

**MOVEMENT ARCHITECTURE:
A PERFORMING ARTS CENTER FOR BHARATHANATYAM**
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to my parents.....

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Abstract

The thesis looks at what contemporary architecture can borrow from the often neglected, but omnipresent, act of human body movement in space. The vehicle for the study is *Bharathanatyam*, a classical dance originating from South India. The programme is to design a performing arts center for *Bharathanatyam*, and the site is in Scarborough, Ontario, Canada.

Using *Bharathanatyam* as a vehicle, can architecture evolve out of the relationship that exists between the body and the building in designing a performing arts center?

The thesis is separated into three sections. First it gives a brief explanation of *Bharathanatyam*, its structure and its history. The second part is a more theoretical inquiry into the idea of movement and how it may be translated into spatial forms. It must be made clear that this architectural investigation does not try to uncover equations or unearth answers to draw any definite conclusions, which would only oversimplify a complex and multilayered discipline. Rather, it is an investigation into the philosophical and theoretical aspects of movement, using it to understand an age-old art form. The third part of the report is the design, which explains how ideas relating to movement and *Bharathanatyam* were poetically and metaphorically translated into the built form.

Part I: Introduction

With each step He took
He scattered stars in space
With each movement of his
outstretched arms
He enveloped space and time
With his long hair flying
in the wind
He dances in ecstasy to the
delight of his devotees...

**-unknown poet, on the cosmic
dance of God Shiva.¹**



1.0 What is *Bharathanatyam*?

Bharathanatyam is one of six main classical dances that originated from the Indian subcontinent, namely from the southern part of India called Tamil Nadu. This 2000-year-old art is still fresh and fascinating, not just in India but wherever Indians have been displaced. It is now widely considered as an integral part of the socio-culture of India and Indian performing arts, a composite art whose message is not merely for the senses but also for the soul of the dancer and the audience.

The dance was known to have been performed initially only in the temples, as a dedication to God. Here the dancer would surrender herself to the deity through her dance, as a way of showing her devotion. With the passing of time, the tradition



Fig. 1 & 2: A dancer poses as a drummer and as Lord Shiva.

(Source: Prethi Vasuthevan, *Bharathanatyam*, <http://www.bharathanatyam.com>, 1996)

of performing for the deity gradually included the kings and noble men, who usually took on the names of Gods, and today is a sacred dance as well as an entertainment for the masses.

The dance went through many stages in popularity. The Pallava and the Chola rulers (4th to 12th century AD) as well as many other rulers of the South are known to have been great patrons of the art. In the 14th century, for example, as a conscious effort to preserve the arts, technical illustrations of dance movements were made in the Sarangapani temple at Kumakonam and in the four magnificent *gopurams* (entrance towers) of the Nataraja Temple in Chidambaram. Illustrations of different body movements and poses are found in temples of Gangaikonda, Cholapuram, Kumbakonam, Madurai and Kancheepuram. But from 1800 to the 1920s, *Bharathanatyam* as a performing art took a back seat because of unfortunate combinations of social and historical circumstances. Then, in the late 1920s, two decades before the independence of India, when a nationalist spirit coupled with the freedom movement, came a new revival period. What had remained as frozen movements in stone on temple *gopuras* now manifested itself as

probably the most famous of all classical Indian dances.

In the second half of the century, *Bharathanatyam* dancers began to seek changes. New techniques and new methods of staging were introduced. What was once performed only by *Devadasis* or "servants of God" and by hereditary dancers of a certain caste became open for anyone with an interest to take up.

Today, *Bharathanatyam* has set itself into different avenues of every Indian art: from painting to cinema, both as a pure form and as experimentation. In North America alone, there are hundreds of privately owned schools and dozens of acclaimed solo artists. What was once recited only by young female soloists is now a dance for all ages and sexes, performed in groups or solo, as pure form or fused with something foreign. Although some "purists" disagree with *Bharathanatyam* being experimented with or fused into new media such as cinema or into any western arts, most see this as a way to keep the dance alive.



Fig. 3 & 4: Modern dancer mixing traditional and contemporary styles.

(Source: Prethi Vasuthevan, *Bharathanatyam*, www.bharathanatyam.com, 1996)

2.0 Structure in *Bharathanatyam*

**BHava (expression) + RAga (music) +
THAla (rhythm) + NATYAM (dance) =
Bharathanatyam**

Bharathanatyam is a composition of elements. It is not merely a dance for the eyes or the ears, but is a "combination of moods, expression, rhythm and movement, all combined in a subtle combination to lead the worshipper, the dancer, to Divine. The soloist may take on the role of multiple characters from ancient epic stories with gods, demons and animals.

All dance forms are structured around the *nava rasas* or nine *rasas* or emotions: *hasya* (happiness), *krodha* (anger), *bhibasta* (disgust), *bhaya* (fear), *shoka* (sorrow), *viram* (courage), *karuna* (compassion), *adbhuta/ashchary* (wonder) and *shanta* (serenity).²

In a successful performance, the dancer would come "in eccentric union with God" by expressing her devotion. The challenge relies on the dancer's ability to express *bhava* or emotions through movement of hands and feet according to a particular rhythm, through eyes, eyebrows, hand and facial expressions and statuesque poses. Since *Bharathanatyam* has become a signifier of the Indian cul-

ture, most Indian audiences can judge the technical know-how of the performer. But for those who are unfamiliar with the Indian culture, it can also be a delightful experience of colourful costumes, body movements and mystical music.

Bharathanatyam is related to the music which accompanies it. With momentary statuesque poses, combined with movements of the hand and body, the dancer follows the rhythm of the musicians with her footsteps, with jingles tied around her ankles. The technical ability of the dancer is judged from her ability to maintain a harmonic balance between the music and the movement of her body.

The structure of a *Bharathanatyam* debut

pushpajali: The dancer salutes to god, guru and the audience.

alaripu: This is an abstract piece with little or no music. The complexity of the movements gradually increases.

jatiswaram: This is also an abstract piece. The steps get a bit more complex and the rhythmic section of the pure dance comes to a climactic end.

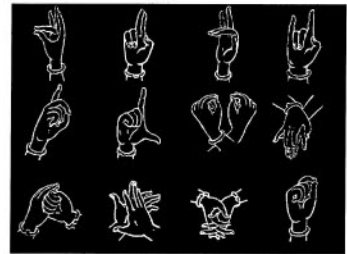
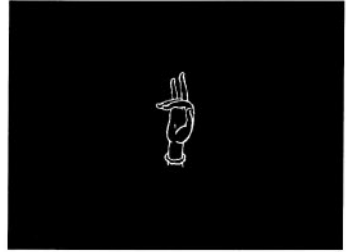
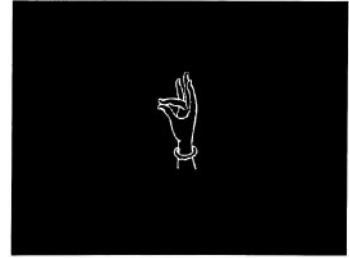


Fig. 5: *Mudra* or hand signs depicting various notations.

(Source: Manivanan Rajendran, *Mudras*)

sabdam: The theme of the lyrics is usually devotional. The movements here are leisurely and the language of rhythm is interpreted with body movements.

varnam: This can be treated as the benchmark to judge the artist's talent. This item contains many complex steps and will have lots of room for expressions, too. Lyrics are usually devotional or praising of a king and involve lots of interpretation through hand and body movement. It is intended to challenge the dancer's command over the rhythmic component of the dance, her stamina and her ability to evoke *bhava* or feelings (comparable to "the dying swan" in the ballet *Swan Lake*).

Intermission

padam: This is usually a narrated expression of divine love or separation in love. The dancer's ability to interpret using body movements, including facial expressions and hand movements, is put to the test.

ashtapadi: This is an extremely romantic composition. It describes the love of Krishna and Radha in twelve cantos, containing 24 songs, with each canto named differently, considering Krishna's state of mind.



Fig. 6 & 7: Subtle facial expressions require an intimate performance space.

(Source: Kay Poursine, Bharata Natyam, <http://www.wesleyan.edu/~kpoursine/bharata.htm>, 1998 and Prethi Vasuthevan, Bharathanatyam, <http://www.bharathanatyam.com>, 1996)

It requires lots of grace, and expressions are given foremost importance while performing these poems.

tillana: This is usually the last item. It is full of complicated movements and postures.

mangala: This is the ending of the performance. Here the artist will again salute god, guru and the audience for making the performance a success.

3.0 Traditional setting and place of performance

The *arangetram* or performance debut of a young dancer, the first performance the dancer gives in front of a public audience, becomes an occasion for friends, family and neighbors to celebrate. The stage, whether at the temple or in an auditorium, is often decorated and the room filled with music, incense and smiling faces. Visitors dress up in traditional clothing and indulge in meeting old friends and new friends. Decorations and lights adorn the entranceway and it turns into a mini-festival.

Given that the dance relies on detailed expressions of the body, an ideal setting for it would be a me-

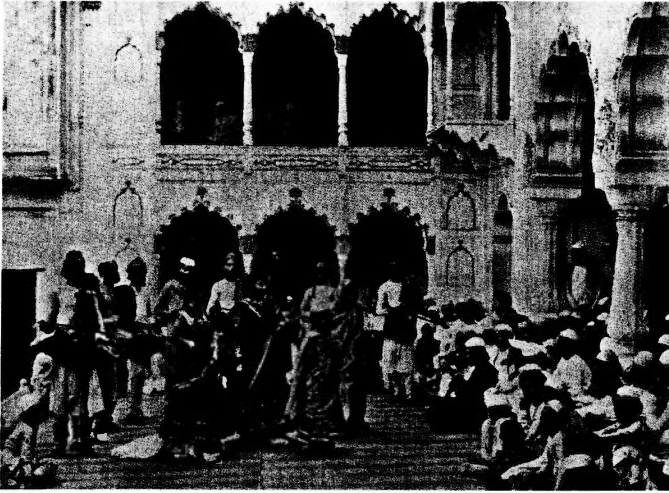


Fig. 8: Traditional courtyard as performance space.

(Source: Norman Evenson, *The Indian Metropolis*)



Fig. 9: Deriving a grid from a spatial study of a courtyard.

dium-size hall where intimacy can be attained between the audience and the dancer. The *Natya Shastra*, written around the 2nd century and comparable to the *Poetics* of Aristotle, comments on designing a theatre for *Bharathanatyam* as follows:

For anything recited or uttered in too big of a play house will be losing euphony due to enunciated syllables being indistinct (to spectators not sufficiently close to the stage).

Besides this, when the play-house is very big, the expres-

sion on the face of actors, on which rests the representation of States and Sentiments, will not be distinctly visible to all the spectators.³

Bharathanatyam, being a "frontal" dance, in which the back of the dancer is not shown to the audience, is better suited to a proscenium stage setting rather than an all-open stage, or thrust stage. A traditional stage setting would be a *mandapam* in temples or open courtyards where the audience can be seated, usually on the floor, or standing up at the back - something that is unconventional and different from the western notion of performance space. The relationship between the audience and the dancer is made intimate by the size of the auditorium and this unconventional setting. To the left of the stage is usually situated the live vocalist, and to the right would be a statue of the god Shiva in his dancing position, referred to as Nataraj, for an auspicious beginning.

The more I studied *Bharathanatyam*, I realised what interested me the most was not necessarily the momentary poses that it is known for, but the movement of the choreographed body between those poses.

Poetically, this movement may be com-

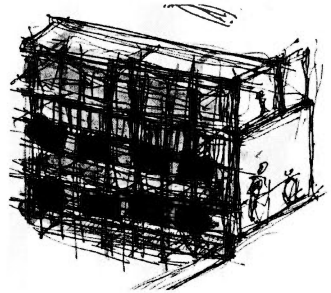
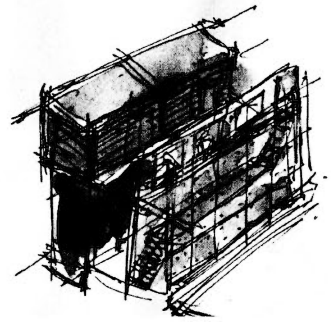


Fig. 10: Studies of translucency, lightness and transitions in the materiality of the theater.

pared to the internal silent spaces that co-exist in cities - the ones that are defined by no border or boundaries, but are still perceived as separate spaces from the rest.

For a moving body, the relationship that exists between the skin and the wall is ever-changing and omnipresent. In architecture these relationships can be represented in terms of translucency, lightness and transition, where they form the link between the void and solid in the building.

4.0 Historical precedents

The interest in examining the connection between architecture and the human body is nothing new. The *Vastu Shastra*, which is like the building code of ancient India, uses a square *mandala* plan with a kneeling man inside as the base for any building plan. Similarly, Vitruvius also believed the body to be the representation of ideal perfection. Alberti, for instance, believed that the building in its entirety is like a body composed of its parts and nothing can be added or taken away without destroying the delicate balance between part and whole.

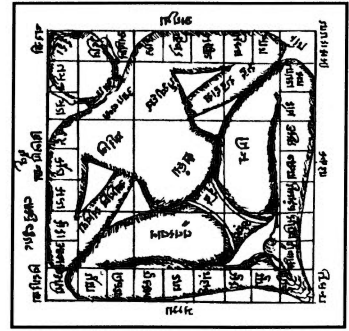


Fig. 11: *Vastu mandala*, kneeling man inside a perfect square.

(Source: Christopher Tadgell, *The History of Architecture in India*)

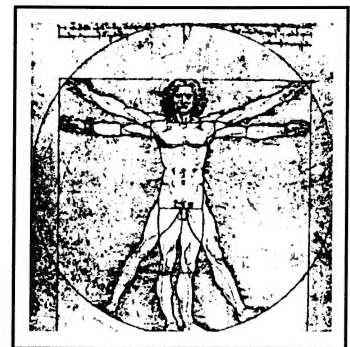


Fig. 12: Vitruvian man.

(Source: Vitruvius Pollio, *Ten Books on Architecture*)

4.1 Representation of movement in art

It is one thing to look at a human body as static, but what about it in motion? In painting and in sculpture too, one can find the artist's interest and experimentation with movement of the human body in space. Hindu gods, such as Nataraj, are often found represented with many arms, an indication of being able to handle many tasks (manifestation of power) and a representation of movement.

The early 20th century produced an interest in mechanisation and body movements, resulting in a renewed interest in the subject by Futurist and Cubist artists. Famous studies of movement include Duchamp's *Nude Descending a Staircase* and Muybridge's experiments into motion photography.

4.2 Indian cinema and *Bharathanatyam*

In the visual exuberance of Bollywood cinema, songs inevitably inspire dance. The hero and his heroine get down to a funky mix of Western pop and indigenous grooves, sampling their moves from an eclectic range of sources ranging from Michael Jackson to *Bharathanatyam*....⁴



Fig. 13: Shiva as Nataraj.

(Source: Maya Das, *Indian classical dances*, <http://members.aol.com/natyadc>, 1999)



Fig. 14: Marcel Duchamp, *Nude Descending a Staircase*.

(Source: Tim Kummerow, *Marcel Duchamp*, www.marcelduchamp.org, 1999)

The advantages of changing camera angles, moving from wide-angle to close-ups and changing speed, have given producers in the film industry, particularly the Indian cine-industry, an upper hand in looking at dance in different perspectives. Among the hundreds of directors, the recipe of romance, eight songs and six dances and the production of 800 movies a year has produced many creative geniuses who used dance as a medium to study space.

The Tamil movie *Uyirae* (soul) by Maniratnam, for example, brings out the relationship between dance and nature by creating sculpturesque poses in the landscape. Similarly, western movies, especially silent movies in which the message depended on action, also experimented with body and choreographed movement. Scenes from Fritz Lang's silent movie *Metropolis* exemplified ideas of machines taking over mankind by using a synchronised movement of men and machines following the same machine-like action recurrently: an example of architecture imitating dance.

These experiments with the classical dance have opened up various new avenues for young and upcoming artists interested in the experimentation of forms and costumes, creating a new phase in the history of *Bharathanatyam*.



Fig. 15: Bodies as organising elements in landscape.

(Source: Kailan Ariyarajah, *Uyirae*, www.kadaldeshum.8m.com/movie/uyirae.html, 1999)



Fig. 16: An example of the intimate relationship between body and building played out in *Metropolis*.

(Source: Fritz Lang, *Metropolis*)

Part II: Theory

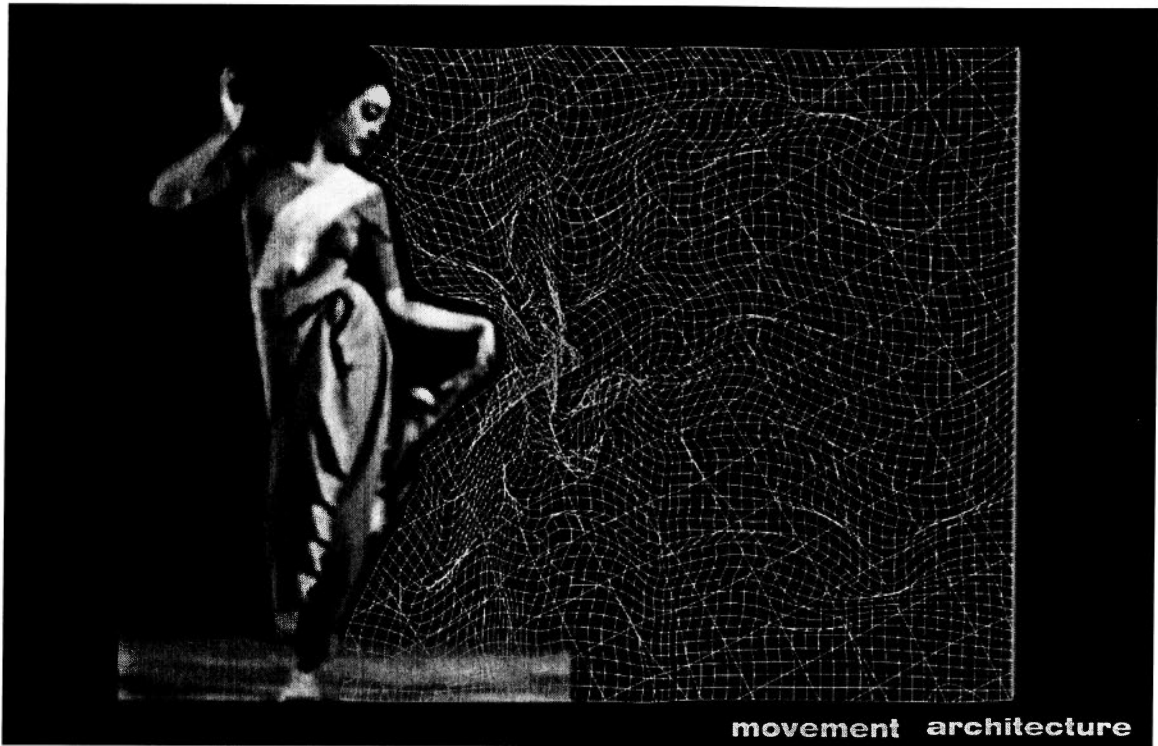


Fig. 17: Explorative study showing relationship between "skin" and "wall."

Entering a building may be a delicate act, but it violates the balance of a precisely ordered geometry. Bodies carve all sorts of new and unexpected spaces, through fluid or erratic motions. Architecture, then, is only an organism engaged in constant intercourse with users, whose bodies rush against the carefully established rules of architectural thoughts.⁵

From this study of the cultural aspects of *Bharathanatyam*, I soon found myself engulfed in a fascination with the delicate action of the movement of the body in space and its rela-

tionship to its surroundings. My search for a middle ground between architecture and dance drew me to look at the theoretical aspects of human body movement, especially those of Rudolf Laban (1879-1958). Hence, this study tends to orient itself around the topics of movement: of a body in space and the creation of space, both in the real dimensions and what exists within one's imagination and intellect.

The obvious relationship which exists between architecture and dance is the movement of a body through space. Architecture can be appreciated for its formal, tectonic, autonomous, static body; and also for how one experiences it, not just physically but also temporally.

In order to understand the theoretical side of movement, I experimented with different media, sometimes mapping the body's movement electronically and sometimes creating abstract shapes based on observing a particular segment of a dance.

5.0 Movement as a physical experience

5.1 Laban's theories in movement analysis

Rudolf Laban, the 20th century architect and philosopher, developed and articulated influential theories on dance and movement. Laban's prolifically written theories on movement are now referred to as Laban Movement Analysis (LMA). The development of a form of dance notation based on human movement through space, called Labanotation, is one of the major systems used internationally today for writing movement.

Laban hypothesised that the human body is oriented in space through dimensions, planes and geometric forms through which established "traceforms" of movement can be identified. By codifying these movement pathways into a series of movement scales (as in music), the entire sequence allows full three-dimensional reach and movement around and through the body's core.

It has been suggested that LMA has done for the field of movement what music theory has done for the field of music, that is, it has provided a systematic structure for pedagogy, analysis, and composition.

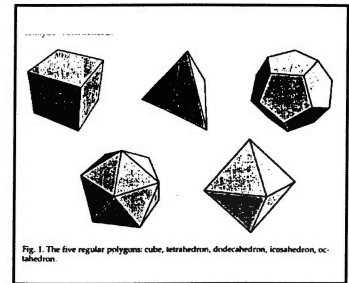


Fig. 1. The five regular polyhedrons: cube, tetrahedron, dodecahedron, icosahedron, octahedron.

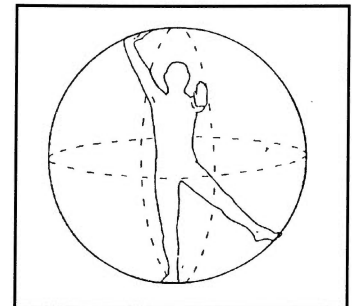
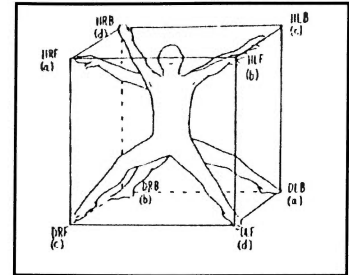


Fig. 18: Laban's kinesphere and studies of movement analysis.

(Source: Lynn Matluck Brooks, "Harmony in Space: A Perspective on the Work of Rudolf Laban," *Journal of Aesthetic Education*)

Indeed, LMA can be applied to the entire field of movement, not only to its art form - dance.⁶

Laban argues that there exists an invisible "kinesphere" or sphere of space around the human body. In his theory of space harmony, the architecture of the human body and its resultant potential for movement, he notes that the extension and flexion of the limbs and torso into a sphere of space surrounding the body is a sphere carried with the body in every direction and position.

As a way to map Laban's idea of "sphere of space," a video-taped performance of a *Bharathanatyam* soloist was used. Since the entire performance was too large for the scope of this project, a critical part in the dance was chosen. The part is called *manavi varnam*. *Varnam* contains the most complicated rhythmic patterns and descriptive poetry, and is considered the benchmark for judging a dancer's capabilities.

The movie was then transferred into computer programs to be codified. Since using a live performer and building full-size, three-dimensional geometric models were not the intention of this study, a computer provided a quick way to test Laban's

theory. The programs used were Adobe Premiere for capturing the movie and 3D StudioMax2 for modelling and meshing. It was found that the "kinesphere" of the dancer was indeed a sphere.

The space created is the invisible skin that surrounds the body. In architecture, this can be interpreted as "skins" with different degrees of transparency.

In addition, I went one step further by tracing and abstracting an even shorter sample of the dancer's movement. The spherical mesh was morphed into something that is unique to the movements of *Bharathanatyam*. This is probably true for all dances and is what makes them distinct.

The costume of the dancer also made a difference to the space the body occupied, both physically and temporally. The colorful costume with elaborate folds worn by the dancer determined if the figure would be prominent spatially or would become neutral and part of the body.

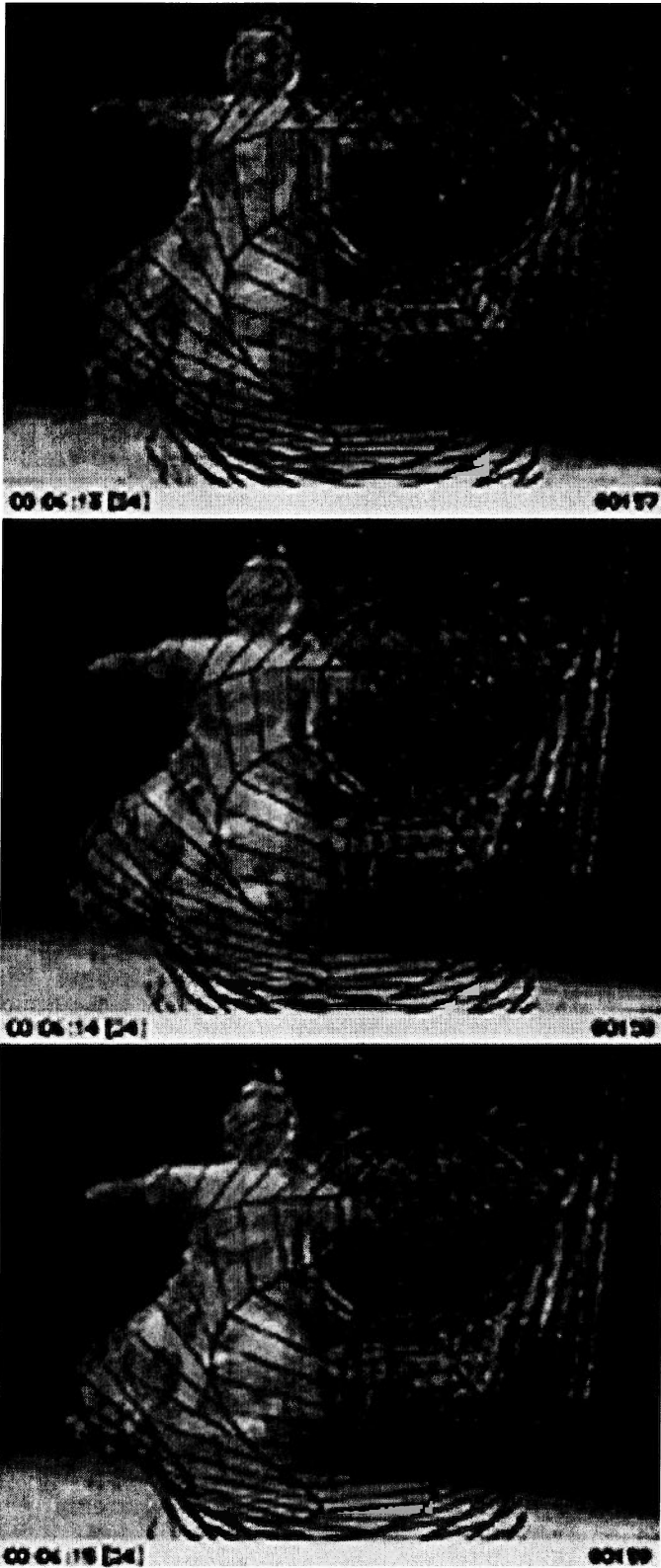


Fig. 19: The spherical mesh abstracted into a shape that may be unique to the hand and body movement of Bharathanatyam.



Fig. 20: Frames overlaid to reveal the space occupied by the dancer, where both the body and the costume become one.

5.2 Eadweard Muybridge and study of movement through still photography

Another important person in the history of movement study was Eadweard Muybridge. Muybridge, who had experimented with many subjects in different conditions, is most famous for examining movements of the body, both humans and animals, at given time intervals, using photography as the medium.

Using the software Adobe Premiere, a short clip from *manavi varnam* was exported as a film strip at different time intervals (from 1/30, 8/30, 15/30 and 1 sec). The film strips were then compared to each other. The hand and body movements of the dancer revealed snapshots of poses between the sculptural poses of the dance, which is typically seen only as "movement." The strips were then overlaid to create a ghost image of the space the dancer occupies between poses, as mentioned in the last part on Laban's study.

The blurred object suggested how to represent space using different degrees of transparency. These can be frames that either capture your own movement (reflective materials, projection screens, etc.), remain silent, or capture movement both inside and outside the building.

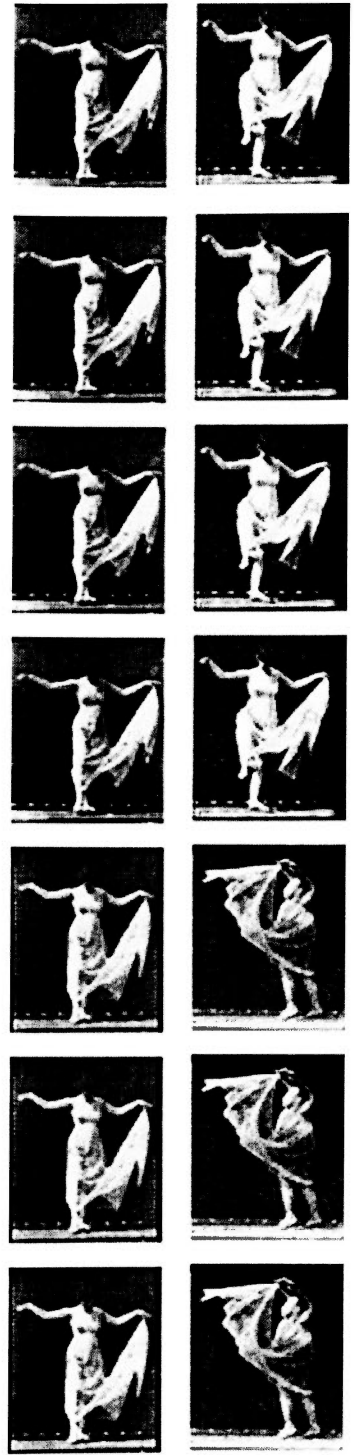


Fig. 21: Eadweard Muybridge, "Woman dancing."

(Source: Charl Lucassen, *Eadweard Muybridge*, <http://web.inter.nl.net/anima/chronoph>, 1998)



Fig. 22: Dancer's movement captured at a frame rate of 1/15 sec.

6.0 Movement as a phenomenal experience

Kinaesthesia: (the spectator) may (also) experience kinaesthetically something similar to the physical sensation of the dancer. Kinaesthesia, awareness of the body through sensations in the joints, muscles, tendons, rather than through visual perception, not only defines the dancer's experience of his own body in movement, but also the way in which dance exerts its power over the spectators who not only see it, but also feel an echo of the dancer's movement and rhythms in their own nerve endings.⁷

One's experience of movement is both physical and phenomenal. It is observed, performed, imagined and often felt by both our mind and our body. The phenomenal experience of movement can vary. It is not limited to a particular place and time. It can be a recollection of a past event (entering the house in which you grew up, entering your bedroom, looking out the window, etc.) or a phenomenal movement of the body through space (dreams, spirituality and memory).

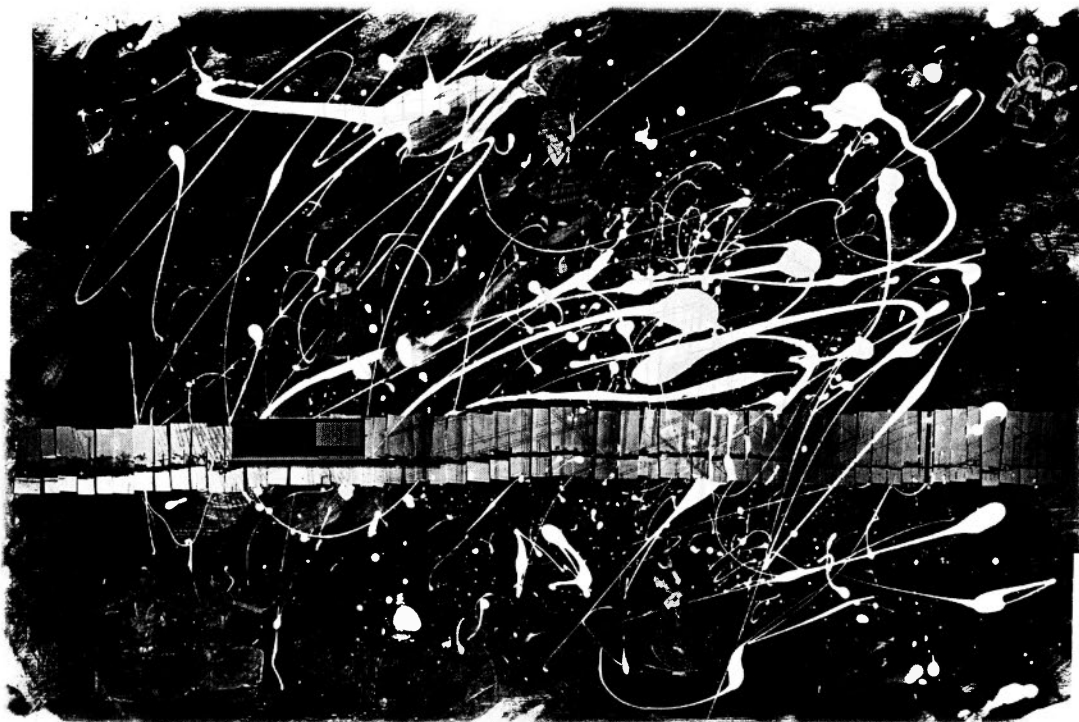
Most *Bharathanatyam* dancers still regard the dance as a dedication to god and consider it very spiritual. Many claim that the relationship between audience and dancer is some-

times lost and they attain a trance-like state (this trancelike state is often claimed by professional athletes and by musicians as well). The audience, too, is said to get "spiritualised" by the dance, as most audiences are pious and have been familiar with stories the dancer enacts since childhood.

Space is not simply the three-dimensional projection of a mental representation, but it is something that is heard, and is acted upon.⁸

In many ways, a designer and a dancer are alike in what they do, relying on both expressions and a "story" to create an experience. In both cases the stories are read by the viewer, associating them with their own feelings and emotions, creating a personal and mass experience. The experience is heightened when the story is narrated, containing clues and mystery.

Part III: Design



7.0 Site

The site for the Tamil Performing Arts Center is at Finch Avenue East and Middlefield Road in Scarborough, Ontario. It remains one of the last remaining pockets of large lots in Scarborough to be divided up and sold to interested parties by the City.

The north part of the site is vastly open. At the very end, hidden from the site, is the VIA rail service station. Trains come and go all day to be checked and serviced; a representation of motion is established. To the east is the fringe of subur-

Fig. 23: Explorative study of site, dance and movement.

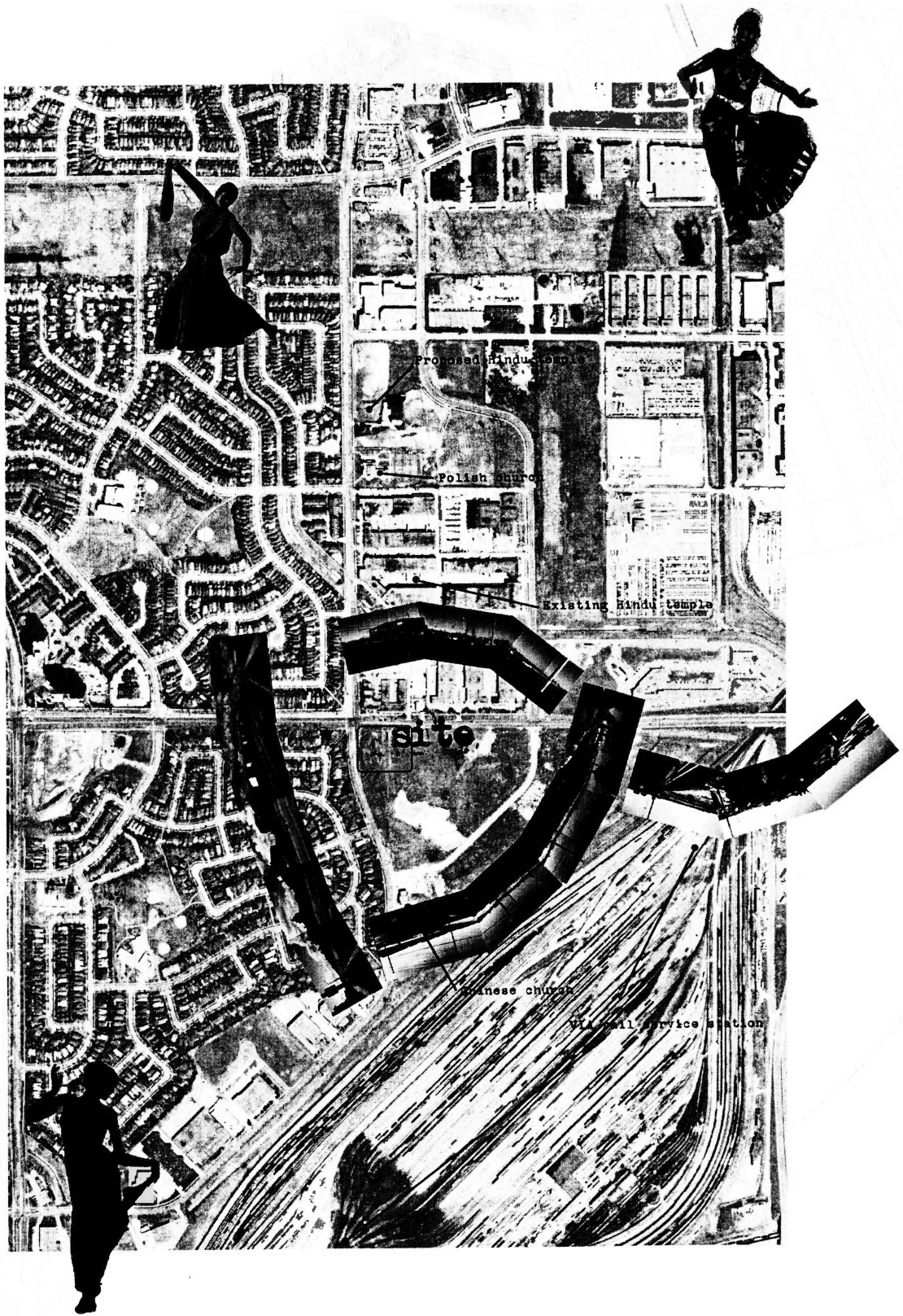


Fig. 24: Aerial photograph showing the site in Scarborough, Ontario.



Fig. 25: Close-up view of the site at Finch Avenue East and Middlefield Road.

bia, its cookie-cutter houses, then continuing again after about a 10 minute ride east, is Markham, another suburb of the newly amalgamated City of Toronto. The middle ground between these two is what was to be warehouses and factories "outside the city," an idea envisioned by early planners of the city, which now, with growth, has started to show deterioration. Among them are abandoned warehouses, factories, and empty fields. In the last few years, new developments have begun. With

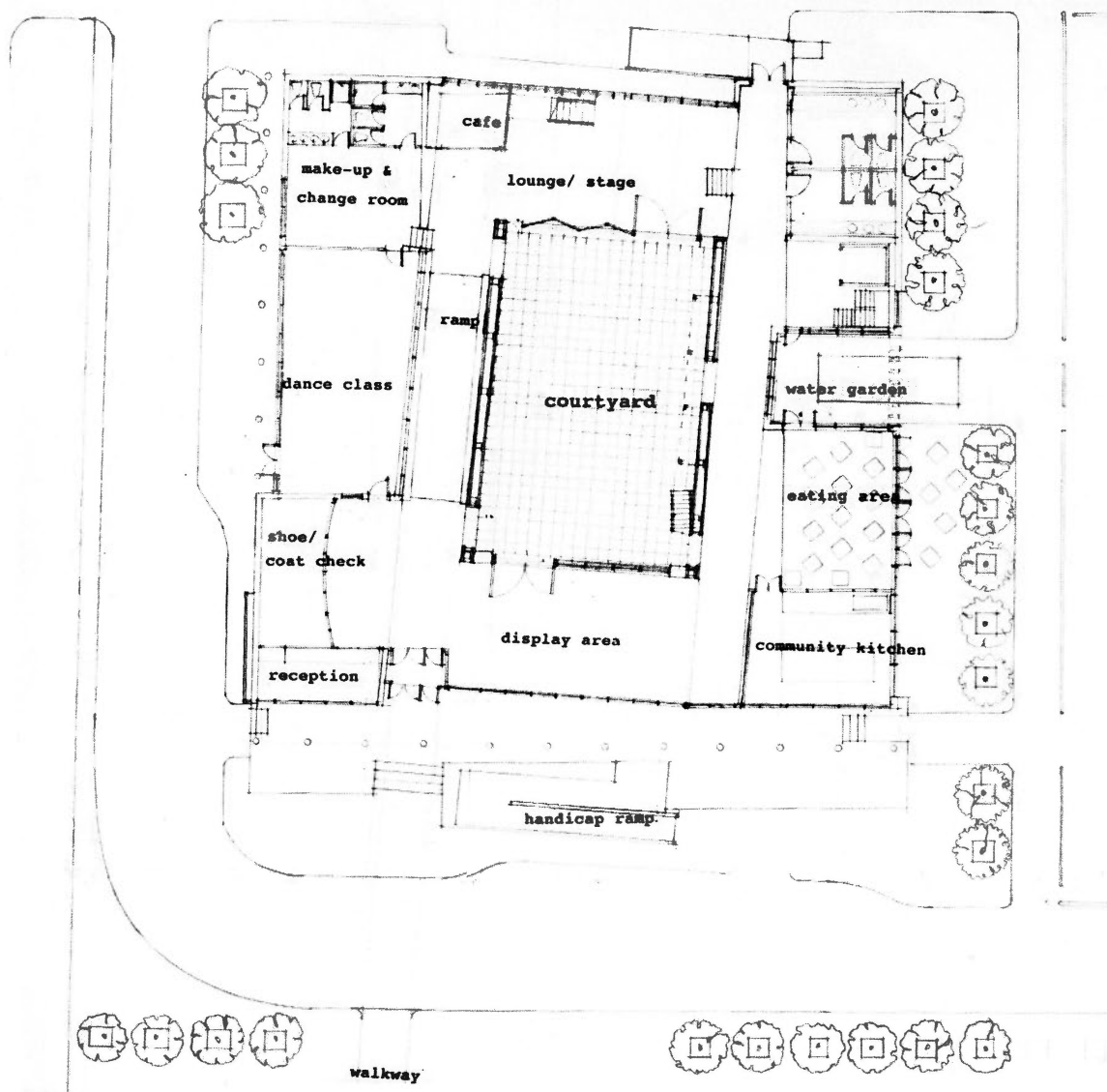


Fig 26: Plan of building at ground floor.

the large multicultural community in Scarborough and the nearby suburbs (Sri Lankans alone are estimated to be over 40,000), churches, mosques and community centers are springing up and even empty warehouses are being converted into Chinese video stores and Indian sweet shops.

8.0 Program

The program for the 20,000 sq. ft. Performing Arts Center requested a "flexible" theatre space for *Bharathanatyam* (solo and group performance), a dance class where rehearsals and day classes can happen, a small "community kitchen," a ceremonial "water garden," a daycare for the infants of the performers and visitors, and a small library. As well, there are supporting spaces such as offices, bathrooms, and changing rooms for dancers.

9.0 Courtyard as "solid"

The design evolves out of the idea of the courtyard being seen as a solid, a "room," rather than an open space and the surround as "void" (this is achieved mainly by choice of materiality and spatiality).

In plan, the courtyard is shifted towards the east/west axis and "exploded" outwards, pulling apart layers that turn into screens, walls, ramps, and windows.

Structurally too, the courtyard is independent from the rest of the building. Wooden posts supports the metal frame skylight, which in turn

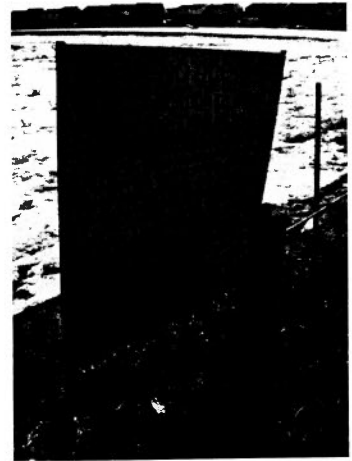


Fig. 27: The notice reads: "An application has been submitted to the city of Scarborough to change the official plan for this land from Industrial 'M' to 'M' Special to permit additional commercial uses, a golf center, a clinic or medical offices, a nursing home or seniors residence and related uses."

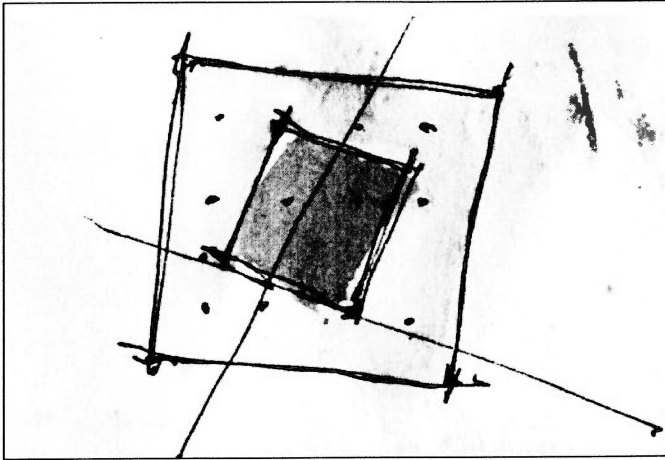


Fig. 28: *Parti* drawing with courtyard shifted towards east/west axis.

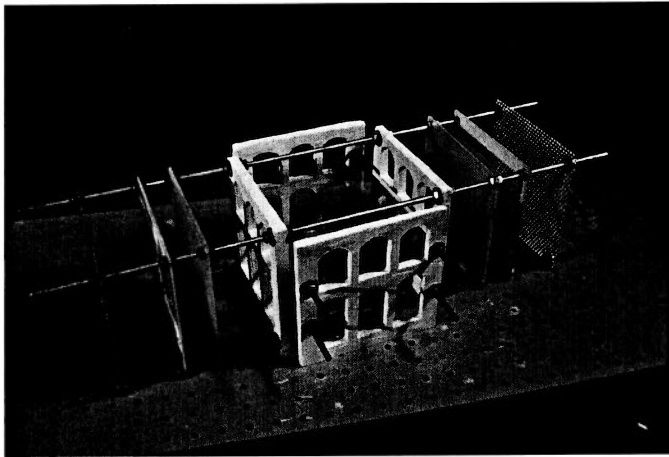


Fig. 29: Physical model showing different layers of "skin" creating spaces within.

holds the tensile fabric that can open up if natural light is needed.

9.1 Materiality and changes in floor levels

The relationship between body and the built environment is suggested throughout the building. The "invisible skin" that Laban refers to as "kinesphere" and the mesh that resulted in the computer generated experiments poetically generate layers of tectonic elements that surround the human body within the build-

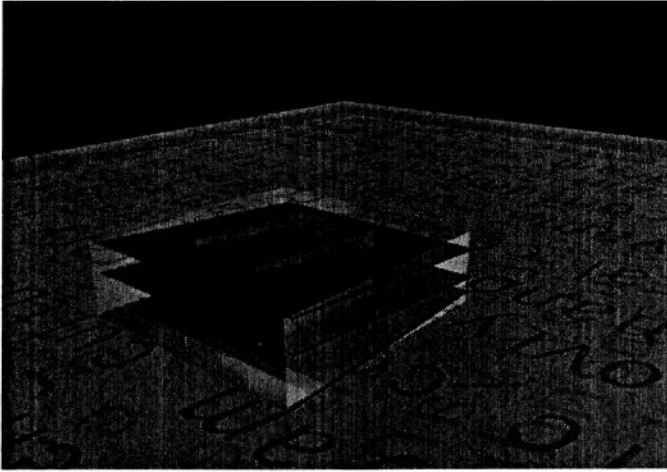


Fig. 30: Computer generated *parti* showing ramps with courtyard in the middle.

ing. As one walks through the building, these elements respond, both physically and cognitively.

The relationship of the body and the building continues throughout the building with materials of various textures and degrees of transparency, natural elements (e.g., water and sunlight); descending and ascending ramps; and details such as the depth of the first step into the courtyard.

In the same way that Muybridge's camera captured motion, openings of various sizes in walls, ceilings and floors capture movement both inside and outside the building. As one walks through the building these "snapshots" of the "outside world" and the "inside world" record the journey. These views, some subtle, some apparent, create mystery, anticipation and awe among the commuters, theater-goers and passersby. For

example, the street level windows facing Finch Avenue belong to the dance class and let people see the dancers practising, giving them a sneak preview of what the building is about. Inside, as one is sitting down on the floor, waiting for the performance to start, the grid screens of the theater give a preview of the crew coming in, their legs with jingles attached, creating an excitement in the audience.

Unlike a western performance space, the courtyard is not completely sealed during a performance. Instead, when one enters the building, one is gently invited in by the music of *Karnatic*, the smell of incense, fresh flowers and the sounds of the jingles from the young children's feet.

As one walks through the building, its vertical materiality also changes. Ramps inside the building are of slip-resistant metal; the slab above is untreated, the lounge and hallway floors are of hardwood; and the courtyard is laid with soft clay tiles.

When one enters the courtyard, as a way of showing respect to the dance, one is to take one's shoes off. The act of taking one's shoes off when entering, common to Indian culture,

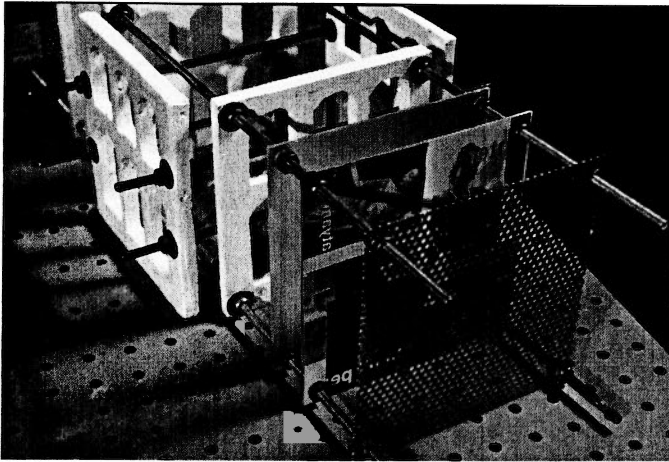


Fig. 31: Concept model showing materials.

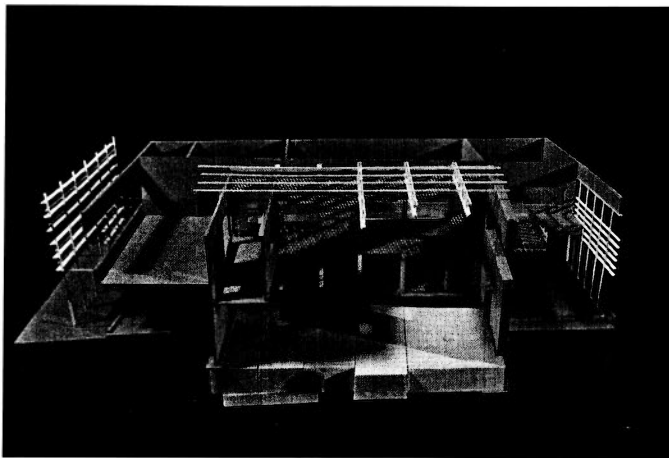


Fig. 32: Model showing changes in floor levels and courtyard floors that can change configuration.

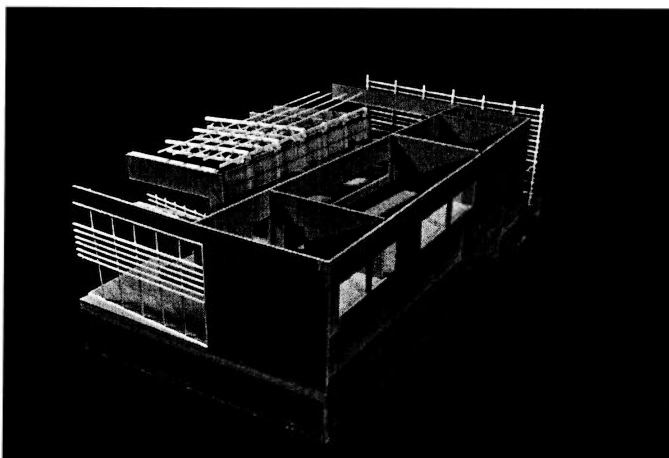


Fig. 33: Model showing the back of the building.

then walking barefoot on the clay tiles and sitting on the straw mat, all make the courtyard a very special space in the city of Scarborough. Transition spaces are also created

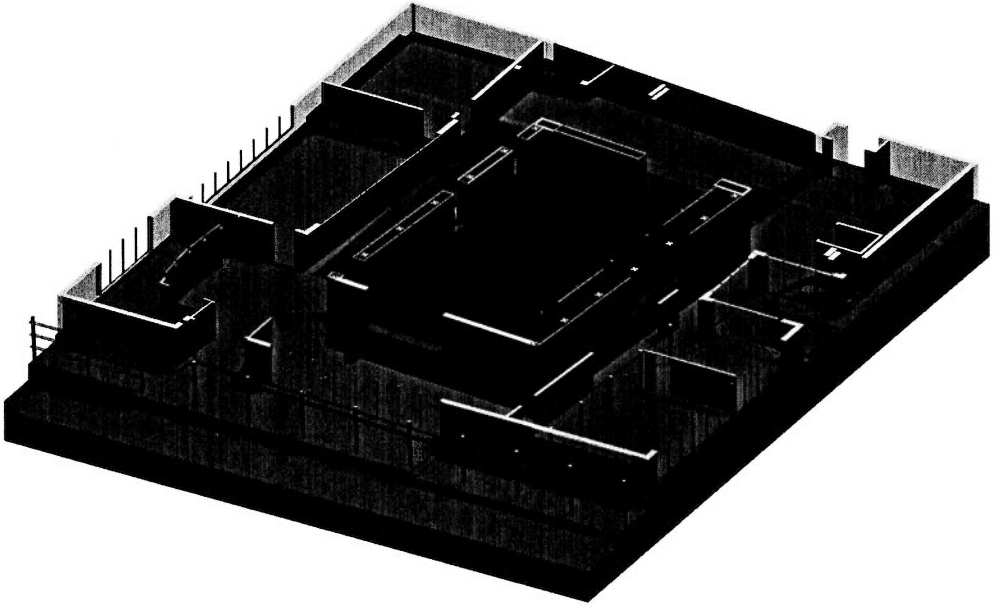


Fig. 34: Perspective section of ground floor.

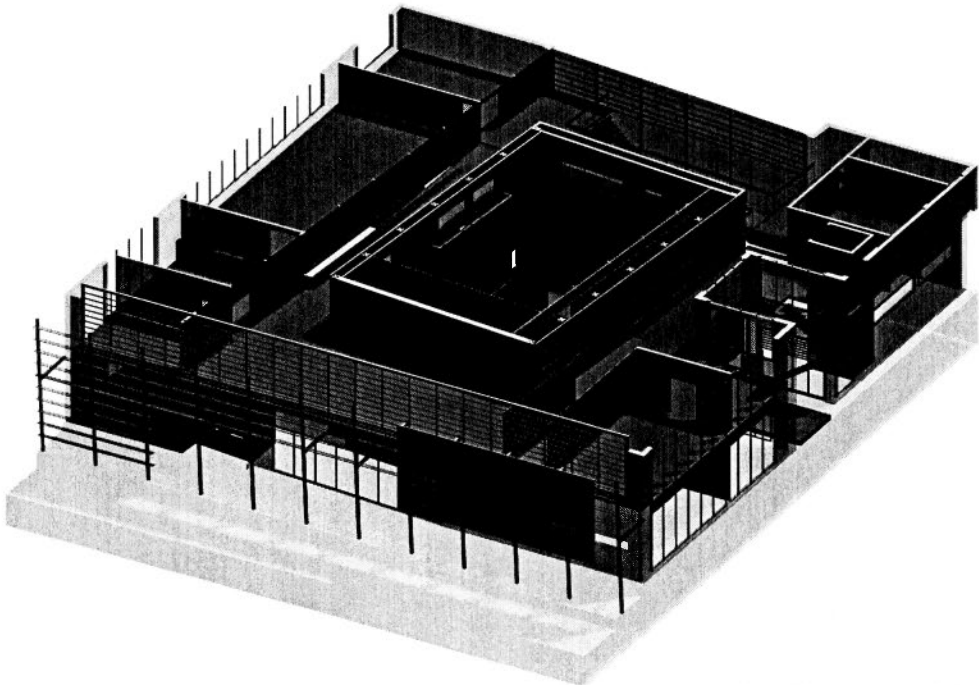


Fig. 35: Perspective section of second floor.

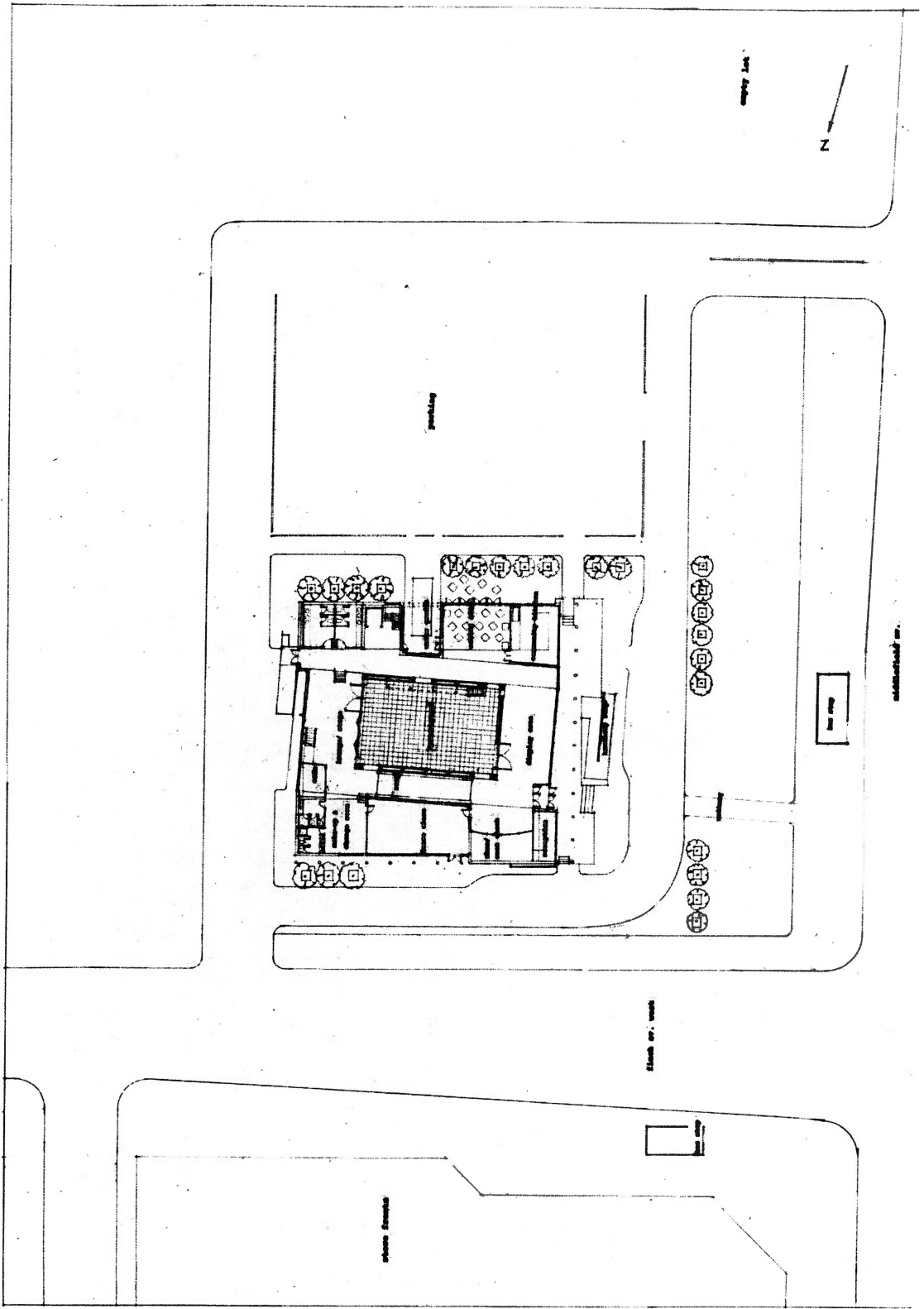


Fig. 36: Plan of building and site at ground floor.

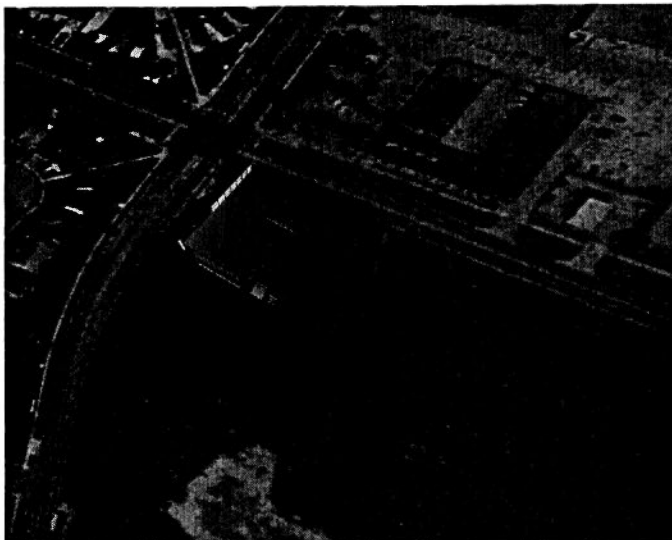


Fig. 37: Bird's eye view of building on site.

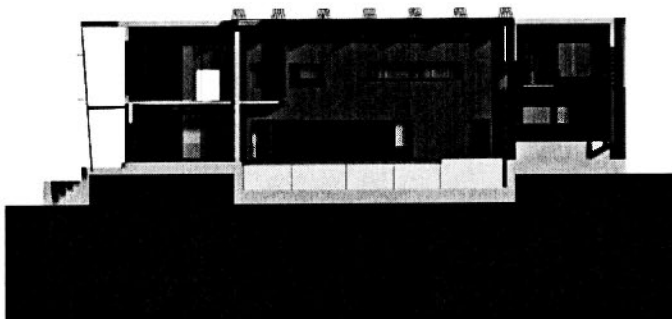


Fig. 38: Section through courtyard, looking north.

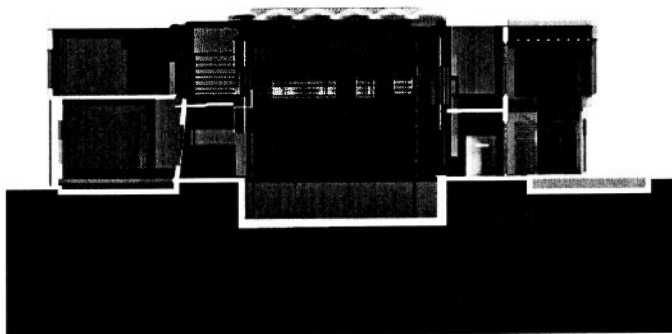


Fig. 39: Section through courtyard, looking east.

between the major spaces. The front facade has a louvred screen scaffolding, set a few meters away from the door, which acts as an intermediate zone between Scarborough and the sacred courtyard inside. Here, the visitors in their traditional costumes can hang out, meet old friends and make new ones in the new land.

9.2 Adaptability

Although the theater was designed with *Bharathanatyam* in mind, it was important for it to be flexible enough to be turned into other spaces needed by the community. This seemed more practical, given that the grand performances don't happen every night of the week. One such gathering that was kept in mind during the design stage was the traditional Hindu wedding. Hence, the design incorporates a "community kitchen" and a ceremonial "water garden." In the case of a wedding celebration, when large meals need to be prepared, the friends and relatives of the groom and bride can help out in the kitchen. At other times, the kitchen acts as a vegetarian restaurant where visitors can dine in, overlooking the "water garden," or even take the food inside the courtyard.



Fig. 40: Courtyard with screen down during Tamil movie screening.

The floor area of the courtyard is mechanically controlled to adjust to different configurations (this is probably the only "high-tech" mechanism in the courtyard). Both ends of the courtyard theater, as a metaphor for the act of human body movement, have large ceremonial doors that can be pulled open. If a proscenium stage is needed for a group performance or if more space is necessary, the front doors can be opened, allowing the main lounge to transform into a stage set.

As well, at the end of the performance the back doors can be opened, "spilling" the enchanted crowd out of the container and into the entrance area.

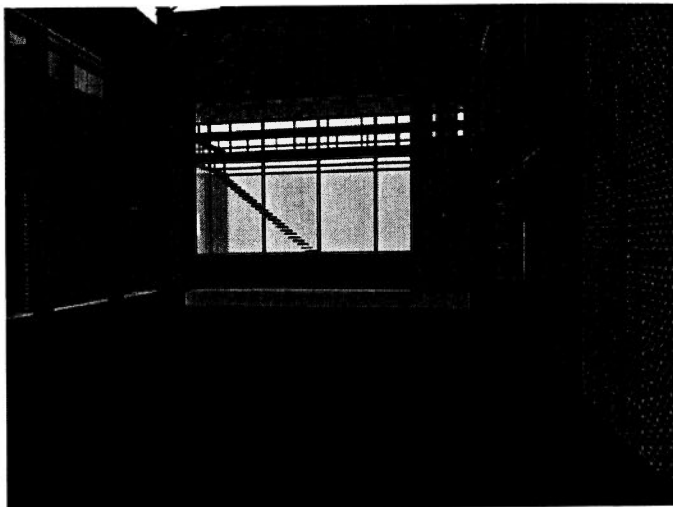


Fig. 41: When the large front doors are pulled open the main lounge converts into a stage set.

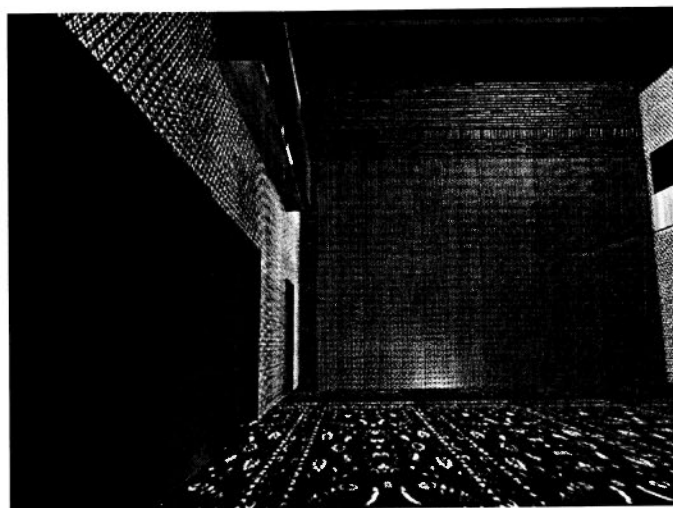


Fig. 42: Courtyard with all doors closed.

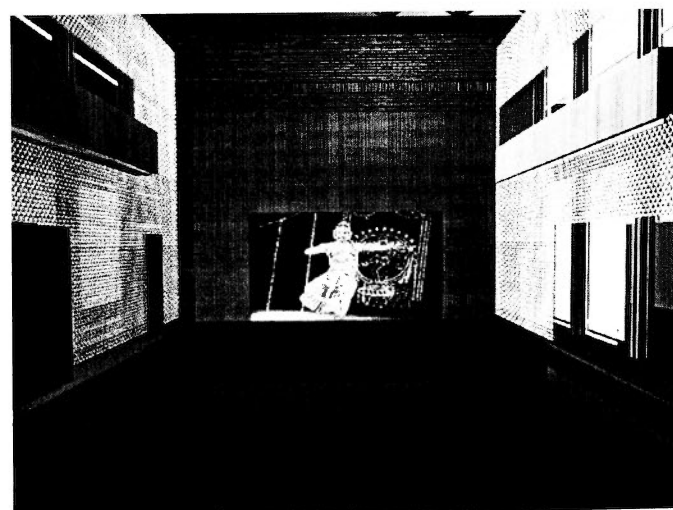


Fig. 43: The mechanised floor turns into stepped seating areas for a *Bharathanatyam* performance.



Fig. 44: View towards entrance under canopy.

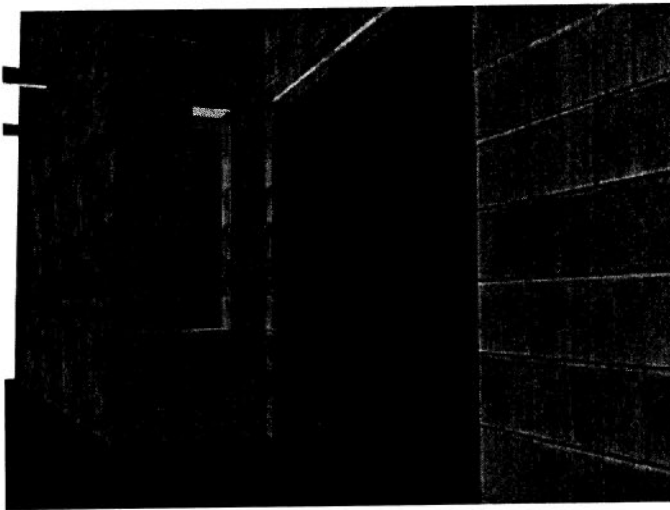


Fig. 45: Close-up view of entrance.



Fig. 46: View of water garden from inside courtyard.

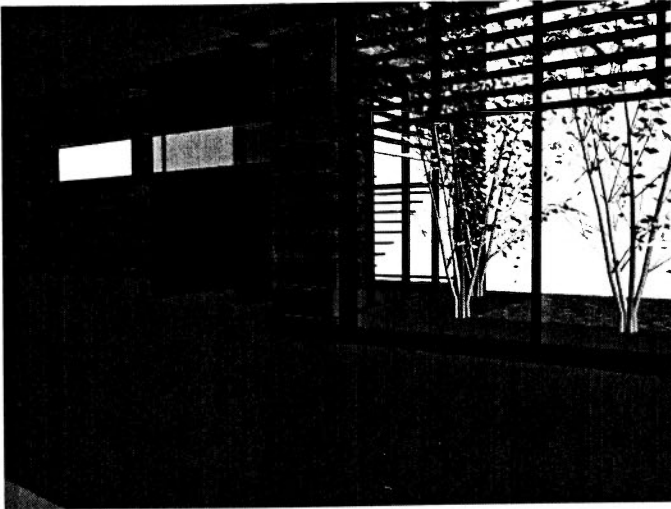


Fig. 47: View of water garden.



Fig. 48: View of stairs leading to second floor.

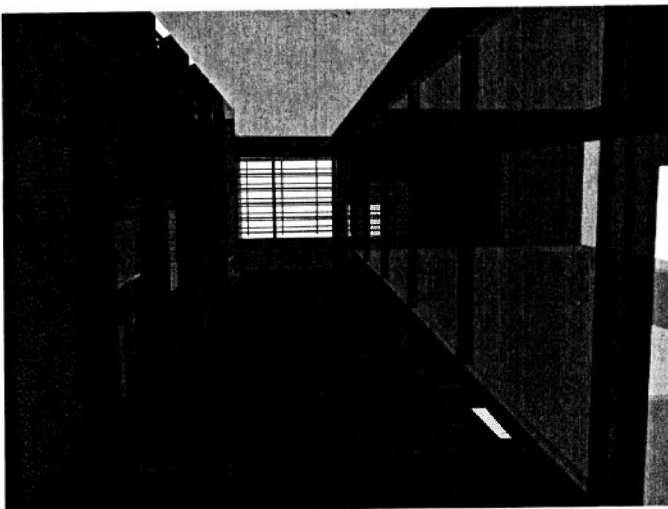


Fig. 49: View of second floor office spaces on right and "stand-in" balconies on left.

Summary

My interest in movement and how it can be translated into architecture led me to investigate the relationship between architecture and *Bharathanatyam*, a dance which I have seen and been around since childhood.

The lack of a Performing Arts Center in Scarborough and a need for a place of gathering for the Tamil community of Toronto gave me the inspiration to design a place that would mix both worlds in its architecture, something that would represent progress and prosperity in their newly found home and also help the age-old art from fading away from the younger generation.

Although some examinations of this relationship, such as Laban's theories of movement analysis, were theoretical in nature, and were not applied directly to the architectural form (perhaps because the courtyard shape was decided early for its suitability to the type of dance), they were, none the less, important in understanding this delicate relationship between the "skin" and the "wall."

Translations of this relationship, poetic and metaphoric, let me experiment with different materials, changes in elevations and natural elements such as sun and water in the architecture, to understand and reveal the relationship between movement and body.

As with any academic study, some issues have been omitted from examination because they were beyond the scope of this thesis. I encourage future research into comparisons of cinema and space, particularly Indian cinema and the Indian metropolis, and comparisons of "void" space in both music and architecture.

Notes

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2. Anne-Marie Gaston, *Bharata Natyam, From temple to theatre* (New Delhi: Manohar Publishers and distributors, 1997), 69.
3. Anand, "Article on Bharathanatayam."
4. Herbert Marshall, "Theatre Architecture in India," *Adaptable Theatres* (London: Association of British Theatre Technicians, 1962), 87.
5. Prasad Bidaye, "Bollywood: Soundtrack to a culture," *Shift magazine on-line*, <http://www.shift.com/shift> (Mar. 1999).
6. Bernard Tschumi, "Violence of Architecture," *Architecture and Disjunction* (Cambridge, MA: MIT Press, 1997), 123.
7. Lynn Matluck Brooks, "Harmony in Space: A Perspective on the Work of Rudolf Laban," *Journal of Aesthetic Education*. 27, No. 2 (1993): 31.
8. "Dance," *Encyclopaedia Britannica* (Chicago: Encyclopedia Britannica, Inc., 1994), 936.
9. Bernard Tschumi, "Architecture and Limits II," *Post-structuralism and deconstruction* (Cambridge, MA: MIT Press, 1997), 158.

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3. Movies

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