

**Renewal Center**



**Time, Experience, Memory**  
THE RENEWAL CENTER

**Time, Experience, Memory**  
T H E R E N E W A L C E N T E R

Mark Tennant

This Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

Master of Architecture in Architecture

Committee Chairman, Jim Jones

Committee Member, Hans Rott

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By - Mark Tennant

Abstract - Through experience we are conscious of time. Through time, our experiences become memories, influencing both conscious and unconscious thought. It is through our five senses; touch, sight, hearing, smell and taste, that these experiences are gathered. Humans are also born with inherent knowledge that our species has collected from generation to generation. This inherent knowledge, also called the collective unconscious, has a direct effect on the way we perceive experiences from our senses. The challenge of this thesis is to awaken the individual by interweaving the experiential qualities of the structure with the memories from the individuals collective unconscious creating a space that offers a place to pause and reflect on life.

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## **Dedication**

I would like to dedicate this book to my professors, Jim Jones, Hans Rott, Heiner Schnoedt, and Rengin Holt for the insight they have shared with me over the past year. I am grateful for the time and energy they have dedicated to the success of this project.

## **Time, Experience, Memory**

Through experience we are conscious of time. Through time, our experiences become memories, influencing both conscious and unconscious thought. It is through our five senses; touch, sight, hearing, smell and taste, that these experiences are gathered. Humans are also born with inherent knowledge that our species has collected from generation to generation. This inherent knowledge, also called the collective unconscious, has a direct effect on the way we perceive experiences from our senses. The challenge of this thesis is to awaken the individual by interweaving the experiential qualities of the structure with the memories from the individuals' collective unconscious creating a space that offers a place to pause and reflect on life.



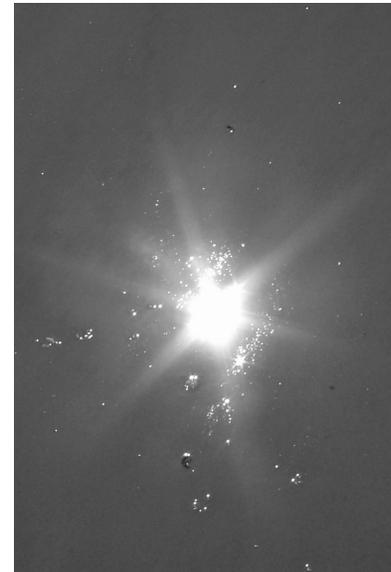


*"It could be a day, a year, a lifetime. In the beginning there is darkness or nothingness. The light grows to bare visibility, then dies and is revived again. Suddenly there is a flash and it is dawn. The light becomes hotter, the heat intense, until it bursts into flames. Autumn arrives, followed by winter. The man of doom walks into the darkness." (1)*

*Isamu Noguchi*

## Inherent Knowledge

Inherent knowledge, also referred to as our collective unconscious, is the reservoir of our experiences as a species which is instilled within us at birth. The collective memories of Light, Shadow, Fire, and Water provide the bases for the thesis. These primordial elements when stitched together with the individual's experiences, from the womb to the tomb, will create a new paradigm in the way one enters and leaves this world.



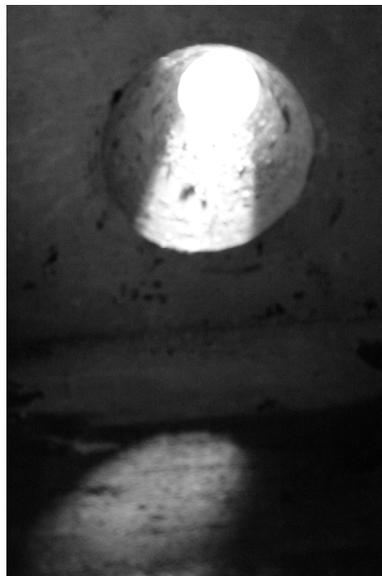


## Light / Shadow

Light speaks softly about the passing of time. As time passes the building materials will speak to the light. As the skin of the building decays the light is altered, continuously awakening emotion within us.

The Renewal Center is made of concrete and water. It is a blank canvas for light, shade, and shadows to activate their dance. Multiple shapes were subtracted from the concrete walls and ceilings to allow for the light to enter and evoke an awareness of Time, Volume, and Material.





*"There must be a crack somewhere in the construction which allows enough natural light to come in to tell how dark it is."(2)  
Louis Kahn*

## Fire

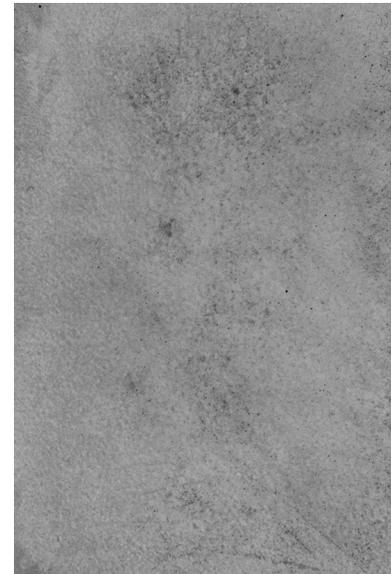
Sunlight is a gift to the day, whereas fire kindles the brilliance of the night and reveals the mysteries of darkness. The orange glow, the ambient smell, its warmth, and the sound soften the edges of the structure creating a multi-sensory experience within the space. Fire proclaims the secrets of the materials within The Renewal Center through the motion of the flame and the movement of the individuals in the space. Our shadows become intertwined with the architecture, and in the morning, with the return of eternal light, all that remains are ashes.





## Materials

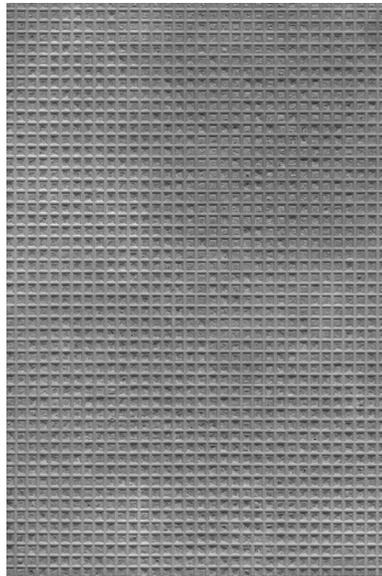
How a material ages enables architecture to last or decay through the trends of the day, revealing to future generations our process of making at a specific point in time. The Renewal Center uses a limited palette of materials comprised of concrete and of the components which embody the mix, water, limestone chips, number 2 limestone gravel, and portland cement. The thesis explores three aspects of material; the texture, the finish, and the resulting reaction to light. The concrete was cast by using one of three types of formwork. The exterior of The Renewal Center, the interior of the dining hall, and the light gardens use Symons steel-ply forms with plexi-glass attachments to produce a silky surfaces with a semi-reflective finish. The interior of the elders' studio uses the steel-ply forming system with the backside of masonite boards attached to the forms. This creates a fabric like texture on the surface of the concrete with a matted finish. The third type of formwork used plastic inlays creating a grid pattern on the surface of the concrete.



Panel A (Plexi-Glass)



Panel B (Backside of Masonite)



Panel C (Plastic Grid Inlays)



Water



Limestone Chips



#2 Limestone Gravel

*"The greatest glory of a building is not in its stone, nor its gold. Its glory is in its age... which we feel in walls that have long been washed by the passing waves of humanity... it is in that golden stain of time, that we are to look for the real light, and color, and preciousness of architecture..."(3)*

*John Ruskin*

## The Renewal Center

The origins of the program stem from a belief that the earth's resources will soon be depleted with the increase of the world's population and consumption. The advances in the fields of medicine and technology have and will continue to prolong the lives of humans throughout the world. The challenge, for bipartisan committees, will be to investigate peaceful solutions in eliminating large sectors of the population. The new circumstances of life, when examined properly, will generate architectural forms which respond to it.

As of the year 2020 family units or individuals wanting to conceive a child will be required to undergo a probe, led in part by the United States government but not excluding private industries, to uncover the genealogy of parties involved. Any individual showing a lineage of six generations will be required to gain approval for having a child by submitting an application of intent to an elder within the family unit who will, if in agreement, forward the application with his or her approval to the probe. Provided the application meets approval, the elder will be required to be terminated within a 30-day period upon the probe's receipt of the application. Once the death takes place the individual or family wanting to bear a child will be required to provide an original copy of the elder's certificate of death from the state department of health and the division of vital statistics. When the certificate is received, the department of Memento Mori will send the applicant a certificate of live birth which must be sent to the divisional manager of the birthing center in their region one year prior to anticipated delivery. Upon receiving the live birth certificate the birthing center located closest to them will contact them to discuss the possible options available for ovum implanting and the latest in genetic alterations.

As an alternative to the hospital for their beloved elder, the Allegheny cemetery has created a place to celebrate his or her life with family and a chance to pass the wisdom one has gained throughout his or her years. The renewal center provides the elder with a three-day, two-night transitional period. The first evening includes a social gathering with family and friends along with a great feast lasting well into the evening hours. Several dinner plan options range from cured meats to smoked pasta designed individually by one of our two resident chefs. This environment provides opportunities for young people to dance as well as to embark on new sexual liaisons. On the second day the clients will begin a detoxification process to reconcile their religious beliefs and rituals. The renewal center will be closed to the family and the public as the elder continues on his journey. The resident chefs prepare three meals per day bringing breakfast at 6:30 am, lunch 11:30 am, and dinner at 5:00 pm to the staging area. Any allergies or religious proscriptions should be addressed on line 57 of the application form prior to arrival. On the third and final day, the elder will end their life in a warmly lit pool of water, by an automatic administered injection of 5 mil. grams of morphine to be followed sixty minutes later by a shot of 2 grams of hemlock. The elder will be dead within five minutes.

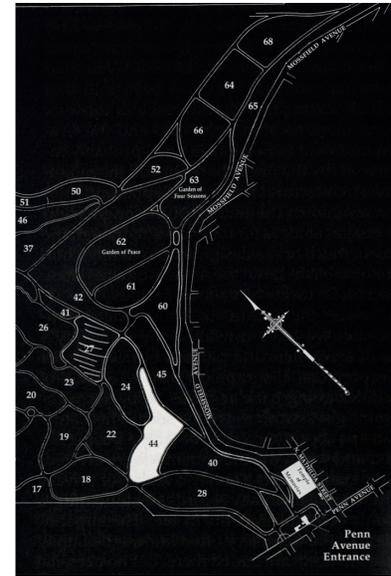
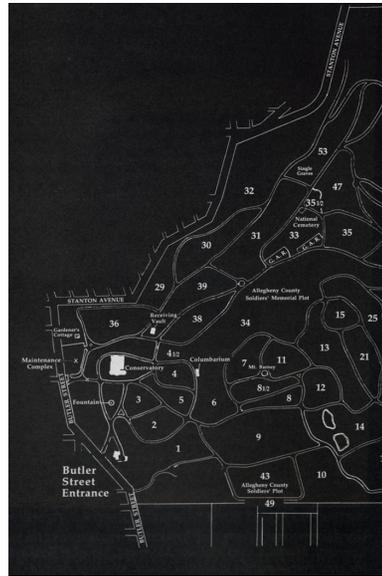
This will be a great way for a family to begin and to end life. If you have any concerns or questions regarding these issues please contact the department of Memento Mori at 412-682-1624 or e-mail J. Mabon Childs at [www.alleghenycemetery.com](http://www.alleghenycemetery.com).



## Site

Allegheny Cemetery was incorporated in 1844 and was the sixth rural cemetery in the United States. The rural cemeteries were a new genre for burial that had been introduced in Europe. The style came about as church burial grounds became limited. The characteristics of a rural cemetery are a remoteness from built-up areas, well maintained, usually admit people of all religious denominations, and are designed as a Romantic Landscape. Allegheny Cemetery is located five miles from the Triangle in Downtown Pittsburgh, Pennsylvania, with the main entrance off of Butler Street.





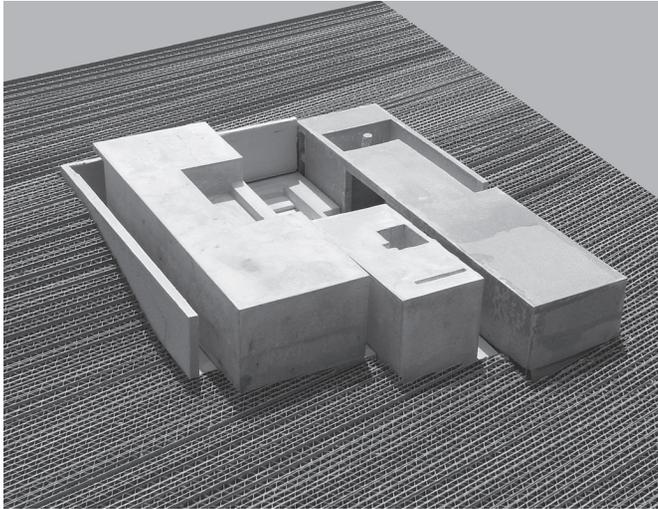
*"I work in a landscape made rich by the people who have worked and farmed it. I can feel the presence of those who have gone before me. My touch is the most recent layer of many layers that are embedded in the landscape which in turn will be covered by future layers hidden but always present."(4)*

**Andy Goldsworthy**



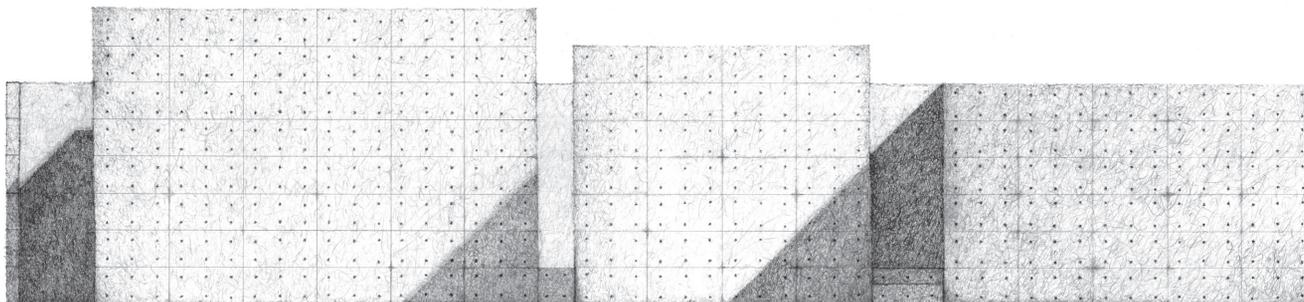


*“as the glitter peels from the branches  
the earth sparkles for one last moment  
at the turn of the head the magic is gone...”*  
Mark Tennant

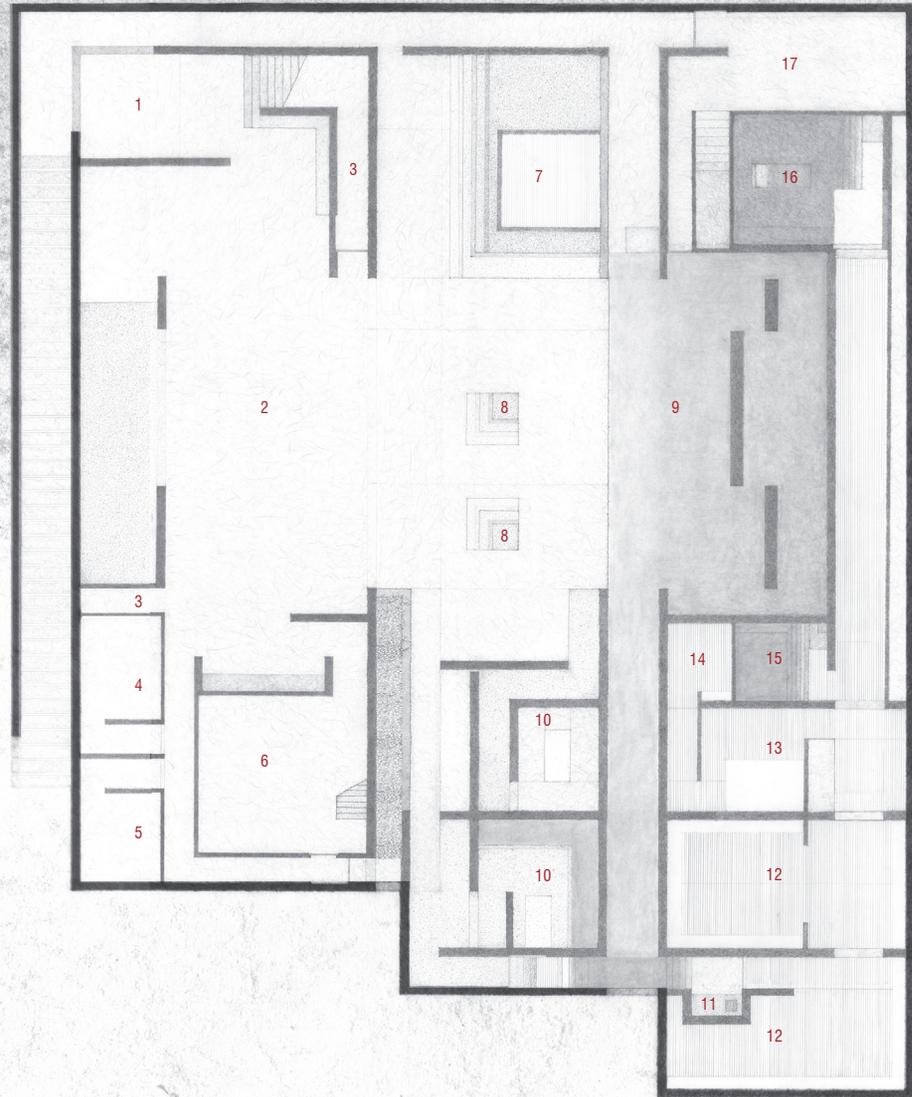


The building is submerged into the hillside with each stage of the procession using ramps to proceed further into the earth. The first section of the building houses the dining hall and the kitchen. As you proceed into the center courtyard to the left is an outdoor stage and to the right are the two light gardens. These are spaces, which are used for the first evenings festivities, that provoke reflection for the Elder and create memories for the family member. The final structure is the Elder's private studio were the individual will spend the duration of his or her last two days.

Mass Model

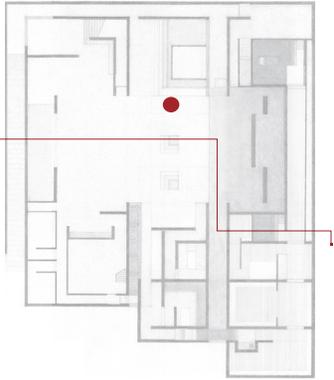


10/1/04 12:00 pm Front Elevation

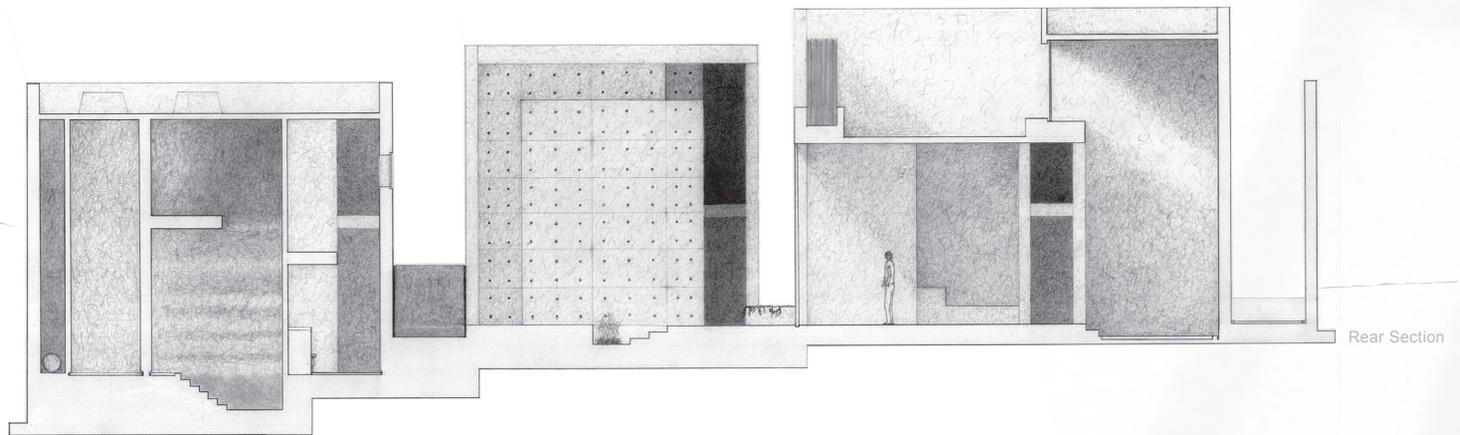


- 1 - Entrance
- 2 - Dining Area
- 3 - Storage
- 4 - Male Restroom
- 5 - Female Restroom
- 6 - Kitchen
- 7 - Outdoor Stage
- 8 - Fire Pit
- 9 - Reflective Pool
- 10 - Light Garden
- 11 - Changing Area
- 12 - Archival Room
- 13 - Relaxation Room
- 14 - Elders Restroom
- 15 - Cleansing Pool
- 16 - Termination Pool
- 17 - Mechanical Room

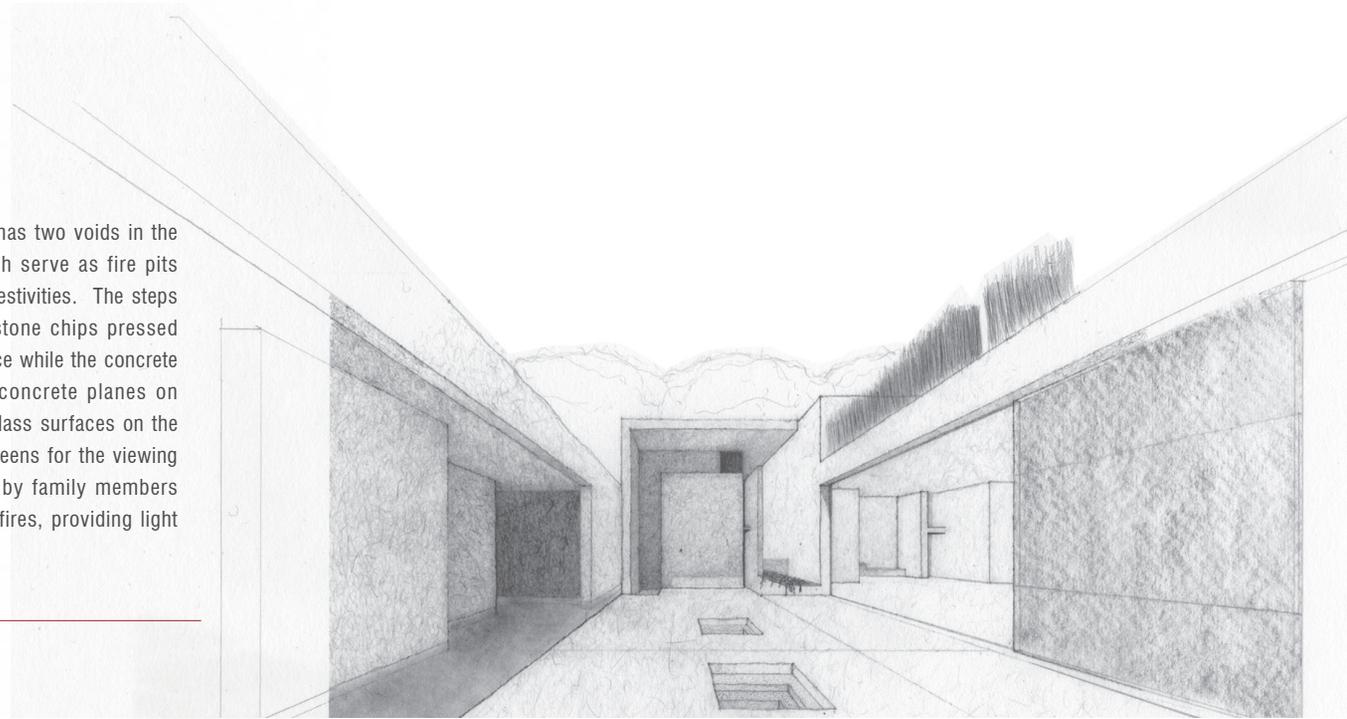


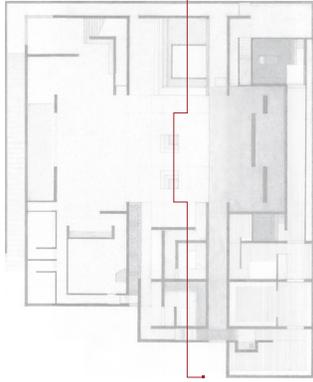


Limestone and Concrete Steps

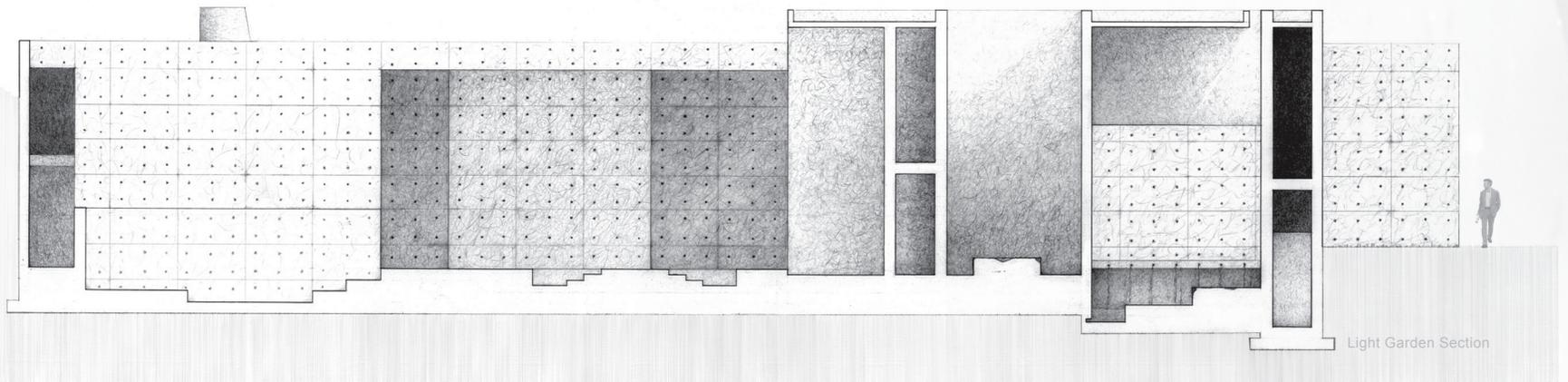


The center court yard has two voids in the concrete surface which serve as fire pits for the first evening's festivities. The steps of the voids use limestone chips pressed into the concrete surface while the concrete is curing. The large concrete planes on the left and the large glass surfaces on the right act as layered screens for the viewing of shadows produced by family members interacting around the fires, providing light within the darkness.





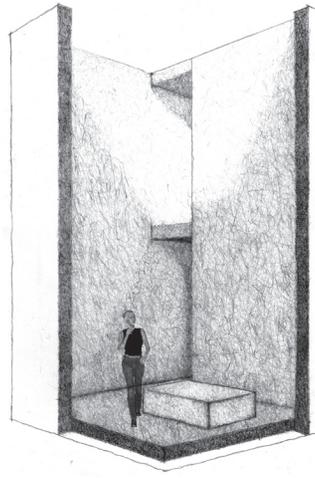
Light study using concrete light boxes to evaluate the different qualities of light if the aperture in the ceiling is in line with the wall, or if the opening is pulled twelve inches from the concrete surface. By having the aperture in line with the wall the light washes down the surface of the wall until early afternoon and eliminates the darkness in the corner of the room.



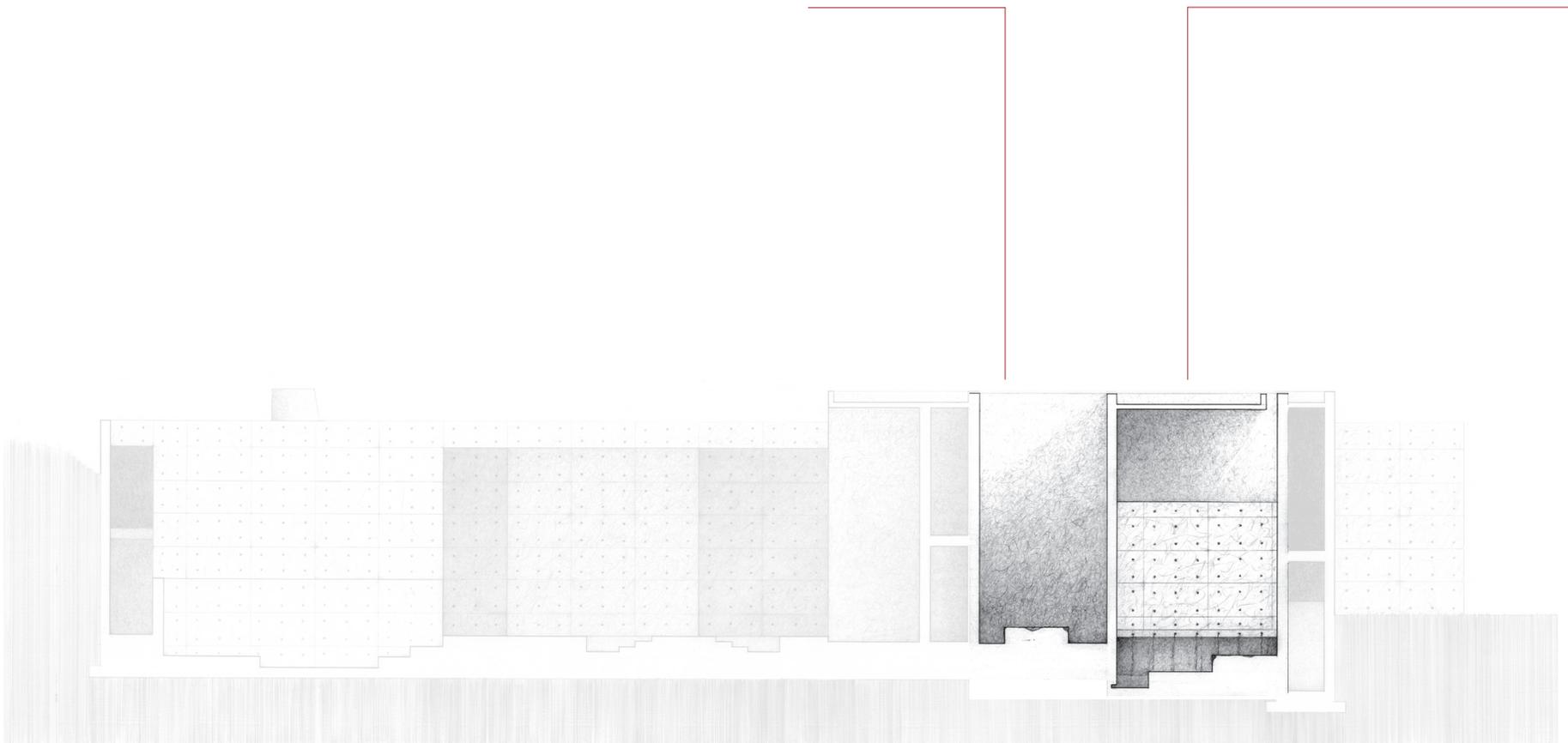
The twelve inch aperture in the ceiling is pulled away from the reflective concrete wall to allow for the light to penetrate the full height of the room. The light is in continuous motion making the individual aware of time. The light reminds us that darkness is coming, just as our life is also coming to an end.

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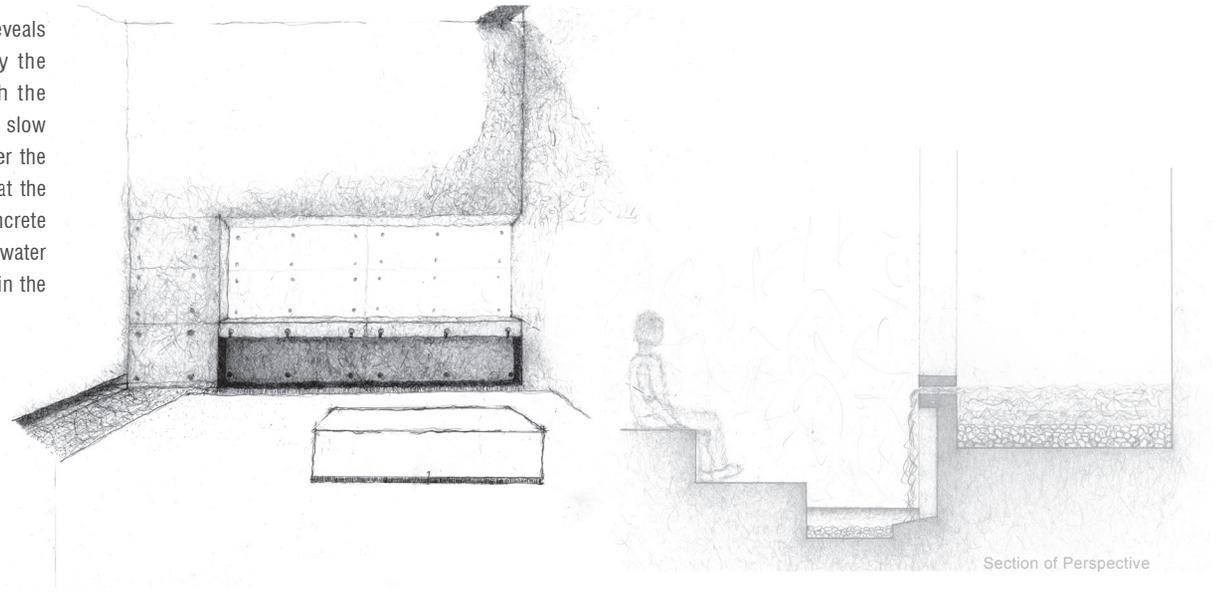


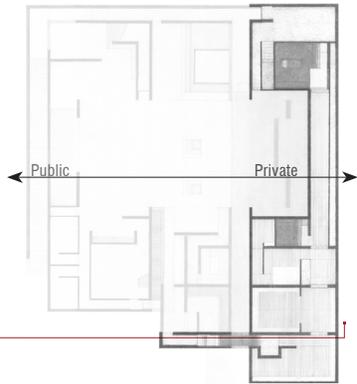


The first room in the light garden is a space for contemplation, to become aware of the temporal qualities of this life. As you enter the path, the surface of the floor changes from polished concrete to limestone chips awakening the audible sense. The bench is a polished surface exposing the small limestone chips. The Surface is to reflect the motion of the night sky as the walls track the sun throughout the day. In this room time is experienced through motion, whether it is the slow crawl of the light crossing the smooth concrete walls or the shadows from clouds as figures in motion across the interior walls.

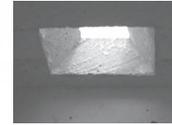


The second room in the light garden reveals time through the motion created by the aperture in the ceiling and through the speed of flowing water. The sound of a slow continuous trickle of water spilling over the edge of a stone landing on the rocks at the base of a stream. In this room the concrete formwork ties were left out allowing for water to enter the space spilling into a void in the concrete limestone chip floor.



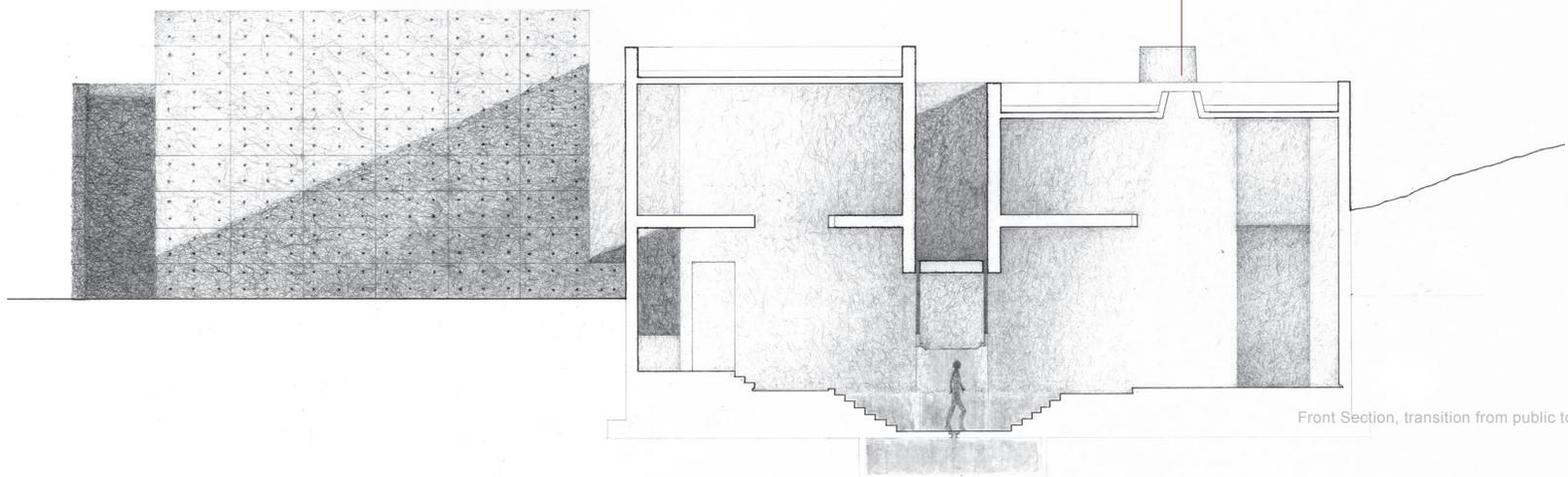


Study Model One



Study Model Two

In the first study, the subtraction in the model compresses the light entering the space and produces a rectangular pattern on the wall throughout the day. The subtraction in the second study model is the inverse of the first which releases light into the space and achieves a diffused light within the room. The second model also creates light, shade, and shadow within the thickness of the ceiling.



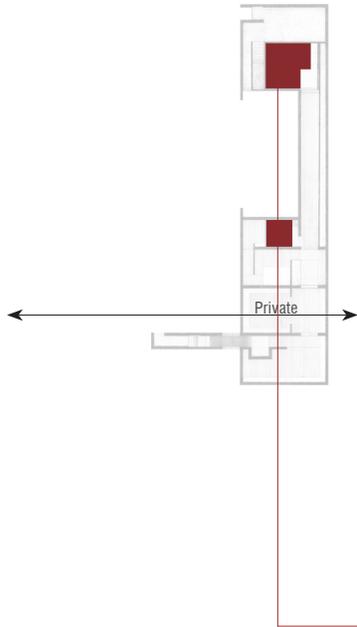
Front Section, transition from public to private

The openings in the ceiling of the elders' studios employs etched glass to defuse the light entering into the room. The textured concrete walls also help reduce the movement of the light. The final forty-eight hours for the elder is a detoxification period in preparing for the transition from time to eternity.

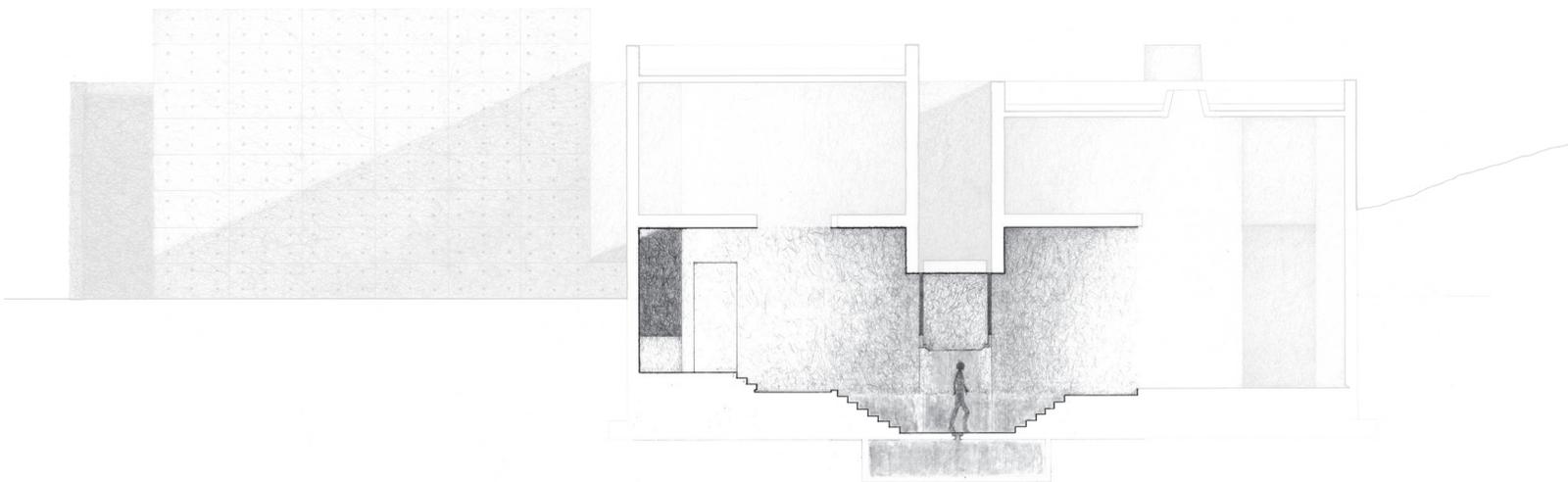


*“Light gives, with each moment, new form to being and new interrelationships to things, and architecture condenses light to its most concise being. The creation of space in architecture is simply the condensation and purification of the power of light.” (5)*

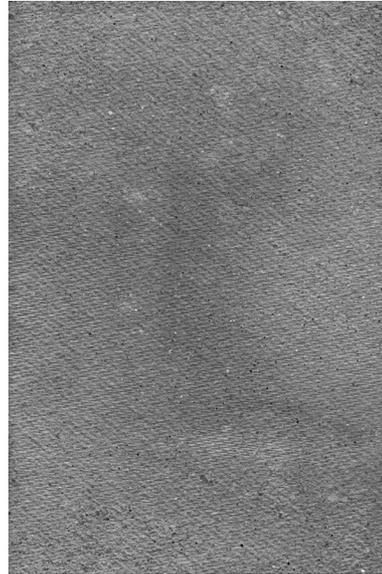
*Tadao Ando*



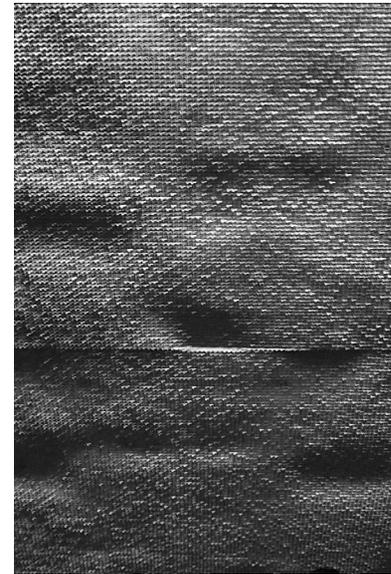
The transition from the public to the private area is through a concrete door where the elder would undress on the first landing and cross through the pool of water to the other side. The changing area is a concrete bench which has a void for the elder's robe. The floors in the elder's studio use radiant heating and the pipes run through the mass of the bench heating the surface of the seat and the robe held within.



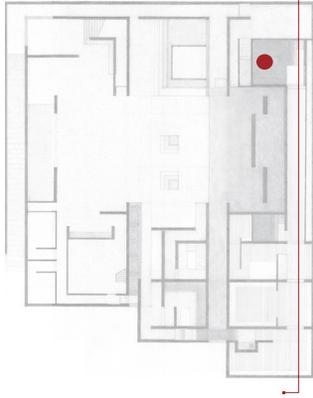
The texture of the concrete walls change in the elder's studio from smooth to a fabric textured surface. The wall finish also transforms from reflective to a matted finish corresponding to Panel B. The floor surface in the elders studio also changes from polished concrete to sycamore floors. The cleansing pool and the termination pool use a textured concrete flooring as shown in panel C. This grid pattern is also used in the final subtraction in the ceiling of the termination room.



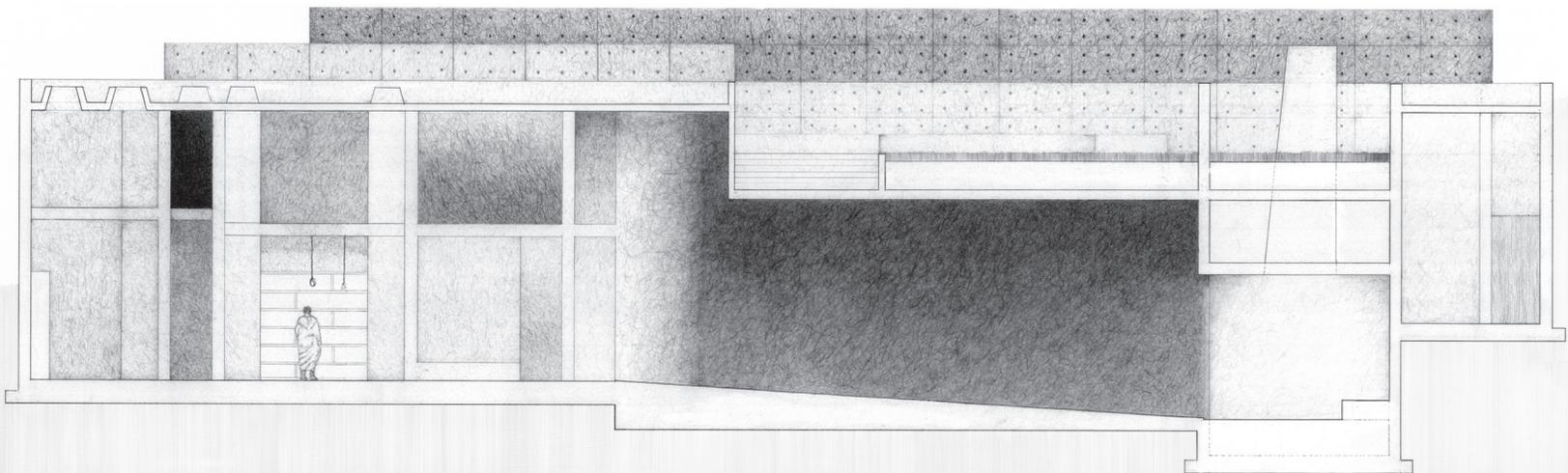
Panel B (as described on page. 15)



Panel C (as described on page. 15)



The termination room includes a warm pool of water with a polished concrete chaise lounge in the center of the pool. The floor in the room is a textured concrete surface which massages the elder's feet upon entering the pool. The light from above slowly crawls down the curved light well into the moist air, finally reaching the heated water. As one enters the womb the liquid is agitated and euphoric rings vibrate up the walls of the space. The softly textured walls of the room give the surfaces a matted finish which absorbs the rings of light as they move upward.



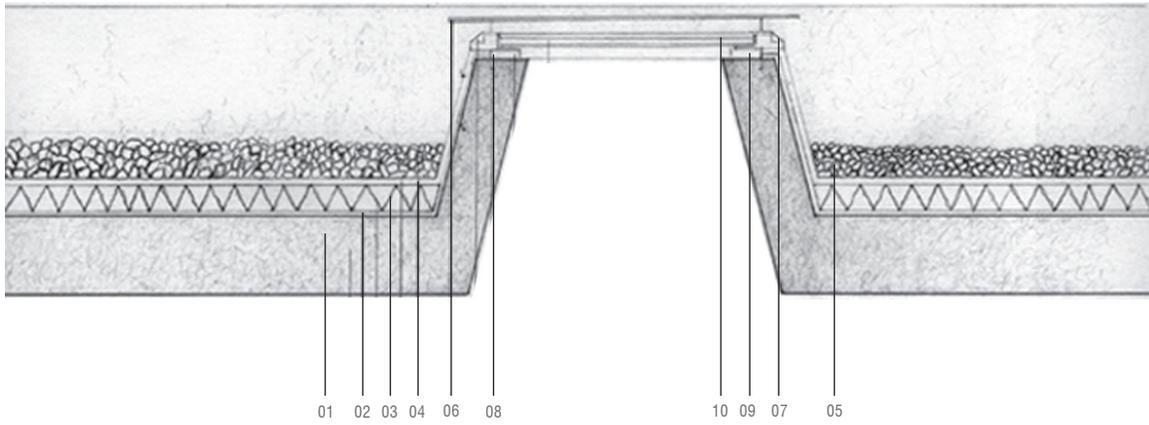
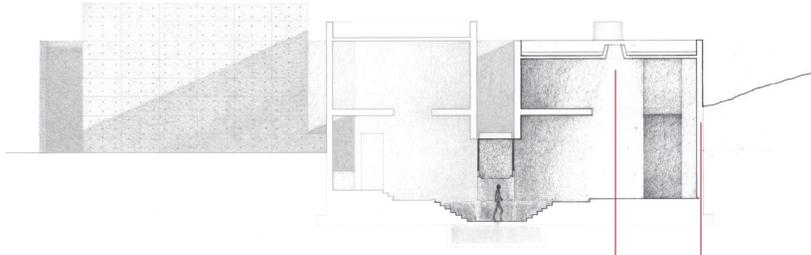
Hill Side Section into Elders Quarters



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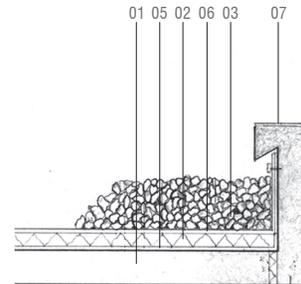
*“Passing through narrow space’s or being in water, are based upon phantasies of intrauterine life, of existence in the womb and of the act of birth.”(6)*

*Sigmund Freud*



- 01 - reinforced concrete
- 02 - vapour barrier
- 03 - closed cell thermal insulation
- 04 - bitumen roofing felt
- 05 - gravel
- 06 - etched glass
- 07 - frame
- 08 - turn buckle
- 09 - wooden block
- 10 - double glazing

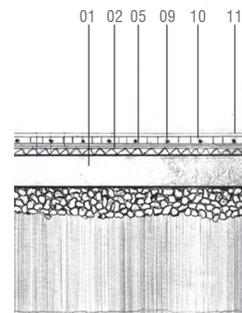
Detail A. Skylight Elders Studio



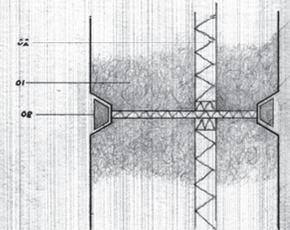
The walls are formed by using Symons steel-ply forming system. The steel-ply system uses heavy duty steel rails and cross members with birch veneer ply wood. The concrete is pumped from underneath the formwork to reduce the possibilities of air bubbles being trapped on the surface of the concrete. The form is left on for three days on each pour to produce the same consistence of color. The longer the form work is left on the darker the concrete gets. The amount of water is also closely regulated to produce a consistent color for the mix. The more water you use the lighter the concrete.

- 01 - reinforced concrete
- 02 - closed cell thermal insulation
- 03 - number 2 limestone gravel
- 04 - french drain
- 05 - vapor barrier
- 06 - bitumenised roofing felt
- 07 - bitumen coating
- 08 - precast concrete element
- 09 - pipes for underfloor heating
- 10 - furring stripes
- 11 - sycamore flooring
- 12 - foamboard

Detail B. Wall Section



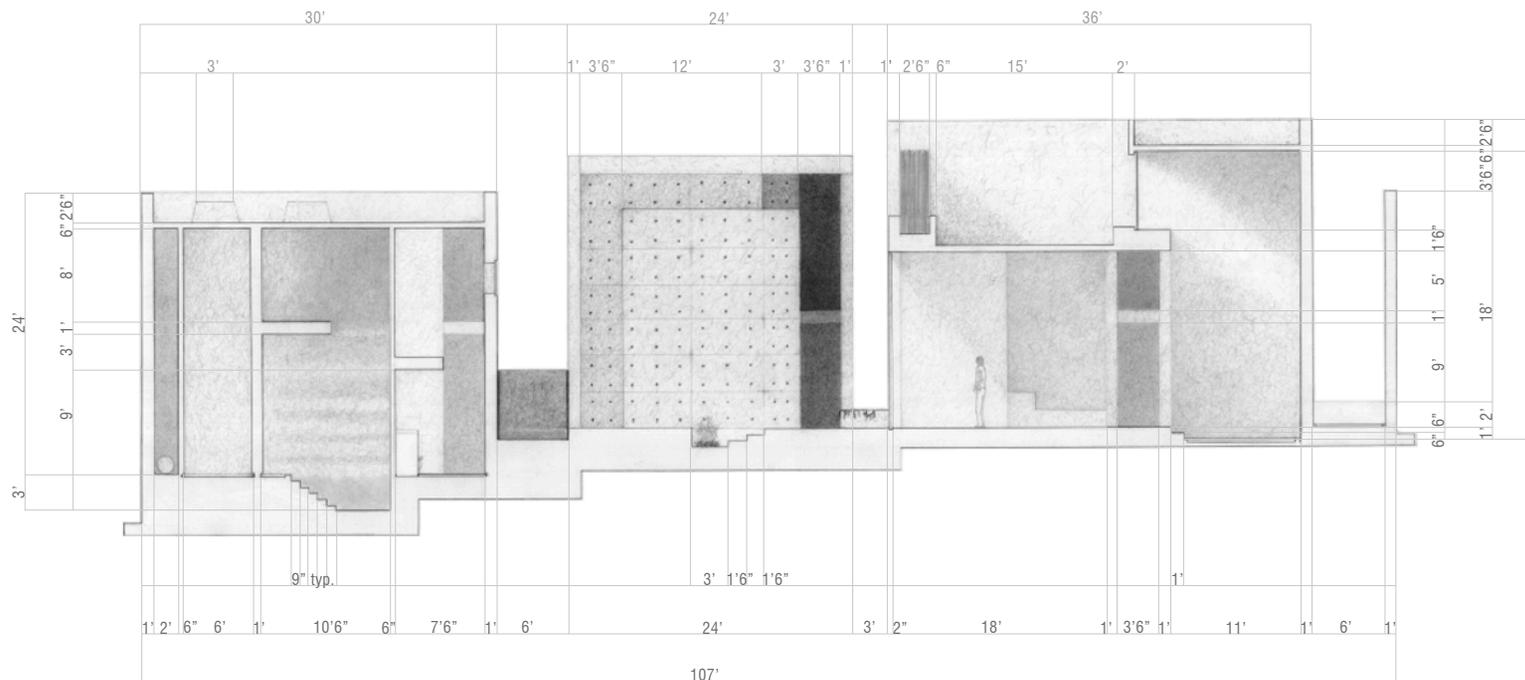
- 12
- 05
- 07
- 02



THE ENDURANCE OF MATERIALS FEELS THE  
FANTOM OF TIME  
CLAUDIO SILVESTRINI

## Thoughts

One can not predict what another individual will experience in a space. Each person has his or her distinct memories and will perceive a space differently. However, through the study of phenomena and the collective unconscious, architects can anticipate architectural elements and conditions that will increase the likelihood of individuals engaging architecture.





## Acknowledgments

Appreciation goes out to all my friends at the University who have shared in this time of leisure with me. I would like to thank Bob, Brad, Andrea, and Chad for their accurate critiques. And most importantly, my family for their constant support and love.

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6. Freud, Sigmund. *The Interpretation of Dreams*. Avon; Reissue edition. 1980

# Vita

Mark Tennant

08.25.1972



## Educational Background

### 2008 Master of Architecture (spring)

Virginia Polytechnic Institute and State University

*Thesis Title: Time, Experience, Memory*

### 1995 Bachelor of Science

Fairmont State University

*Marketing and Finance*

## Architecture Awards

### Outstanding Graduate Student Award

Virginia Polytechnic Institute

2004-2005

Awarded for Architecture Thesis Excellence

## Professional Experience

2005-2008

### Carter Burton Architecture

Berryville, Va

Associate Architect

2003-2006

### Design Build for LAI Architects

Morgantown, West Virginia

Assistant Designer and Builder

2004-2005

### Teaching Assistant to Professor Rengin Holt

Blacksburg, Virginia

Spatial manipulation through graphics

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