Finding Ariadne's Thread: 
A School of Dance for La Tarantella

Neelum Khalsa

Thesis submitted to the faculty of 
Virginia Tech in partial fulfillment of the 
requirements for the degree of 

Master of Architecture

Thesis Committee:

Paul Emmons 
Susan Piedmont-Palladino 
Marcia Feuerstein 
Jaan Holt

July 19, 2006

Washington-Alexandria Architecture Center
College of Architecture & Urban Studies
Virginia Tech
Alexandria, VA
By designing a school for 'La Tarantella', I sought to explore how architecture could meaningfully surround the circular movements of the dancers while imagining how elements of the building could also express energy, rhythm, balance, and harmony. The body/column analogy, the question of cultural and architectural origins, and the myth of the Ancient Cretan labyrinth led me to the creation of a modern labyrinth.
Contents

The Myth........................................1
Labyrinth Studies.............................3
Thesis Question...............................5
The Dance.....................................6
Site Plan Collage.............................8
The Site.......................................9
Sketchbook................................10
Study Models...............................12
Floor Plans................................13
Sections......................................18
Elevation....................................21
Details........................................22
Acknowledgements.........................24
Bibliography.................................25
The Myth

The first labyrinth is described in Greek mythology as a structure designed by Daedalus of Athens, whose name means ‘cunning artificer’. He was an incredibly creative, skillful, and prolific designer, having invented the saw, axe, plumb-line, compass, and even images. However, Daedalus was also rather temperamental. Having murdered his talented apprentice in a fit of jealousy, he had to flee Athens. He arrived on the island of Crete where he was welcomed by King Minos at the Palace of Knossos.

Minos had his own problems as he had angered Poseidon, the God of the Sea. Having received a beautiful white bull from Poseidon as a sign that he was meant to rule Crete, Minos had promised to sacrifice this bull to Poseidon in gratitude. However, Minos decided to keep the divine bull and secretly replaced it with another in the sacrificial ceremony. Poseidon punished Minos by cursing his wife Pasiphae with a bestial desire for the sacred bull.

Perhaps out of guilt and love for his wife, Minos secretly asked Daedalus to help with this rather delicate situation. In order to facilitate the union of a depraved woman with a normal bull, Daedalus designed a hollow wooden cow in which the maddened queen could hide and to which the bull would be attracted. After copulating with the unknowing animal, Queen Pasiphae produced the Minotaur.

King Minos now had the even bigger problem of keeping secret this monstrous offspring, who was half-human and half-bull. He again asked Daedalus to help in devising a place to contain the Minotaur. The cunning Daedalus created the Cretan labyrinth, a prison with so many twisting paths and confusing turns that even Daedalus himself barely escaped after constructing it. Whoever entered would become forever lost and trapped inside.
Once the Minotaur was hidden in the labyrinth, King Minos needed to periodically feed the flesh-eating creature. Every year, he ordered a tribute of seven youths and maidens to be sent to Crete from the rival city of Athens. In the third year, Prince Theseus volunteered to join the fourteen Athenians and promised his father that he would end the bloody tribute.

When the Athenian ship arrived in Crete, King Minos’ and Queen Pasiphae’s daughter Ariadne fell in love with Theseus. In order to ensure his survival, she gave him a ball of red thread with which to find his way back out of the labyrinth. Theseus entered the labyrinth, fought and killed the Minotaur, and then retraced his path with Ariadne’s guiding thread. Together they escaped with the other Athenians and set sail for Athens.

As for Daedalus, he and his son Icarus were imprisoned in a tower by King Minos, who was quite angry at all that had transpired and intent on keeping the secret of the Minotaur and the labyrinth. Being the ‘cunning artificer’, Daedalus created two pairs of wings with which to fly away from Crete. He warned Icarus not to fly too close to the sun or the wax would melt, and not to fly too close to the sea’s spray or the feathers would become weighed down. However, Icarus flew higher and higher, not hearing his father’s calls of warning as his wings began to melt. Icarus fell to the sea and drowned.

Only Daedalus was left to escape to Sicily, where he built a temple dedicated to Apollo, the God of the Sun. The name of Daedalus was, and still is, given to objects made with great skill or to someone who possesses great skill, ingenuity, and inventiveness in the making of objects. He is also known as the ‘first architect’ and credited with designing many buildings in Ancient Greece, including the Cretan labyrinth.
A drawing of the Cretan labyrinth can be best understood (at least by architects) when viewed as the floor plan of a building with the lines reading as walls and the space between as circulation. The unicursal path repeatedly leads toward the center but then winds past it as the circuits fold back onto themselves. Movement is already determined as there are no dead ends or crossroads or blind alleyways in which to lose oneself. Having finally reaching the center, the same path is retraced to exit the labyrinth. Although it may be a disorienting and rather lengthy journey, the goal appears to be as much about following the twisting and turning dance through the labyrinth as it is about what one might find at the
The myth of the Minotaur attempts to explain the origins of the labyrinth, but there is little archaeological evidence that such a structure ever existed in the palace of Knossos. Contrary to the unicursal drawings of the Cretan labyrinth, the descriptions of Daedalus’ design suggest that the labyrinth was actually a maze with several paths in which to become hopelessly lost. In Homer’s Iliad, Daedalus is said to have designed a ‘choros’, meaning both a dance and dance surface, upon which Ariande and a chain of youths and maidens moved in a labyrinthine fashion. It is possible that the Cretan labyrinth was not a three-dimensional building but a flat dance floor, and that the labyrinth’s circular design determined the path of the labyrinth dance.
Thesis Question

The building type: a school for a traditional Italian folk dance and a cultural center

The program: a theatre with fixed seating, dance studios, student lounge, administrative offices, an art gallery/reception space

Thesis questions: what is a modern labyrinth? where would it lead you? what is its architectural vocabulary? how can a dance create a building can a building create a dance?...

Considerations: the idea of spectacle and performance the play of seeing and being seen the ancient alongside the contemporary

Beginnings: a hypostyle of columns
The tarantella is an Italian folk dance which follows in the tradition of community circle dances found in many parts of the world. Its origins are obscure, but one of many legends suggests that the dance began between the 15th and 17th centuries in the southern Italian town of Taranto during an outbreak of tarantism, or tarantula poisoning. The venomous bite of the local wolf spider was believed to be fatal, causing a hallucinogenic trance in the victim who could only be cured by engaging in frenzied, vigorous dancing. The townspeople would gather round and play tambourines, guitars, and mandolins in order to find the rhythm that would curatively inspire the movements of the dancing victim. In actuality, the wolf spider’s bite is harmless to humans. Nonetheless, the town of Taranto gave its name to the tarantula spider, the tarantism illness, and gave rise to the tarantella dance.
From a rural peasant dance, the tarantella has developed into a couples' dance as well as a community dance that is now largely performed at Italian weddings and cultural events. There are many regional variations as well as improvised movements, but the tarantella is always performed with a group as dancing alone is considered bad luck. An individual, a couple, or several couples dance in the center as an outer circle of dancers whirl around them. The inner dancers circle each other while hopping lightly on one foot and tapping the ground with the extended foot. The outer dancers are connected by clasped hands or arms placed around each other's waists. Rather than hopping, they sidestep clockwise and continually change direction as the music becomes faster and faster. The dancing may be led by an accordion, mandolin, or tambourines, and accompanied by clapping and singing.
The unusually-shaped site is located at the corner of Commerce, Prince, and West Streets in the Old Town district of Alexandria, Virginia. This primarily residential area is one block south of the restaurants, hotels, and shops on King Street as well as a ten-minute walk from the Metro. There is an alleyway and an office building on the north side of the site and a thin strip of sidewalk along its southern edge. The south-eastern side is adjacent to several brick row houses while the south-western corner projects into the intersection.
"...a modern school of dance or a school of modern dance?....what kind of dance? investigate traditional, ritualistic dances that are full of MEANING, patterns, steps, rules, as opposed to modern dance, which has no rules....make a sea of columns on the site, add and erase them, a hypostyle of columns! where do you make the clearing? a rotunda?....the grid offers predictability and flexibility...break apart the grid. arched roof...how does it affect movement, the space above?...

"....do small travel sketches as if you were visiting this building in the future, make it seem real to you...SCALE FIGURES show much space you need for dancing...read your drawings as intelligently as you make them, what are they telling you about how you would make the building?....draw big!!! bristol and gesso...photograph your drawings and draw over them.....STOP starting over!!! think of the dance studio as a small theater and the theater as a large dance studio...attenta che ci sono piu' leggende che realta' sulla tarantella cosi' come ci sono piu' leggende che realta' sui labirinti...."
"...when you are doubtful and confused, go back to the thesis idea...think about structure...think about materials...at some point you will realize how much you don't know and how much still needs to be done... make detail drawings to show not how it will be made but what IT IS... use whatever methods of working that suit you... form is overrated...thesis and the real world: any variation of overlap depends on you...

"...what guides you through the labyrinth?...how does the space between the columns become inhabitable? how do the columns become inhabitable?... La Tarantella, hands as a joint between bodies...how do the columns' feet hit the ground?... columns with hats to keep rain off you...don't go to the center right away, follow the labyrinth's path, then you have a story, what the hell are the columns for then?...not structural...make the columns DANCE."

"...don't be a slave to abstract deadlines.......... YOU will tell us when your thesis is complete."

Paul/Susan/Marica/Jaan/Marco
models of tension cables supporting columns

models of columns, vaults, space, light and shadows...
Beneath the theater is a cross-over space for dancers to move unseen from one side of the stage to the other. The glass floor is illuminated by lighting beneath it.
The theater contains fixed wooden seating. The spiral stairs in the corners lead to the dancers' crossover space below and to a viewing gallery above. In the backstage area, columns mask the dancers as they enter the stage.

There are two dance studios with adjacent changing rooms. The walls are loadbearing brick with piers supporting the vaulted ceiling overhead.
At street level there is a catwalk from which one can watch the dancers practicing in the studios below and also watch the formal performances in the circular theater below.

Along the southern edge of the site, there is a small entrance for students. It connects to a switchback staircase that provides access to dance studios above and below. Further along the south-eastern corner, there is a larger entranceway for visitors.
The main entrance to the building is through the triangular stairway. One winds past the concrete columns and enters a glass-enclosed space filled with even more columns. There are steel columns supporting the curtain wall as well as non-structural columns suspended from cables above.

A stepped seating area is created from the barrel vault of the dance studios below. One passes through the labyrinth of columns to the circular staircase beyond and to the theatre space visible
The spiral stairs are cantilevered from the brick wall. They lead to the uppermost floor, which is covered by a steel spaceframe roof. The columns from the theatre below terminate at the floor as recessed lighting. This circular space functions as an exhibition area as well as a reception area.

The dance studios and changing rooms are enclosed by a translucent glass curtain wall. Steel columns support the butterfly roof above.
Detail of Hanging Column
Detail of Column Base
Grazie Mille Mimo

to my awesome thesis committee: Paul, Susan, Marcia, Jaan, and Marco for your stories, insight, encouragement, and your contagious passion for the beauty/insanity that is architecture.

to my Mom and Dad for generously funding my grand tour and patiently waiting for me to return home.

to my Big Sisters for your faith, sympathetic ears, and insistence that I follow my heart in all things.

to my dear friends for joyfully cheering me on from your respective parts of the globe.

Vi abbracio,
Neelum

February 16, 2008
BIBLIOGRAPHY


