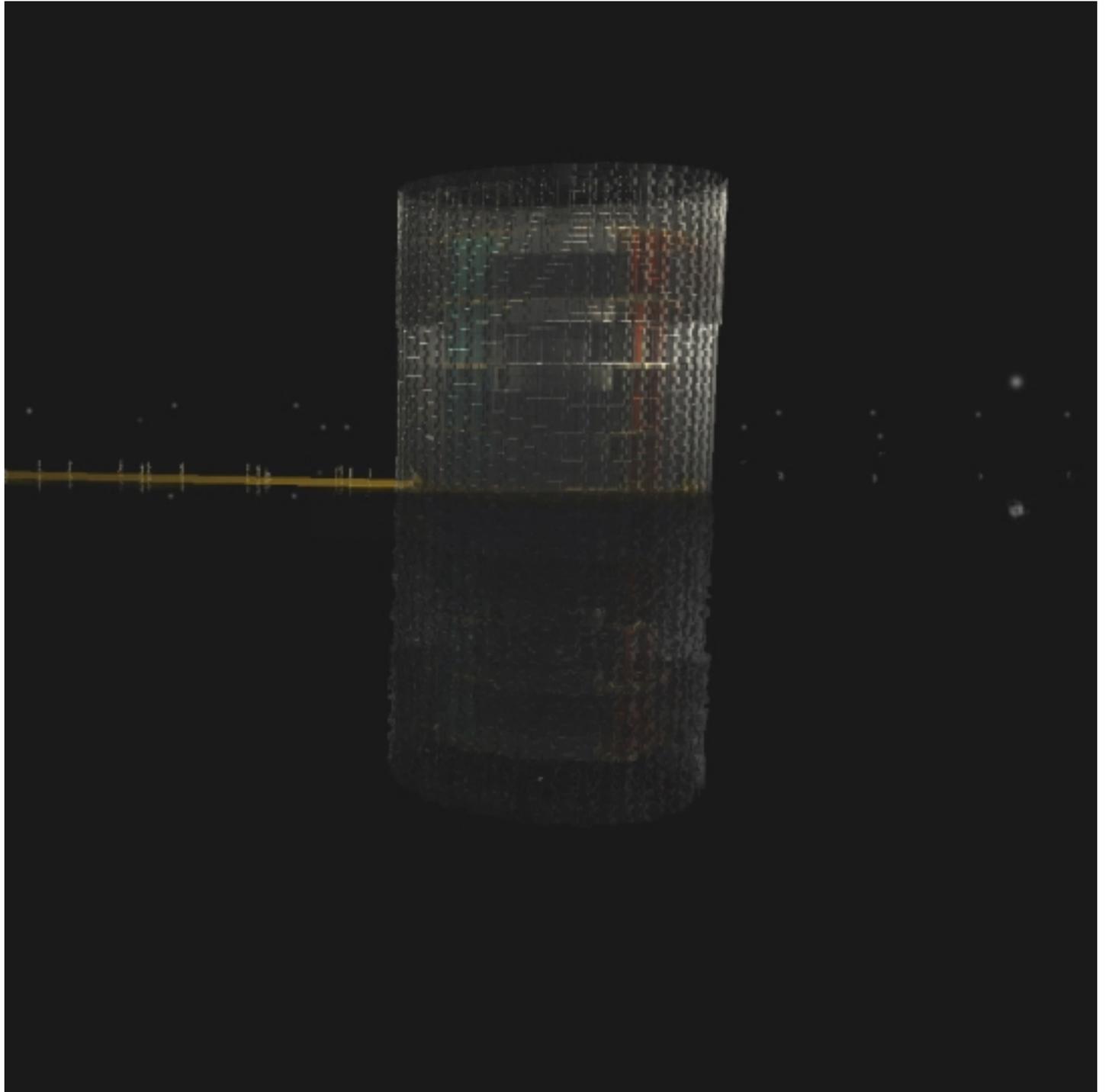
The Washington Monument

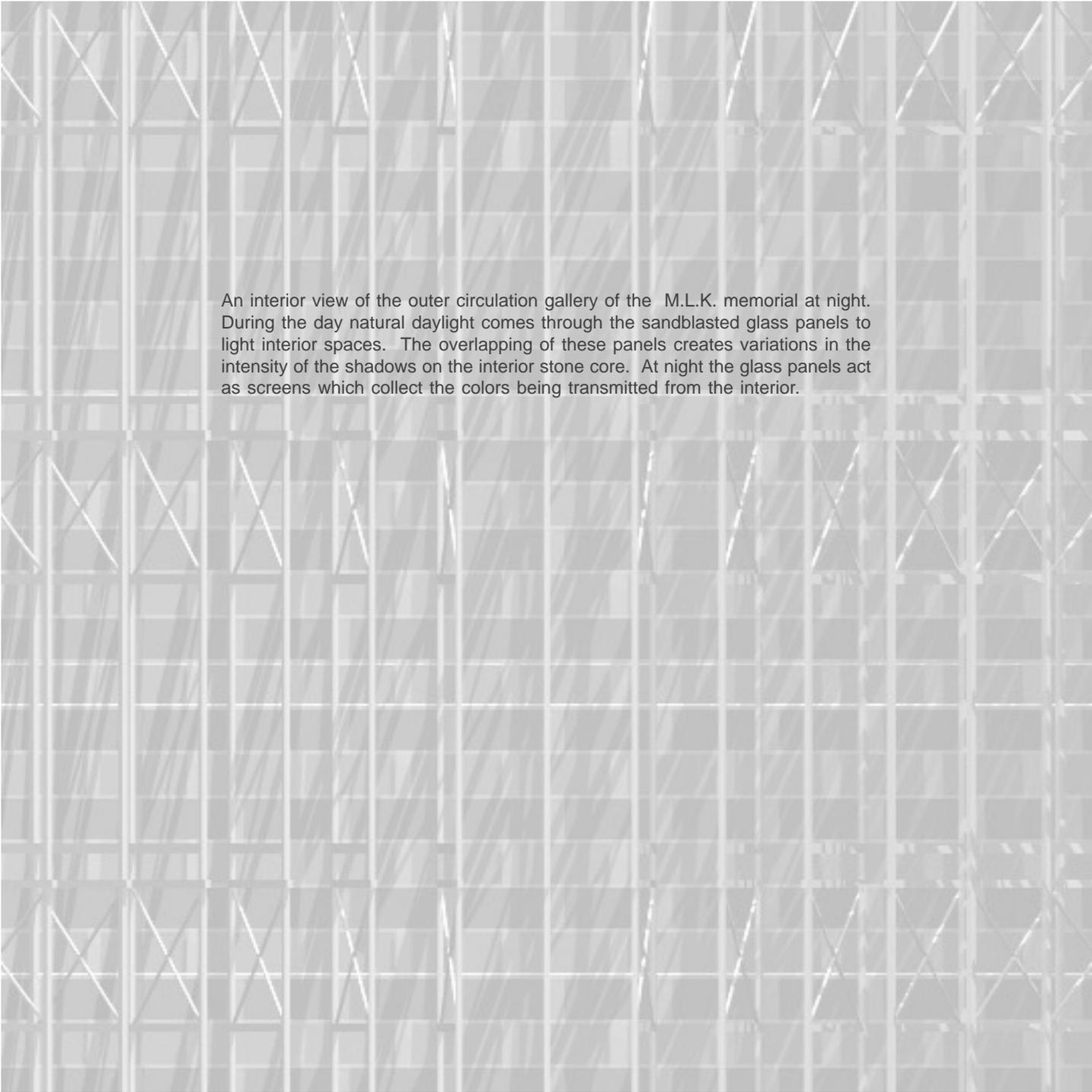


Panoramic view of the tidal basin and the Mall in Washington D.C.

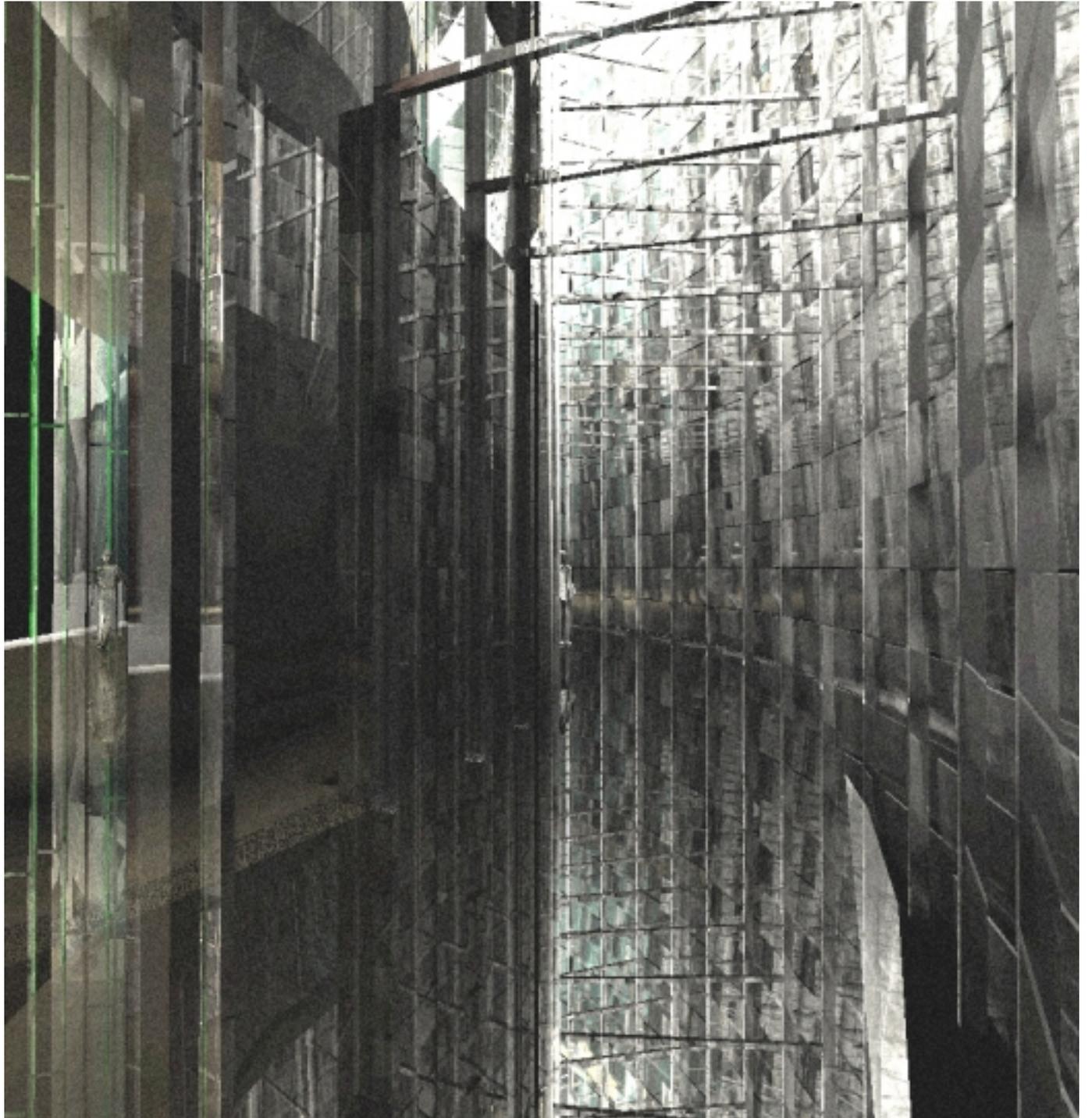


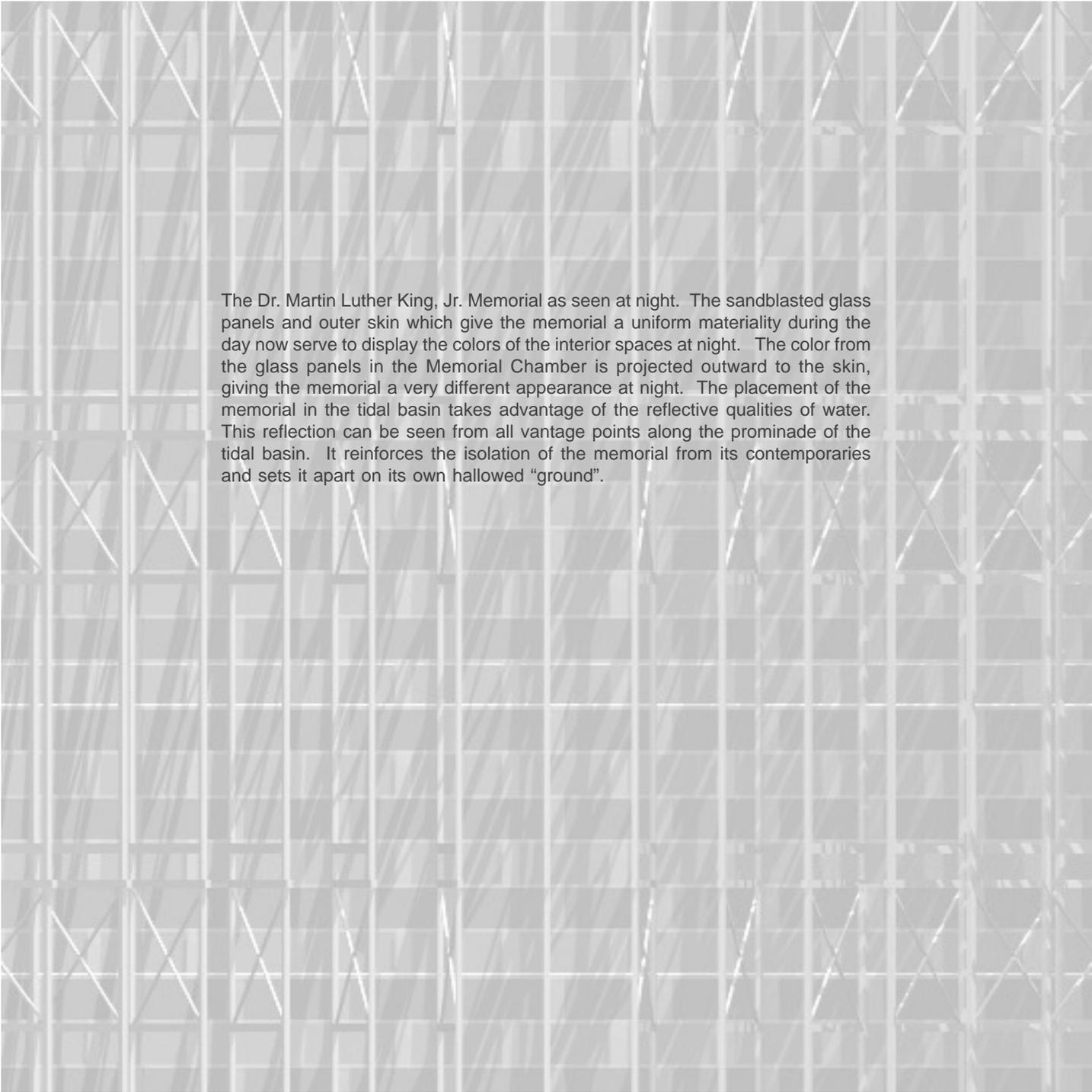
The Dr. Martin Luther King, Jr. Memorial as seen at night. The use of the tidal basin as the site asserts the memorial's independence from its surroundings. The causeway is its only connection to the land. It is set close to the water surface in order to avoid drawing attention to itself. This is an attempt to see the memorial as an object floating free in the tidal basin.



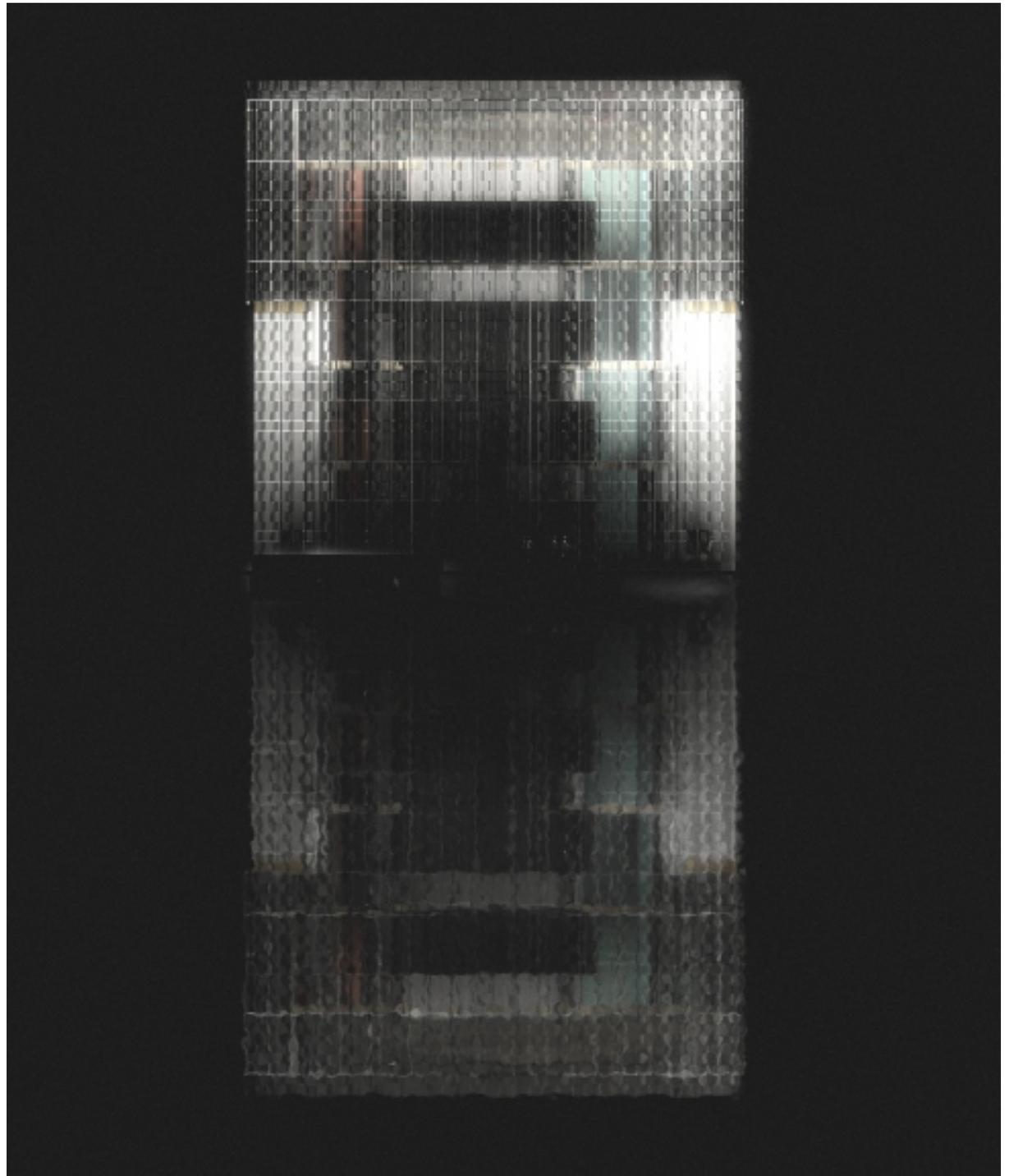


An interior view of the outer circulation gallery of the M.L.K. memorial at night. During the day natural daylight comes through the sandblasted glass panels to light interior spaces. The overlapping of these panels creates variations in the intensity of the shadows on the interior stone core. At night the glass panels act as screens which collect the colors being transmitted from the interior.





The Dr. Martin Luther King, Jr. Memorial as seen at night. The sandblasted glass panels and outer skin which give the memorial a uniform materiality during the day now serve to display the colors of the interior spaces at night. The color from the glass panels in the Memorial Chamber is projected outward to the skin, giving the memorial a very different appearance at night. The placement of the memorial in the tidal basin takes advantage of the reflective qualities of water. This reflection can be seen from all vantage points along the promenade of the tidal basin. It reinforces the isolation of the memorial from its contemporaries and sets it apart on its own hallowed "ground".



When we look at objects or buildings which seem to be at peace within themselves, our perception becomes calm and dulled. The objects we perceive have no message for us, they are simply there. Our perceptive faculties grow quiet, unprejudiced and unacquisitive. They reach beyond signs and symbols, they are open, empty. It is as if we could see something on which we cannot focus our consciousness. **Here in this perceptual vacuum, a memory may surface, a memory which seems to issue from the depths of time. Now, our observation of the object embraces a presentiment of the world in all its wholeness, because there is nothing that cannot be understood.**

- Peter Zumthor



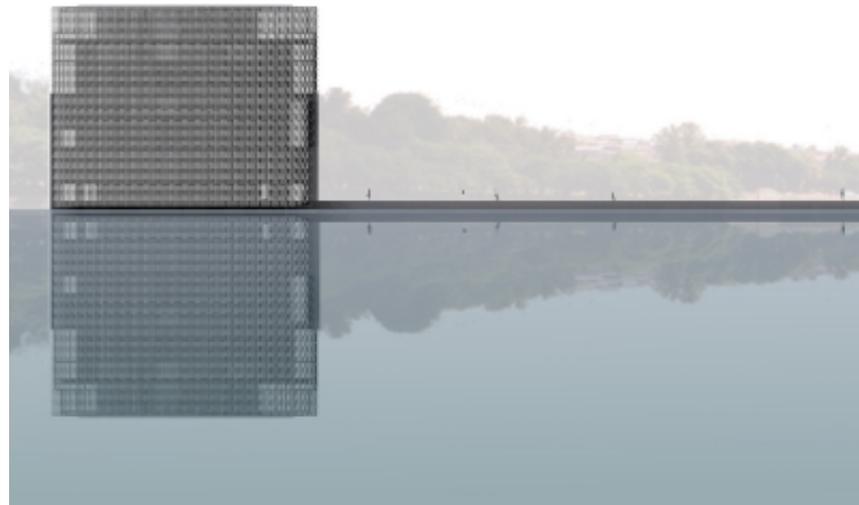
Cemetary at Virginia Tech

“two thousand years ago Marcus Tullius Cicero used to make two-hour speeches in the Roman Senate, without notes, by constructing in his mind a palace whose rooms and furnishings, as he imagined himself roaming through them, called up ideas he wished to discuss: ideas were made memorable by locating them in space.”⁵

This is the function of memorials. It is the determined marking of nature. The imposition of human order on the natural world. An object fixed in time and space which gives to us the ability to recall and remember ideas and events. The object gives us the ability to assign meaning. The meaning does not come from the materials but from the existence of the object itself. Its existence demands interpretation.



APPENDIX



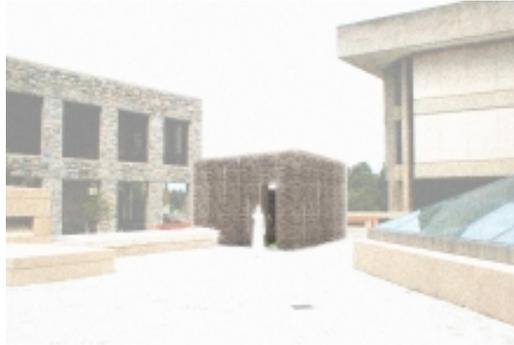
Elevation of The Dr. Martin Luther King, Jr. Memorial as seen from the John Paul Jones Memorial. The F.D.R. Memorial is beyond.

You fix me to the place and my eyes regard it. They behold something which expresses a thought. A thought which reveals itself without word or sound, but solely by means of shapes which stand in a certain relationship to one another.

- Le Corbusier



Memorial Bridge at Virginia Tech



Proposal for the Kovak Memorial - Cowgill Plaza, Virginia Tech

*The 4th Corner
A Weekend Competition*

The challenge of this competition is to find some architectural resolution for the NW corner of Cowgill plaza. Since the other three meet functional needs, is there an opportunity to make the remaining corner into something else – a place to meet friends, to watch the sunset, to sit and read, to make a statement – a place? Can this corner address other aspects of architecture that the other corners do not?

Rob Kovak is the inspiration for the competition. Rob was a graduate student in architecture who disappeared September 1998. Rob probably would have defended the summer of 1999. Rob's family, friends and colleagues have been denied any kind of closure over his disappearance.

As students of architecture we address intangible realities through material means, whether it be drawings or built work. This competition is an opportunity to evoke human experience –memory, friendship, life, loss, joy, sadness, and etc. through architecture.

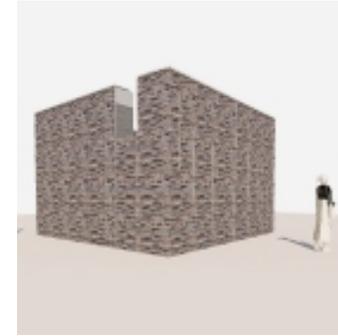
An empty desk, unfulfilled dreams, a life interrupted...

I can only imagine what was going through His parent's minds when they came into his studio to remove his personal items. Seeing incomplete drawings and models must have been difficult. Realizing his unfulfilled dreams and potential must have been unbearable.



empty desk,
unfulfilled dreams,
a life interrupted...

View from East of the entrance to the memorial. A sod floor and a simple bench for sitting and reflection make up the interior. Thick walls made up of dry stacked stones within a steel frame work. Light fixtures mounted within the section allows light to filter out of the spaces between the stones.

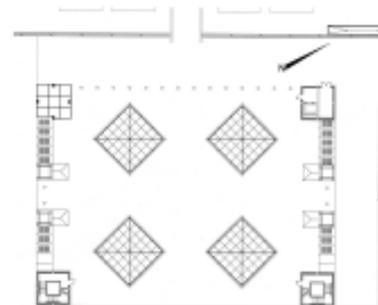


View from West of the slot in the wall the memorial to watch the sunset.

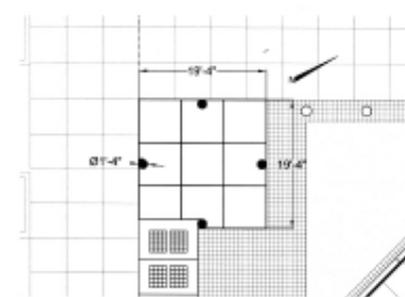
I did not know Rob Kovak. Our only connection was being in the Architectural program at Virginia Tech at the same time. This is my competition entry for the fourth corner of Cowgill plaza. It is a memorial dedicated to Rob Kovak. Offered as an object of architecture, and a provocateur of our imagination and interpretation. The structure itself is not poetic.

*"At most, it may possess subtle qualities which at certain moments, permit us to understand something that we were never able to understand in quite this way before."*⁶

Plan of Cowgill Plaza, Virginia Tech.



Plan at corner of Cowgill Plaza. Site for The Kovak Memorial.



bibliography

Alexander, Christopher, A Pattern Language(New York: Oxford University Press, 1977)

Anderson, William, The Rise of The Gothic (Salem: Salem House, 1985)

Bedford, Steven Mcleod, John Russell Pope Architect of Empire (New York:Rizzoli International Publications, Inc., 1998)

Bennett,William J., The Book of Virtues (New York: Simon and Schuster,1993)

Botta, Mario, La cathedrale d'Evry (Milan: Skiraeditore, 1996)

Braunfels, Wolfgang, Monasteries of Western Europe The Architecture of the Orders (New York: Thames and Hudson Ltd,1972)

Cameron, Robert, Above Washington (San Francisco: Cameron and Company, 1979)

Ching, Francis D.K., Architecture: Form, Space and Order (New York: Van Nostrand Reinhold Company, 1979)

Clark, Kenneth, Civilisation a Personal View (New York: Harper & Row, Publishers,1985)

Conti, Flacio, Splender of the Gods (New York: HBJ Press, 1977)

Christ - Janer, Albert, Eliel Saarinen (Chicago: The University of Chicago Press, 1948)

Crouch, Dora P., History of Architecture Stonehenge to Skyscrapers(New York: McGraw-Hill Book Company,1985)

Dillon, David, The Franklin Delano Roosevelt Memorial (Washington, D.C.: Spacemaker Press, 1998)

Geisert, Helmut, Aldo Rossi Architect (New York: St. Martin's Press, 1994)

Humbel, Carmen, Young Swiss Architects (Zurich: Artemis Verlags - AG, 1995)

Ivy, Robert Adams, Jr., Fay Jones (washington, D.C.: The American Institute of Architects Press, 1992)

Jacobs, Jay, The Horizon Book of Great Cathedrals (New York: American Heritage Publishing Co., inc., 1968)

Kostof, Spiro, A History of Architecture Settings and Rituals (New York: Oxford University Press, 1985)

Kulka, Peter, "Pavillion der christlichen Kirchen auf der weltaussllung EXPO 2000 in Hannover," Arkitektur & Wetttbewerbe, Juni 1998, 174, 64 & 65.

Loyer, Beatrice, Albert Speer Le Plan De Berlin 1937-1943 (Stockholm: Lars Olof Larsson, 1978)

Lyndon, D. and Moore, C.W., Chambers for a Memory Palace (Cambridge, Massachusetts: The MIT Press, 1997)

Mack, Gerhard, Herzog and De Meuron 1989-1991 (Basel: Birkhauser Verlag, 1996)

Norberg-Schultz, Christian, Meaning in Western Architecture (New York: Rizzoli International Publications, Inc., 1983)

Norman, Edward, The House of God (New York: Thames and Hudson Ltd. 1990)

Piano, Renzo, Renzo Piano Logbook (New York: The Monacelli Press, 1977)

Pundt, Hermann G., Shinkel's Berlin (Cambridge: Harvard University Press, 1972)

Pye, David, The Nature and Art of Workmanship (Cambridge, Cambridge University Press, 1968)

Rasmussen, Steen Eiler, Experiencing Architecture (Massachusetts Institute of Technology: The M.I. T. Press, 1959)

Schumacher, Thomas L., The Danteum: A Study in the Architecture of Literature (Princeton; Princeton Architectural Press, 1985)

Temko, Allan, Eero Saarinen (New York; George Braziller, 1962)

Waechter-Bohm, Liesbeth, Carlo Baumsxhlager Dietmar Eberle (New York; springer-Verlag Wein, 1996)

Zumthor, Peter, Peter Zumthor Works Buildings and Project 1979-1997 (Baden; Lars Muller Publishers, 1998)

Zumthor, Peter, Thinking Architecture (Baden; Lars Muller Publishers, 1998)

photographs

Unless otherwise noted, photos and work are by the author.

investigation

1. Handprints, [Arizona Calendar](#)

influences

- 2.-7. Stones, [Andy Goldsworthy](#)

intuition

8. Caplutta Sogn Benedetg, [Peter Zumthor Works](#)
9. Mount Sinai, [Illustrated Dictionary and Concordance of the Bible](#)
10. Stonehenge, [History of Architecture: Stonehenge to Skyscrapers](#)
11. Challenger Memorial, [Architecture Magazine](#)
12. Bench - Salem Witch Trials Memorial, [James Cutler](#)
13. Lincoln Memorial, [Architecture Magazine](#)
14. Vietnam Memorial, [Architecture Magazine](#)
15. Aids Memorial, [Architecture Magazine](#)
16. Wall - Salem Witch Trials Memorial, [James Cutler](#)
17. Mortuary Temple at Hatshepsut, [History of Architecture: Stonehenge to Skyscrapers](#)
18. Medieval Pilgrimage Routes, [History of Architecture: Stonehenge to Skyscrapers](#)
19. Threshold - Salem Witch Trials Memorial, [James Cutler](#)

introspection

20. Pathfinder, Carl Sagan Memorial, [NASA](#)
- 21.-23. Danteum, [Giuseppi Terragni](#)

investigation

Binet, Helene, Peter Zumthor Works Buildings and projects 1979-1997

1. Rand, Ann, Anthem p.94
2. Kostof, Spiro, A History of Architecture settings and Rituals p.26

introduction

Zumthor, Peter, Thinking Architecture

influences

Zumthor, Peter, Thinking Architecture

3. Lesnikowski, Wojciech, On Sybolism of Memories and Ruins, Reflections, no.6, Spring 1989, p.77-76

intuition

Zumthor, Peter, Thinking Architecture

4. Lesnikowski, Wojciech, On Sybolism of Memories and Ruins, Reflections, no.6, Spring 1989, p.79

introspection

Zumthor, Peter, Thinking Architecture

imagination

Zumthor, Peter, Thinking Architecture

Interpretation

Zumthor, Peter, Thinking Architecture

5. Lyndon, Donlyn Chamber for a Memory Palace, p.137

APPENDIX]

intermission

10. Zumthor, Peter, Thinking Architecture



William David Miller

EDUCATION

Master of Architecture

Virginia Polytechnic Institute and State University - Blacksburg, Virginia
2001

Graduate Assistantship - 3D Computer modeling and visualization

NAAB Bachelor of Architecture

Kansas State University - Manhattan, Kansas
1989

Honors:

Dean's Honor Roll

Tau Sigma Delta Honorary

Kent State University Design Competition - Student / Faculty Collaboration.

Design Weekend 1986 / Kansas City - Student / Professional Collaboration.

Design Weekend 1987 / Saint Louis - Student / Professional Collaboration.

Organizations:

Member - American Institute of Architecture Students

Member - OZ - Journal of the College of Architecture and Design

PROFESSIONAL EMPLOYMENT

Portner and Hetke Architects - Bethlehem, Pennsylvania - 1997 to 1998

Architect serving as project designer.

Architect serving as project manager.

The Architectural Studio - Allentown, Pennsylvania - 1991 to 1997

Architect serving as assistant to project manager.

Architect serving as project manager.

Architect serving as project designer.

Educational Institution Projects - Pottsgrove High School Additions and Renovations, East Stroudsburg Elementary School, West Pottsgrove Elementary School Additions and Renovations, Allentown State Hospital Gymnasium Conversion, Emmaus High School Additions and Renovations.

Zajacek Harter Architects - Bethlehem, Pennsylvania - 1990 to 1991

Intern Architect

Commercial Projects - Comfort Suites Motel, Pfizer Office Building, Ciccone Office Building.

Breslin Ridyard Fadero - Allentown, Pennsylvania - 1989 to 1990

Intern Architect

Educational Institution Projects - Swatara Elementary School.

Bohlin Powell Larkin Cywinski - Wilkes-Barre, Pennsylvania - 1988

Student Intern

Educational Institution Projects - Kings College Dormitory.

acknowledgements

To my wife Beth, thank you for always believing in me and sharing in this great adventure.

To my daughters Gabrielle and Reagan, thank you for making me see clearly the things that really matter.

To my Mom and Dad, thank you for supporting my dreams.

To my family, thank you for your encouragement.

To my friends, thank you for your loyalty.

To my associates at Portner and Hetke Architects, thank you for giving me the freedom to explore my interests.

To the Hopkins family, thank you for your lasting friendship and your hospitality.

To The First Wesleyan Church, thank you for making us a part of your family.

To my friend Paul, thank you for sharing your knowledge and beliefs of architecture with me.

To my fellow classmates, thank you for your advice, your criticisms, and your respect.

Finally,

To my Faculty Advisors and Committee,

Regarding Architecture,

Heinrich Schnodt, committee chair, thank you for revealing things that I had not seen before.

Mike O'Brien, co-chair, thank you for giving me confidence in what I believe.

Bill Brown, thank you for sharing with me what others believe.

Bill Galloway, thank you making me critically evaluate my beliefs.

Sincerely,

William D. Miller

