MASTER

Recovering Delhi’s Red Fort
presence of past in the present

Singh, H.

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RECOVERING DELHI'S RED FORT:

PRESENCE OF PAST
IN THE PRESENT
RECOVERING DELHI'S RED FORT:

'PRESENCE OF PAST IN THE PRESENT'

Graduation Project submitted by: Hemani Singh, 0642633

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Graduation Committee: prof. dr. P.J.V Wesemael
dipl.ing Husnu Yegenoglu
dr. ir. M.B.M Dehaene

Faculty of Architecture, Building and Planning,
Technical University, Eindhoven
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This graduation project has been an extremely interesting journey. As I approach the end of this journey I recall all the special moments and people that helped transform it from a mere thought to a complete architectural document.

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INTRODUCTION

Red Fort, Delhi was built in the seventeenth century as the fortress palace of Mughal Emperor Shahjahan. Originally called Qila Mubarak (auspicious fort), it is constructed of red sandstone, hence the name Red Fort. It took nine years to build (1639 – 1648) and covers a massive area of approximately 656 meters by 328 meters. It was built as part of the newly found capital of the Mughal Dynasty, Shahjahanabad (presently called Old Delhi).

As I recall some of the impressionistic memories of my early childhood in Old Delhi, I remember looking at the Red Fort from many different locations. My mother often escorted family members for shopping in the streets of Old Delhi. One could see the most fascinating jewellery and fabrics embroidered with shimmering threads and lacework there. We would park our car in the huge open space in front of the Red Fort and take a rickshaw (tricycle) to go into the main shopping street called Chandni Chowk. From the rickshaw the massive sandstone walls of the Red Fort seemed to loom large over the crowded streets of Old Delhi.

I also remember going with my father to the bazaars of Old Delhi to buy fire works and crackers for Diwali (Indian festival of lights). We would visit the shops close to Jama Masjid (the main Friday Mosque of Shahjahanabad). My father would stop at every nook and corner to taste a delicacy or some traditional food of Old Delhi. My brother and I would then climb the stairs of the mosque and look through the crowded horizons of Old Delhi at the majestic rose pink walls of the Red Fort.

I also recall a typical summer evening when my mother and I would walk to Shantivana (a landscaped memorial garden). We would walk through the neighbourhood street (gali), past the gate (phatak) onto the main road and then past some historical buildings to reach Shantivana. From there we could see across the road a relatively lower sandstone wall of the Red Fort allowing us to catch a glimpse of some of the marble pavilions inside.

The strong physical presence of the red sandstone walls of the fort is perhaps an indicator of the significance of this structure within the context of Old Delhi. As I understand today Red Fort was the first and most impressive building to be constructed on the site. It occupied the most strategic location on
the eastern edge of the city along the river Yamuna. Formal axes were laid out from the core of the fort into the city and formed the two main boulevards – Chandni Chowk and Faiz Bazaar. These boulevards connected the city gates with the two fort gates (Lahore Gate and Dilli Gate). The main mosque of the city of Shahjahanabad, Jama Masjid was erected on the highest point of the city which was in proximity to the fort. The connection between the fort and the mosque was also a boulevard called Khaas Bazaar. These were the formally laid out parts of the city of Shahjahanabad and showed a strong coherence with the fort. The fort was also the hub of all political, cultural and economic activities. There were interfaces within the fort and the city where the residents of the city interacted with the residents of the fort.

However, after more than 350 years of turbulent history, the relationship between the fort and the city seems to have snapped. Today the city exists as a hub of wholesale trade. Exponential growth and commercialization has transformed this planned seventeenth century city into a chaotic business centre. Over the centuries the city has lost its cultural and residential role and hardly exhibits any presence of its strong historical and cultural heritage. The fort, on the other hand, has morphologically reduced to an empty shell with only the walls and the gates intact. Beyond the entrance gate, the strong enclosure of the fort walls gives way to a confused mixture of structures. The few remaining Mughal buildings within
exist as isolated structures with trees, paths and other relatively newer buildings placed randomly. The fort walls exist as an important landmark and have a symbolic presence in the context of the history of the independence of India. However, the monument seems estranged from its other counterparts in the city and bears no evidence of its steering role in the context of the city.

Much has changed and that is inevitable. But is the change a random phenomenon or is there any evidence of continuity in it? Horatio Greenough once said, "The significance of yesterday, today and tomorrow is that we are in a state of development." Is it possible to locate the thread of continuity from the past to the present and weave the future with it such that an overall development is apparent? Also, the presence of past in the present establishes new identity over time. In the context of the fort, its strong physical presence today stands in stark contrast with its relatively confused position as far as its usage is concerned. The fort is literally a contested landscape in which different claims on one and the same terrain are constantly being renegotiated. This, at times, produces fine examples of assimilation of different historical periods and cultures but more often produces a fragmented, muddled and carelessly constructed landscape.

This graduation project tries to demonstrate some of the opportunities that can be uncovered at different scales to begin to articulate the various claims on the fort into a constructive process. Some of these opportunities can be situated at the urban scale in terms of realigning the urban context of the fort by locating strategic points of intervention. Here historical buildings and settings need to be balanced with current usage, vehicular situations and future proposals. Other opportunities have to be understood at the level of the fort itself where programmatic agendas need to be married with visions articulated in archaeological and conservationists' terms. Finally, and most importantly this graduation project considers the fort as a tremendous architectural opportunity, and seeks to demonstrate through design the way in which a carefully chosen new function in the fort could, by means of architecture, reflect the layered identity of the fort and appropriate that identity as the solemn study environment, a sanctuary for the cultivation and contemporary reinterpretation of traditional design cultures.

Jahanara, Academy of Design.

On each of the scales that have been studied various forces come into play, existing proposals are in place. This graduation project on the one hand tries to take some distance, yet at the same time tries to take note of these forces and plans to complement them by a series of proposals that begin to show where a new coherence could be established in terms of attitudes towards the red fort and in terms of possible contemporary interventions.
1. A BRIEF HISTORY OF THE RED FORT
1.1 Delhi, a Brief Description

Delhi has been an important capital even before the days of Alexander and has survived through all forces of nature, time and fortune to become one of the most dynamic cities of the world. Over the centuries it has undergone transformations and frequently changed names, site and character. The significance of Delhi is in its highly strategic location in terms of the political and physical map of India. Politically it is the centre of the sub continent. Geographically it is bordered by the Himalayan Range in the north-east and Rajputana desert in the north-west and sits in the banks of River Yamuna. From Delhi the vast expanse of central India was open to any traveller or conqueror. Percival Spear sums it up as “The master of Delhi is the master of the whole of India”. “Therefore every ambitious power seeking to control the country has sought to possess Delhi” (Spear: 2006: 3).

Historically Delhi is identified by the ‘seven cities’. The founding of a new city was a traditional way of earning political immortality for a monarch or a dynasty. Delhi has actually witnessed the presence of many more cities, perhaps wiped out by River Yamuna’s fickle course or the quarrying of their successors (Tadgell: 1990:156). However the seven Islamic cities have survived in parts and can be seen all over Delhi. They are:

1. Lal Kot founded and developed by Qutb ud din Aibak and his successor Iltutmish after 1192 when the Turkish invaders occupied Delhi.
3. Tughlaqabad founded by Ghiyasuddin Tughlaq after succeeding the Khaljis in1320.
4. Jahanpanah (world’s refuge) was founded between Lal Kot and Siri by Muhammad Tughlaq(1325 – 51)
5. Firozabad was the fifth Muslim seat at Delhi founded by Firoz Shah(1351 – 88).
6. Dinpanah became the first Mughal capital at Delhi which Humayun built between 1530 and 1540.
7. Shahjahanabad founded by the Mughal emperor Shahjahan in 1638.

1.2 Shahjahanabad: Conception and Design

The historic city of Shahjahanabad was founded by Shahjahan in 1638. It was built on the banks of river Yamuna. Now referred to as Old Delhi, Shahjahanabad was planned during the heyday of the dynasty of the Mughals. Islamic architecture had reached its zenith under the Mughal Emperor Shahjahan. Capitals of powerful dynasties like the Mughals, were the ‘axis mundi’ (center of the earth and the intersection of the celestial and the mundane).
Fig 1.02 Map of Shahjanabad dated 1850 (redrawn from an original manuscript by E. Ehlers and T. Kraft).
The plan of the city was fan shaped with the city wall enclosing it along the periphery. The city layout was as under:

1. The Forts
   (1a) Red Fort: It was the first and the most impressive building to be constructed on the site. *Quila Mubarak* (auspicious fort) as it was called was an awesome structure made of red sand stone (hence also called Red Fort). It occupied an extremely strategic location along the river Yamuna and occupied a huge patch along the eastern wall of the city. A thirty feet deep moat surrounded the moat on the landward side.

   (1b) Salimgarh Fort: Built by Islam Shah Suri, also known as Salim Shah, son and successor of Sher Shah Suri in 1546, Salimgarh Fort was constructed on an island of river Yamuna. However, only the walls were completed when Salim Shah died and the construction was abandoned. Later several Mughal rulers camped here before the creation of Shahjahanabad and the fort finally became a state prison during the reign of Aurangzeb.

2. Streets, Bazaars and Squares (Chowks)
   (2a) Chandni Chowk: The main axes of the city were two major boulevards connecting the fort to the city gates. Chandni Chowk was the more important one which was laid out between two focal points of the city: Lahori gate of the fort and Fatehpuri mosque and then went on till the city gate, Lahori Gate. Named after the famous moonlit square, Chandni Chowk had the canal flowing through the center of the street with trees providing ample shade. Chandni Chowk was aligned east-west and housed the most important shops.

   (2b) Faiz bazaar: It was the other boulevard which ran perpendicular to Chandni Chowk and connected another gate of the fort with Delhi gate (Akbarabadi Gate) of the city wall.

   (2c) Khaas Bazaar: The third bazaar called Khaas Bazaar was laid out between the fort and the Friday Mosque (Jama Masjid).

3. The Mosques
   (3a) Jama Masjid: The religious infrastructure comprised of many mosques, temples and shrines but the most important was Jama Masjid. It was located on a hillock in the heart of the city in proximity to the fort. It was built in 1650. The courtyard of the mosque is accessed on three sides with the eastern gate facing the fort. This was the ‘royal entrance’. Being the largest mosque of India, it was the only structure in the city comparable in its massing to the palace fortress. There were other mosques built by important members of the royal family.

   (3b) Fatehpuri Masjid: Second in hierarchy of mosques was the Fatehpuri Mosque built towards the western end of Chandni Chowk. It was made of the same red sandstone as the fort and Jama Masjid and was built by Nawab Fatehpuri Begum, one of the wives of Shahjahan in 1650.

4. The City Wall and the Gates:
   A massive stone wall (27 feet high, 12 feet thick and 3.8 miles long) encircled the city of Shahjahanabad which was constructed from 1651 to 1658. It was surmounted by numerous towers and interrupted by gates and entrances. The seven major gateways were named after the destinations that the roads led to from the city. These were: Kashmiri (4a), Mori (4b), Kabul (4c), Lahori (4d), Ajmeri (4e), Turkomani (4f) and Akbarabadi/Dilli (4g) Gates.

5. Water systems and canals:
   A natural source of water has been a very important factor in the location of a settlement. River Yamuna has played a similar role in the location of Shahjahanabad. Part of Yamuna had been diverted many miles north of Delhi and the water brought to Delhi by an existing canal repaired by Shahjahan. The canal ran through the outskirts of the city and watered all the gardens, fields and orchards outside the city. It entered the city in the north-western part (Kabuli Gate) and split into two branches. One branch ran through the centre of Chandni Chowk and was called *Nahr-i-Bihisht* or the stream of paradise. The other ran through the gardens of the city before entering the palace.

6. Gardens:
   Many of the gardens of Shahjahanabad were outside the city wall. These shaded groves and gardens were located along the banks of river Yamuna and on major highways. Within the city the finest example was Sahibabad located to the north of Chandni Chowk. *Nahr-i-Bihisht* provided water for an elaborate garden paradise arrangement of canals, waterfalls, fountains and pools. There were also paradise gardens within the fort. These gardens were planted with dense arrangement of trees such that sunlight and heat barely penetrated below. The principal design featured a
Fig 1.03 Sketch of the RedFort.

Fig 1.04 Plan of Shahjahanabad representing Karmukha.

Fig 1.05 Plan of Shahjahanabad representing Rasail.
central pool containing a small open structure called a *barahdari* (summer house). From the central pool four wide canals led to the surrounding walls.

7. **Neighbourhoods (mahallas) and ward (thanas):**
The city was divided into 12 wards or thanas. Each thana was subdivided into neighbourhoods or mahallas. These mahallas were often referred to by the profession of the people who lived there or at times by the name of the individual whose mansion dominated the neighbourhood. The spatial organization of the city was based on an extensive hierarchical system.

8. **Dwellings:**
There were a variety of dwellings in Shahjahanabad. The princes and nobles lived in mansions or havelis that were inspired by the design of the fort. Lower ranking nobles and rich merchants had smaller houses made of stone, brick, clay and straw roofs. Ordinary merchants lived in quarters behind their shops. Soldiers, servants, craftsmen often lived in straw thatched mud houses.

9. **Guest Houses (Sarais):**
Along major highways and in cities, caravan sarais were erected by members of the royal family. These were walled rectangular enclosures just like the gardens and provided boarding and lodging to various travellers. Some even had a contingent of soldiers to guard the sarai. One of the best examples was the caravanserai built by Jahanara next to her garden Sahibabad within the city.

10. **River front (Ghats):**
The banks of river Yamuna were lined by the tree shaded groves that the members of the imperial family planted outside the city. Also the riverfront to the right of the palace was accessed by steps. These steps or ghats (Nigambodh) were of special significance to the Hindu inhabitants for religious and other cremation rites.

The layout of the city followed Hindu, Persian and Islamic principles of city planning. The designed infrastructure of the city included the fort, the Friday mosque and other major mosques, the two main boulevards, bazaars around the main mosque, the elaborate system of water channels *Nahr-i-Bahisht*, some of the major gardens and the enclosing city wall. Land was allocated around the fort to nobles for their palaces and mansions. The rest of the city was left to individual development. The palace fort, called the Red Fort, occupied a position of great importance standing at the point from which the fan springs open. River Yamuna flowed adjacent to the rear wall of the fort giving it natural protection. The main mosque, Jama Masjid stood higher on a hillock and was a majestic structure visible from all parts of the city including the fort. Jama Masjid and Red Fort were connected via an irregular shaped boulevard, *Khaas Bazaar*.

The principal artery was the boulevard of *Chandni Chowk* which divided the city into two unequal halves. The other boulevard ran perpendicular and was called *Faiz Bazaar*. Both the axes originated from the open core of Red Fort, the courtyard facing the seat of the Emperor, the most important point in the city. The planning of the city showed traces of Hindu, Islamic and Persian traditions of town planning and architecture. The shape of the plan of the city was taken from the ‘*Manasara’* a vastu sastra (ancient Hindu literature consisting of the rules of architecture) dating back to 400-600AD. This text suggested a semi elliptical shape, *karmukha*(bow) for a settlement fronting a river or sea shore. According to the *karmukha* plan the intersection of the two cross axes (boulevards) became the most auspicious point on the site. At this junction stood the emperor’s palace-fortress which was the first building to be constructed.

The city plan represents the cosmological principle of the *Rasail* (Epistles) which is an ancient text written by a group of Islamic scholars. According to *Rasail*, the body of a man was constructed by the Creator like a city (Blake:1991: 33). The body is composed of different parts and organs just like a city comprises of its quarters and buildings. The parts and organs are connected by diverse joints just like the streets connect the different quarters of a city. In this context, the plan of Shahjahanabad becomes anthropomorphic.
Fig 1.06 Plan of Red Fort

Legend:

1a. Hall of Public Audience. (Diwan- i-am)
1b. Hall of Special Audience (Diwan- i Khaas)
2. Chhatta Bazaar
3. Pearl Mosque (Moti Masjid)
4a. Lahori Gate
4b. Dilali/ Akbarabadi Gate
5. Fort wall with moat
6a. Hayat Baksh garden
6b. Mahtab Bagh.
7. Harem and living spaces of the Royal family members
8. Rang Mahal or recreational space for Emperor.
9. Service area
10. Residences and offices of people working in the fort.
11. Drum House (Naqar Khana)
1.3 The Red Fort

It was the first and the most impressive building to be constructed on the site. Located along river Yamuna, it occupied a huge patch along the eastern edge of the city. The fort had two gates opening into the city. Lahore gate was connected with the boulevard of Chandni Chowk by a square. The other gate (Delhi/Akbarabadi Gate) of the fort opened into the other boulevard or Faiz Bazaar. A third gate connected to Salimgarh Fort via a bridge. This fort predates the Red Fort and served as a state prison. The Red Fort is perhaps the only Mughal fortress palace to be conceived and executed as a complete entity. It took nine years to build (1639 – 1648) and was virtually a city within a city.

Context and setting
Originally called Qila Mubarak, the fort includes an area of about 656 metres by 328 metres which is about one tenth the area of the city. It is made up of red sandstone quarried from Fatehpur Sikri, hence the name ‘Red Fort’. Its walls range from 60 feet (riverfront) to 75 feet (landward side) in height and from 45 feet to 30 feet in thickness. It was the largest structure of its kind but the expanse and monotony of the fort walls was broken by 22 towers. In plan it is an irregular octagon. The eastern front faced the river while the other sides were protected by a 30feet deep moat (Sanderson: 1914: 4)). Immediately beyond the moat were the gardens separating the fort from the city (Gulabi bagh, Anguri Bagh).

Layout
The Red Fort was actually much more than just a fort. Functionally the fort included administrative, residential, ceremonial and support functions. There were structures for reception of visiting dignitaries, military quarters, kitchens, markets, offices, workshops (karkhanas) and houses of people who worked in the fort. (Ehlers: 2003: 46). Within the fort, spaces were designed such that the public spaces were visually separated from the private areas. In general the western part of the fort closer to the city contained the more public functions progressing towards private areas which were in the eastern part of the fort facing the river. There were two large gateways, two small entrances that connected the fort with the outside world. The two main public gateways opening into the city were named after the city gates which they were facing; Lahore Gate on the western façade and Dilli Gate towards the south. Lahore gate connected with the Lahore Gate of the city via a boulevard called Chandni Chowk. The boulevard continued within the fort in the form of Chatta Bazaar which was the only covered boulevard in the country. Akbarabadi Gate also connected with the city gate via the other boulevard Faiz Bazaar. The city gates, in turn, were named after the city they were facing, Lahore towards the west and the original Dilli (before Shahjahanabad) to the south. These two perpendicular axes intersected at the central square in the centre of the fort with the drum room, Naqqar khana. This entrance structure led to the most important court of the fort as well as the city facing the hall of public audience (diwan-i-am) with the seat of the Emperor. It was beyond this point that the admittance into the fort became increasingly selective as the spaces became more private. This was also the point of transition from ‘ordinary to special’. From here the Emperor accessed his most spectacular recreational space (Rang Mahal) via a courtyard. To the east was the hall of special audience (diwan-i-khas) where state matters of utmost secrecy were handled. Its location in the private section of the fort indicates its special character.

Another gateway connected Salimgarh Fort in the north and the two other gates opened on the river front. The north south axis connecting Salimgarh Gate with Dilli Gate thus divided the fort into a smaller public section facing the city and a bigger private section. The smaller public section marked the space where the city and its ordinary citizens came into the fort. The private area was meant for members of royalty. In the south of the private area were the harem and the living spaces of the royal household. To the north were the most exquisitely laid out paradise gardens, Hayat baksh and Mahtab Bagh. Hayat baksh was the larger one with rectangular pools, fountains and pavilions arranged symmetrically around the central pool. North of these were the mansions of other members of the family. Some like Aurangzeb (the successor of Shahjahan) had mansions outside the fort. At the north western end of the fort were the service areas which included the stables, workshops, storerooms, treasuries and mints. The remainder area included residences of soldiers, clerks,
Fig 1.07 Shahjahanabad in 1639 showing the planned infrastructure
merchants, artisans and scholars. The fort was also the hub of all political, cultural and economic activities. There were interfaces within the fort and the city where the residents of the city interacted with the residents of the fort.

1.4 Transformations

Shahjahanabad was a great imperial city of the seventeenth century exhibiting the finest principles of town planning and architecture. However since the time of its inception the city fabric has undergone several transformations. The major causes of these transformations have been the invasion and massacre by the Afghans and Persians followed by the Colonial (British) rule, the first war of independence, introduction of railway line and the transfer of Colonial capital from Calcutta to Delhi also contributed to the transformation.

Red Fort through the transformations of the City.

The fort was also affected by the various events that transformed the city. It functioned on the basis of its original design for a period of almost 200 years.

a. From inception in 1639 to 1739 (Invasion and Massacre)

The Red Fort was considered one of the most magnificent structures of its times. To the men of Shahjahan’s time the fort was a wonder. The words of poet Amir Khusro (inscribed on the north and south arches of the hall of special audience, Diwan-i-khas) aptly describe it, “If there is paradise on Earth, it is this, it is this, it is this.”

The city and the fort flourished during Shahjahan’s reign (till 1658). There was a strong physical and ideological link between the two. The public areas of the fort were open to the people of the city and the imperial family also regularly visited the city especially the mosques and the bazaars. With the reign of Aurangzeb (1658 – 1705) the process of alienation between the city and the fort had begun.

- The direct visual link between the fort and the city was hindered as barbicans were installed in front of the two main gates of the fort and the entrance was moved to the side of the barbican.
- Aurangzeb being a staunch Muslim considered images of animals sacrilegious. The two life
Fig 1.9 Shahjahanabad from 1739 to 1857 showing the following:
1. Enlargement of city wall
2. Increasing built up area between the fort and Jama Masjid
3. Ellenborough's tank to revive the canal in the city
4. Increasing British construction close to the fort
size elephants constructed by Shahjahan in front of the gates were removed. He also built a mosque within the fort called Pearl Mosque (Moti Masjid). It was built adjacent to the Hall of special audience and was a small, beautifully wrought mosque made of white marble. Addition of this mosque within the fort also discouraged the Emperor and his family to visit the city mosques.

However, the pattern of active conquests led to his long absence from the city and the subsequent disuse of many spaces and rituals in the fort. The subsequent period was that of deterioration for the city as well as the fort. The vast Mughal empire could not be held together. The biggest blow came in the form of an invasion by the army of the Persian ruler Nadir Shah in 1739. Not only was the city and its people massacred and looted, the fort was also looted of its ornaments including the Emperor’s peacock throne with the precious Kohinoor diamond.

b. From 1739 to 1857
This period was subdivided into two:
- Nadir shah was followed by many invaders.

In 1764 Suraj mal and the Jats ransacked the fort, cut out quantities of precious stones and removed the silver roof of the Rang mahal (Emperor’s recreational space). In 1788 Ghulam Qadir dug up the floors to find treasure and blinded the king, Shah Alam. The fort deteriorated drastically as full advantage was taken of the king’s visual impairment. The gardens of the fort and the city suffered from disuse and neglect due to the canal Nahr-i-Bahisht drying up in the second half of the 18th century.
- After seventy years of anarchy, the fort witnessed some efforts towards restoration with the coming of the British. It was impossible to maintain or renovate the whole palace so only the core of the palace where the king held his court was maintained. The king himself was a pensioner with nominal powers under the British. However there was some sporadic construction in this period; a pavilion overlooking the river (jharoka), a garden outside the palace walls, structures (Zafar and Hira Mahal) and fountains in the existing gardens.
Fig 1.11 Shahjahanabad from 1857 to 1947 showing the followig:
1. Demolition of built up area between the fort and Jama masjid
2. Roads around the fort
3. Demolition of Akbarabadi Mosque
4. Demolition of caravan sarais
5. Laying down of tracks
of Hayat baksh and Mahtab Bagh. There were also buildings with European influence within (Darya Mahal) and surrounding the fort. The gardens in its immediate vicinity disappeared so did the square in front of the main public entrance, Lahori gate. Instead a tank was built there (Lord Ellenborough’s tank) in an effort to revive the canal.

c. From 1857 (first war of independence) to 1947 (independence of India)
This period witnessed the most dramatic impacts on the integrity of the Red Fort Complex and its immediate setting.
By this time River Yamuna had changed its course and a tarred road had replaced its position next to the fort. Also with the laying of the railway track, parts of the city, Red fort and Salimgarh Fort were demolished. But the biggest blow came with the British occupying the Fort after winning the first war of independence in 1857.

1. The first war of independence (1857)
Following the victory in the first war of independence, British army ousted the pensioner king’s family and moved into the fort. Many buildings and open spaces within the fort were demolished permanently. Even the buildings that survived were altered unrecognizably by their use as army quarters. Only the main gates, the fort walls and a handful of pavilions along with Moti masjid were spared. The physical appearance was altered unrecognizably with their use as military quarters and with the construction of some newer buildings and roads around them (Mukherji: 2003: 63). Most of the built up area was razed to the ground.
The area around the fort was also cleared up. Red fort was now on a virtual island with little or no contact with the city. This period witnessed a dramatic change in the appearance and use of the city as well as the fort.

Fig 1.12 Red Fort from 1857 - 1947 showing a total change of spatial configuration.
Fig 1.13 Celebration of Independence Day with the Prime Minister addressing the nation from the ramparts of Lahori Gate of Red Fort.
2. *Introduction of the Railway Line 1867.*

- As the railway line was laid out, parts of the city, Red fort and Salimgarh fort were destroyed (including the bridge that connected the two forts).
- Residential and operational quarters for military personnel were built inside the fort. Colonial barracks dominated the landscape within the fort walls.
- In 1911 the fort was given a face lift because it became the venue for the Coronation Durbar of King George V. Attempts were made to conserve the fort. Lawns and shrubbery represented the location of former Mughal buildings in the fort.

Till this point the city and the fort still represented the imperial power.
- With the laying of the railway track, Delhi’s strategic importance was realized and Colonial capital was transferred from Calcuta to Delhi. Later in 1931 New Delhi was constructed by the British to house the offices and residences of the bureaucrats. With the building of the Viceroy’s House (*Rashtrapatı Bhawan*), the fort lost its significance as far as ceremonial function was concerned.

3. *Independence and partition of India (1947).*

- Independence and partition had severe implications with respect to the population and usage of buildings in Shahjahanabad. The Muslim population of the city migrated to Pakistan. Only the poorest section of Muslim population remained in the city and they clustered around Jama Masjid. As for the refugees from Pakistan, any opportunity to earn a livelihood was grabbed at and buildings were occupied and used for all sorts of businesses irrespective of their original function(23). Thus began a period of uncontrolled and unplanned growth which has led to congestion and pressure on the medieval city of Shahjahanabad.
- During the years of freedom struggle in India, the military buildings within the fort became the venue of imprisonment and trials of important freedom fighters. The importance of the fort as a national symbol increased further on the eve of independence when the first Indian Prime Minister addressed the nation from the ramparts of Lahore Gate of Red Fort. Since then the fort has become the national symbol of independence and it continues to be the venue of the Independence Day parade.
- In 1979 parts of the fort were transferred from the military authorities to the Archaeological Survey of India. However the army fully vacated the fort in 2003.
- Today the fort stands isolated with respect to its context. Surrounded by a busy road, the fort has virtually reduced to an island with heavy vehicular traffic all around. Its relationship with the city has been severely hit.
- The fort has been declared a monument of national importance under the Ancient Monument and Archaeological Sites and Remains Act, 1959. The Red Fort Complex is managed directly by the Archaeological Survey of India, which is also responsible for the protection of all national level heritage sites in India and Indian cultural properties.
- According to Anisha Shekhar Mukherjee, value of the Mughal monuments within the fort as representative of an architecture that integrated built and open spaces has been reduced immeasurably. The Mughal courts and buildings today exist as isolated areas of lawn interspersed with external lights, pathways and random trees. They follow the same method of interpretation initiated way back in 1902 by Archaeological Survey of India.
- The fort was declared a World Heritage Site in 2006 and certain steps have been taken to conserve its immediate surroundings. A green buffer zone has been created on three sides of the fort. A Comprehensive Conservation Master Plan (CCMP, refer notes) is under way for the conservation of Red Fort.
Fig. 1.14 Plan of the city and the fort showing the division of space into ‘Special’ and ‘Ordinary’.

Fig. 1.15 Plan of the city and the fort the thoroughfare splitting the space into two unequal divisions.

Fig. 1.16 Plan of the city showing the integration of open and built up space. The fort wall and the moat enclosed and protected its inhabitants just like the citywall.
1.4 Ideological Presence Of the Fort

PAST

Red Fort was undoubtedly the most important building in the city. The fort was the hub of all political, economic and cultural activities. The trends of the city were set in the fort. As microcosm, the palace fortress served as the model for the entire city. The general arrangement of mansions, mosques, shops and gardens in the city copied the layout of the buildings within the palace complex. Also the mansions of nobles and other important members of the imperial household followed the layout of the fort. The fort, thus became the role model for the development of the entire city of Shahjahanabad. Ideologically, the emperor in his fortress palace was the symbolic centre of the city. Many features of the fort echoed in the city on a larger scale. The analogy between the microcosm and the macrocosm also holds from the perspective of the city. Just as the fort suggests the city in miniature, the city is symbolic of the extended mansion of the emperor.

- Like the imperial residence, the city was also divided into two parts: special and ordinary. The palace fortress was the special area where all important matters of the state were dealt with while in the rest of the city outside the palace walls, the ordinary business of the state was conducted. The fort itself had a special area which was the abode of the royalty
- The main boulevard of the city (now called Chandni Chowk) divided the city into two unequal halves; the bigger part contained the more open, green spaces while the smaller part was the more densely built up space. The main artery in the fort also divided the space within the fort into two unequal parts with the bigger part being more open with many landscaped paradise gardens while the other smaller part housing the more densely built spaces.
- The spatial structure of the fort and city were closely knit. There was a close integration between built and open space with the generating element being the courtyard typology. Open spaces consisting of courtyards, streets and gardens were integrated and shaded by built form.
- The fort wall enclosed and protected its inhabitants just like the city wall. Both walls were surrounded by a deep moat which enhanced the security within the enclosed spaces.

Blake describes the city’s character as patrimonial-bureaucratic. The imperial household was the central institution and the city was an extension of that. While it was impossible to rule the entire state in the same manner, the capital city transformed into a patriarchal compound on which the emperor was able to stamp his mark. Blake sums it up as, ‘From the micro-perspective, the city was an enormously extended patriarchal household, the imperial palace fortress writ large.’

The fort was the hub of all political, economic and cultural hub of the city. The trends of the city and its people were set in the fort.

PRESENT

The fort has become a monument of national importance. On the eve of independence, the first prime minister of India addressed the nation from the ramparts of Lahori Gate. Since then it has become a ritual and it is done every year on Independence Day. Also the parade on Republic Day culminates at the Red Fort. Pre independence the fort was the venue of trials and executions of freedom fighters. Today it has the additional symbolic value of a national monument. There is hence an aspect of security involved and CISF has been hired for this purpose. There are about 300 security personnel present at the fort.

Red Fort was declared a World Heritage site in 2006 which imposes certain restrictions by A.S.I. The landuse plan has declared the following zones around the fort:

1. Prohibited Zone: This is the area within 100m of the monument which is declared completely non buildable.
2. Regulated Zone: This is the area within 200m of the fort where construction is possible but is regulated. Construction is allowed only by special permission from the Director General of ASI and is restricted to a height of 15metres.

Buildable Zone within and outside the fort:

Theoretically speaking there are two buildable zones within the fort walls which fall in the regulated zone category.
2. ANALYSIS AND REINTERPRETATION OF THE RED FORT

2.1 AT URBAN SCALE: THE FORT WITHIN THE CITY
Fig. 2.01 Morphological and Spatial Layout of the city and the fort in the past.
2. AT URBAN SCALE

The fort is analysed at 3 different scales zooming in consistently to arrive at an appropriate architectural intervention. The analysis is done with respect to its spatial configuration, usage (programme and circulation) and meaning. Each of these criteria is assessed in the past and present. Based on the analysis the situation is reinterpreted and presented as the proposed layout.

2.1 AT URBAN SCALE: THE FORT WITHIN THE CITY

At this scale the fort is analysed within the context of its setting, the city. The analysis is carried out with respect to the morphological and programmatic connection and the reinterpretation defines the programmatic and physical link that could be established between the fort and its context today.

2.1.1 SPATIAL AND MORPHOLOGICAL LAYOUT

PAST

To address the fort in its context, it is important to recollect that the fort was an integral part of the formal layout of the city of Shahjahanabad.

- Its position was extremely strategic with respect to the two axes represented by the boulevards. These axes continued within the fort in the form of Chhatta Bazaar and the bazaar along Dilli Gate axis.
- The continuity was further established in terms of progression of designed squares (chowks) on the axes connecting the city and the fort. These Chowks existed in the city as well as in the fort and culminated in the grand square facing the entrance to the court of justice (Diwan-i-am).
- There were geometrically laid out paradise

Fig 2.02 A painting showing the layout of the Fort.
Fig. 2.03 Morphological and Spatial Layout of the city and the fort in the present.
gardens that integrated with the built form within the city as well as the fort. These clearly marked voids further connected the city with the fort. Finally in its form, function and location, Red Fort was the climax of built form for Shahjahanabad with no possibility of any grander structure rearing up behind it was built on the banks of River Yamuna.

**PRESENT**

Much has changed now. The fort has a strong presence but its contextual position has changed drastically.

- The axes exist in the city but are not connected to the fort. Chandni Chowk (in the city) exists independently from Chhatta Bazaar (in the fort). The other axis in terms of Faiz Bazaar seems to be completely cut off as newer roads have been constructed in the vicinity of the fort. Within the fort Dilli Gate axis has completely disappeared. The boulevards in the city are today roads with heavy traffic.
- The progression of designed squares has transformed to traffic intersections at regular spacing.
- The paradise gardens have been replaced by clear voids in the dense fabric of the city.
- River Yamuna has changed its course and there is a new layer of vast greens which form the landscaped memorial gardens of Delhi (Shantivan, Vir Bhumi, Shakti Stala, Rajghat, Vijayghat).

The only surviving links are the morphological elements (buildings and other urban elements) in the city that are contemporary with the fort.

**PROPOSED**

In terms of its spatial connection with the city, the fort needs to revive its historic association. The surviving structures and urban features contemporary with the fort need to be experienced in continuity today to visualise their relationship. The most significant of these are Jama Masjid, Faiz Bazaar and Chandni Chowk as these were all conceived together as part of the formal infrastructure of Shahjahanabad.

- Chandni Chowk is instrumental in defining the location of Red Fort with respect to the city. Its link can be emphasized in the form of a direct pedestrian connection between the two such that they can be experienced in continuity.
- Faiz Bazaar exists but is completely cut off. The link can be re established in terms of the axis being redefined in the landscape. Any attempt to divert traffic or locate the footings of Akbarabadi Mosque have been shelved as it might instigate sectoral unrest in the area. the square that existed at the junction of this axis and the fort can be recreated to mark the axis.
- Jama Masjid is the only structure in the vicinity to match the scale and grandeur of the fort. It was linked through an indirect path via a boulevard called Khaas Bazaar. It can be relinked to the fort via the huge void between the city and the fort. But visually the link can be strengthened with the greens tending to merge on either side of the road (Netaji Subhash Marg). The road here can be sunk to consolidate the connection.
- The open spaces or voids that were
Fig. 2.04 Proposed Morphological and Spatial Layout of the city and the fort.
unconsciously created by the British around Jama Masjid and Red Fort have given these monuments the viewing distance they require with respect to their scale. Theory expanded by Hermann Maertens in Der Optische Masstab in den bildenden Kunsten gives the effect on perception of a viewer’s distance from the object, “At a distance equal to 4 times the height of the object, the viewer sees the object in the context of the city – at 3 times, it appears with the surroundings, a distance equal to twice the height gives the best view, anything closer makes an overall picture impossible.

These open spaces can be appropriately landscaped such that they provide recreation and relief to the densely packed urban fabric of Old Delhi.

Fig 2.05 Blow up of the fort and the area around it showing the proposed layout.
Fig 2.06 Proposed circulation of traffic (vehicular and pedestrian) in the city.
2.1.2 USAGE: CIRCULATION AND ACCESS:

Over the centuries, vehicular traffic has been superimposed on this otherwise dense, congested fabric of the seventeenth century city meant for carts and pedestrians. Also the ring of traffic around the fort has alienated it further from its setting. Hannah Arendt (in The Human Condition) sums it up as, “the public realm has been lost in modernity.”

- An important step in connecting the spatial elements and experiencing them in continuity would be to introduce pedestrianisation in certain zones of the city. To facilitate pedestrianisation, there needs to be appropriate landscaping and changes in the vehicular circulation and access.

- Parking should be restricted to the periphery, preferably underground, public transport to be encouraged and the connections from public transport to important destinations to be made pedestrian friendly.

- Chandni Chowk to be pedestrianised till Phuwara Chowk from where the metro station is connected. Plenty of shaded paths to be provided with tree plantations and use of awnings. Further Jama Masjid to be connected via a series of landscaped urban parks.

Fig 2.07 Painting showing the pedestrian movement along the main boulevard of Chandni Chowk in the past. Also seen is the central canal of Nahr-i bahisht.

Fig 2.06 The crowded street of Chandni Chowk today with heavy vehicular and pedestrian traffic.
Fig 2.08 The programmatic connection between the city and the fort in the past.
2.1.3 USAGE: PROGRAMME

The city is growing exponentially as a wholesale business centre with almost no realization of its rich cultural heritage. The fort, on the other hand, is a silent witness to history, its role becoming increasingly passive. If the fort and the city are to redefine their connection, history could provide useful clues.

Historically the programmatic links between the city and the fort were:
- Political: Existed between the ruler and the ruled.
- Socio-Cultural: There were interphases where the residents of the Fort interacted with the residents of the city.

As the political power declined, the fort increasingly became the hub of all art and cultural activities.
- Commercial: “The Fort also provided an economic mainstay for the city both as an employment center as well as a market”. Chandni Chowk was an extension of Chatta Bazaar within the fort. Faiz Bazaar was also a continuation of the commercial (production and retail) function along Dilli Gate axis (in the fort).
- Residential: While the city housed the ordinary people, the fort was the abode of the royalty. Some of the people who worked in the fort also lived there.

Today the programmatic link between the fort and the city are on the verge of being delinked with bare minimum in common.
- Tourism: Mainly for foreigners and non natives but on a limited scale considering the size and importance of the heritage site. The enclosed area of the fort is almost 400000 sq. m. out of which less than one fifth is open to tourists. There are about 250,000 visitors annually and the number is considered to be dwindling (almost by 30%). There are important touristic sites in the city like Jama Masjid and Chandni Chowk.
- Commercial: The scale of commercial activity in the fort and the city is completely lopsided. While the scale of transactions in Chatta Bazaar is limited (with 45 shops), the city is a massive wholesale hub for northern India (caters to almost 10% of the wholesale trade of textiles in India). (Kraft:2003: 54)
- Food: The city is also an important hub of popular traditional food. Indian cuisine is famous for its variety and use of traditional spices and herbs. People from all over the country throng the streets of Old Delhi to shop and eat. The location of the biggest spice market of Asia (Khari Baoli) and many traditional food outlets in the city further emphasize the importance of cuisine. The fort also has a restaurant, Daawat Khana which serves traditional Mughlai food.
Fig 2.10 The programmatic connection between the city and the fort in the present.
If the city and the fort were to re establish a programmatic link today, presence of past needs to be searched in the programmatic layout of the present. The traditional handicrafts of Shahjahanabad were ivory miniatures, jewellery, carvings in metal, blue pottery, engravings, gold and silver embroidery (Mukherji:2003:212). Some of these still survive and can be included in the programme.

The New Function:
The only programmatic link that the city has today with its past survives in the form of bazaars selling traditional products. These exist in the streets of Dariba Kalan (for jewellery and silverware), Kinari Bazaar (laces and accessories) and area around Jama Masjid (metalwork and products). There is also a variety of traditional food sold in kiosks across Shahjahanabad. Perhaps these offer a common ground to reprogramme the fort in a way that it reconnects with the city.

- To maintain the solemn sanctity of the fort, the programme needs to be of non sectoral and non commercial nature.
- The programme thus involves a blend of culture and academics and is capable of stimulating change, progression and can uplifting the city and re establish the steering role of the fort in its context.
- The new function is an Academy of Design whose aim is to develop and disseminate artistic culture in the city and at the same stimulate evolutionary change in design approach by reinterpretating the traditional culture of the city in contemporary terms.

The Academy is a highly prestigious institution that offers only higher education to students. The graduates could work as trend specialists, jewellery designers, graphic and fashion designers, stylists, product designers, editorial designers etc.

Programme includes:
1. Institutional Function: Lecture Halls, design studios, workshops, library, cafeteria, administration and reception area, exhibition spaces.
2. Support Function: Storage, services (toilets, mechanical rooms), parking.

Some students could even train in the city itself with jewellery making and creating other finery. An additional aspect is that of residential facility for the institution. This could be an initiative for gentrification of the city. While some professors and special needs students could be housed close to the Academy, others could find suitable accommodation in the city that the Academy could lease and enhance the process of gentrification.

Besides introducing a new function there is clearly a need to accentuate, facilitate and streamline the existing relationship between the monument and its visitors.
The programmatic connection between the city and the fort in the present-proposed...
DESIGN CONCEPT (at urban scale)
A cohesive and coherent plan needs to be put in place not only for the fort but also for the surrounding areas. Compatible functions need to be planned for the entire area to ensure the stronghold of ambience that promotes knowledge and cultural awareness.
The ideal location for the institutional function is the fort itself. A new function could redefine the role of Red Fort in today’s context. It could once again play a leading role in steering the city out of uncontrolled commercialization and reconnect it with its rich cultural heritage.
Red Fort could once again set the trend and let it echo in the city of Shahjahanabad.
2.2 INTERMEDIATE SCALE: AT THE SCALE OF THE FORT
Fig. 2.13 The underlying order and grid of the fort.

Fig. 2.14 The central axis divides the fort spatially into two identical octagons.

Fig. 2.15 Section through the axis of symmetry showing the main entrance (Lahore Gate), Chhatta Bazaar and the open court leading to Naqar Khana and then into the court facing the hall of Public Audience.
2.2.1 MORPHOLOGY and SPATIAL LAYOUT:

PAST
The morphology and spatial layout of the fort exhibited strong underlying concepts:

- ORDER: There was a defined spatial order in the arrangement of the buildings within the fort walls. The layout followed the axes and buildings were arranged orthogonally. The fort was planned on a system of axes, proportions and grids. Multiples of Shah jahani gaz (unit of measurement, actually 0.81-82m) was the spacing of the grid. Owing to the site conditions gaz was modified to 83.35m. The placing of important buildings is based on this system of axes, grids and proportions (Mukherji: 2003:94). The individual buildings within the fort show a large variety of forms, finishes and architectural elements, yet they coexist as an ordered, harmonious and unified whole.

- SYMMETRY: Even though the fort walls enclosed an asymmetrical area, the fort appeared symmetrical at perceivable level. The formal buildings within the fort and the open spaces created by them appeared symmetrical to the human eye. There was symmetry at perceivable level. Moreover, the central east-west axis divides the fort into two similar octagons.

- INTEGRATION OF OPEN AND BUILT UP SPACES: The spatial structure of the fort was closely knit. There was a close integration between built and open space with the generating element being the courtyard typology. Open spaces consisting of courtyards, streets and gardens were integrated and were of the size that could be shaded by the enclosing built form.

- SCALE: The fort was a monumental structure and the walls, gates and ceremonial open spaces followed a monumental scale. However, within this monumental scale, the individual built up and open spaces addressed the human scale.

- HIERARCHY: Morphologically the built up space of the fort shows a gradual transformation from massive solid outer walls of the fort to a completely open inner core.

![Diagram of the fort](image)

Fig. 2.16 Section through Diwan-i-am showing the 2 scales: Monumental and Human.
Fig. 2.17 Plan of the Red Fort at present showing structures belonging to 3 different periods.

Fig. 2.18 Segregating the 3 different layers of structures within the Red Fort.
PRE
E T
Only the walls, gates and a few pavilions of the Red Fort have survived. Thus the fort is a huge enclosed barren land dotted with a few isolated structures. Through the centuries the fort has transformed in function and morphology and has lost the integrity and order of the past. Many structures have been added over the centuries which has resulted in a very confused and disoriented landscape of the fort. The fort exhibits a layered history of 350 years. These structures can be delayered into three distinct periods:

1. **Mughal Period**: Original Buildings of Red Fort built between 1639 and 1857. Salimgarh Fort and a stepwell (*Afghani baoli*) are pre Mughal structures. There are 43 surviving Mughal buildings in the red fort today. Mughal buildings are protected monuments through the Ancient Monuments and Archaeological Remains Act as they represent the most significant phase of architecture in this context. This layer needs to be conserved.

With the removal of most of the Mughal buildings, the existing Mughal structures have also lost their context or setting. The open spaces that belonged to an order exist only as ‘anonymous spaces’. Subsequent construction of British barracks have further intruded on the spatial quality and in some situations formed new enclosures.

2. **British (Colonial) Period**: The buildings built for the British Army after they occupied the fort in 1857. There are about 61 period structures belonging to this layer in the fort. Although placed insensitively on the site they are representative of a century of British rule over India and form an important part of the 350 years of the history of the fort. In style, scale and presence these buildings seem intruding in the fort. Some of the Colonial barracks house offices and departments linked to ASI. However, the seemingly insensitive placement of the colonial barracks follows the same orientation as the Mughal buildings. Visually Zafar Mahal (central pavilion of Hayat Baksh Garden) sits in the centre of the enclosure created by the three storied barracks. The original pre Mughal axis was shifted by the British after the laying down of the railway tracks as the access bridge to Salimgarh Fort was moved. The Colonial Layer is suitable for adaptation and reuse.

3. **Modern**: Buildings and services made post independence for army, security personnel or Archaeological Survey of India. These are temporary sheds and are 337 in number. Modern buildings are built in an adhoc manner with no single ownership. These buildings have arisen in the cheapest and fastest way as and when the need arose. Their presence further diminishes the spatial quality in the fort. Externally the fort walls give the impression of an unharmed palace inside. Even the eastern elevation of the fort, formerly facing the river, has retained most of its original character. However, the morphology within the fort is a confused mixture of structures belonging to different periods and responding to different needs arranged in a seemingly random setting of pathways and trees.

Fig 2.19 The seemingly random placing of Colonial barracks seems to frame Zafar Mahal (central pavilion in the Hayat Baksh gardens).
Fig. 2.20 Overlapping of existing buildings on the original order of Red Fort.

Fig. 2.21. Superimposing the central core results in 4 broad zones within the fort.
PROPOSED SPATIAL AND MORPHOLOGICAL LAYOUT

- The Process of Delayering

More than 350 years have elapsed since the fort was constructed and it has become an accretion of structures over time. Any intervention in the fort needs to be preceded by an understanding of its historical layers. The process of delayering began by an understanding of Carlo Scarpa’s architectural intervention in Castelvecchio.

“Uncovering the complex history of Castelvecchio and responding to it in architectural sense involved not just designing but unravelling and clarifying the history that preceded the intervention.” - Richard Murphy.

As Carlo Scarpa delayered Castelvecchio almost like an archaeologist, he sought to lay bare the original construction. He removed some elements, restored others and interspersed new ones, all in an effort to reveal and clarify history.

Taking up a similar approach for the Red Fort, certain buildings are proposed to be demolished, while certain others are to be accentuated. There is a clear demarcation of the buildings in terms of their time period.

A detailed analysis of the existing buildings was carried out in CCMP (Comprehensive Conservation Master Plan for the Red Fort, refer appendix for details). The significance of all existing buildings belonging to the three historical layers (Mughal, Colonial and post independence) has been evaluated in terms of their historical, architectural and cultural presence. Inferences from the analyses were used in arriving at the following configuration. (refer Fig. 2.19)

Also to re-establish conceptual boundaries of the Mughal buildings, the solidity of the Colonial blocks needs to be underplayed.

- Reconnection with the Underlying Order

Historically, a strong underlying order marked the layout of the fort. In order to re-establish the original boundaries of the existing Mughal buildings the original plan and the present plan of Red Fort were juxtaposed. This led to the restoration of the open spaces and settings around the existing Mughal pavilions. In the process the presence of the open central core and the two axes became instrumental in defining order. Thus a new layer was interspersed in the form of a central framework and reconstruction of all Mughal Gardens (Chahar Bagh). This framework becomes necessary for orientation and interpretation of structures within the fort.

- Zoning of the fort

With the reintroduction of the central core and axes, the fort gets split into clear zones. Horizontally, the fort gets split into 2 zones. The zones in the lower half of the fort represent the special area of the fort and the upper half represents the ordinary area. Historically, zone A represents the informal, public area of the fort where the ordinary residents of the city lived and worked. Zone B, on the other hand, was the formal private area where the royalty lived. The left half which was the harem has not survived at all. This zone can be marked out for excavation of footings of the individual palaces within the harem. But the horizontal (Dilli Gate) axis needs to be re-established.

Vertical divisions render the fort into 3 zones: Zone 1 shows almost total absence of any Mughal structure today. The British built barrack here which were the quarters for married soldiers. Zone 2 is the central core which is the most important and sacred part of the fort. Fortunately, the Mughal pavilions in this core have survived the turbulent history and their contextual setting can be re-established through landscape. The vertical axis passing through Lahore Gate can be fully
Fig. 2.22 The retained structures in the fort when overlapped with recreation of all the open courts and gardens of the original layout amongst the mix of present structures results in increased legibility of the fort. Also vertically the fort can be spit into 3 zones.

Fig. 2.23 The proposed morphology of the fort.
re established with the surviving Mughal structures along this axis. In zone 3 all the layers of the fort can be experienced. The recreated royal gardens (Mahtab Bagh and Hayat Baksh), surviving Mughal pavilions, pre Mughal subterranean stepwell (Afghani Baoli) and the tallest Colonial barracks can be all seen in proximity with each other.

• Form of the framework

The framework in the form of a consistent carpet of uniform materialisation spreads across the fort defining the central core and recreating a sort of orientation and order in the layered morphology of the fort.

Since the fort is not a homogeneous structure, the framework changes form to respond to the particularity of every zone. Historically an arcade, it begins by enclosing the central court where the two axes meet. Here the framework creates an arcade with indigenous species of trees like Neem (Azadirachta indica). As it moves closer to historical buildings, the arcade diminishes and is visible only at the carpet level in the form of red sandstone paving. At other locations where architectural intervention is possible, the arcade takes the form of series of three dimensional arches or vaults. These denote the entrance of a recreated space.

Along the historical axis of Lahore Gate, it defines the setting of the existing historical buildings (including the forced juxtaposition of the Colonial blocks). However, Dilli Gate axis needs to be created from scratch because the original structures defining it no longer exist. This axis can be interspersed with points of interest and interpretation. It is along this axis that contemporary interventions can be added to define and highlight this axis as the cultural axis.

The framework, thus, becomes instrumental in interpreting the presence of past in the present.
Fig. 2.24 The hierarchial programmatic layout of the fort in the past.

Fig. 2.25 Programmatic Zoning of the Red Fort.
2.2.2 USAGE: PROGRAMMATIC

PAST
The axis running from Dilli Gate in the south to the north clearly split the fort into the special and ordinary zones. The ordinary zone faced the city and housed the people who lived and worked in this area. The special zone was the imperial residence. The southern half of the special area was built up with imperial palaces and pavilions while the northern half had the open recreational gardens. There was also a clear division of public and private zones. The functions within the fort exhibit a definite hierarchy from public spaces to increasingly private zones of the fort. The functions became increasingly private beyond the court of Diwan-i-am (Court of public audience). The ordinary citizens could not enter beyond the courtyard of the Hall of Public Audience. The Red fort was actually a lot more than just a fortress palace. “The Fort also provided an economic mainstay for the city both as an employment center as well as a market”. It housed a number of functions including residential, commercial, official/political, recreational and services.

PRESENT
The fort retained its original function for nearly 200 years. Subsequently it was transformed drastically from a fortress palace to a military cantonment by the British. After independence, the fort acquired a new role of symbolizing Indian independence. Twice a year the vast open space outside the fort is the venue for parade, once for Independence Day and at the Republic Day, the parade terminates at the Red Fort. The Indian army continued to stay at the Red fort till 2003 though a part of it was open to tourism. Today the Red Fort is a contested terrain in terms of its usage – a part of the Red Fort is open to tourists, a part is occupied by A.S.I and C.I.S.F while the rest is lying vacant perhaps awaiting a suitable proposition. The Red Fort comes under the Ministry of Culture and is currently being managed by A.S.I.

The different functions at the fort include tourism, commercial, cafeterias and museums. The following functions exist in the fort today:

- Offices: Many of the buildings house offices related to ASI like department of Archaeology, publication division of ASI. There are also security personnel (CISF) at the fort. There is temporary accommodation for some of them on site.
- Museum: There are 3 museums on site.
  1. Archaeological Museum (housed in Mumtaz Mahal and Naqar Khana).
  2. Indian War Memorial Museum (housed in one of the Colonial buildings).
- Services: There are 3 locations for toilets (near Chatta Bazaar, Naqar Khana and Moti Masjid). There are also 3 food outlets: (Chatta Bazaar Restaurant, Naqar Khana Canteen and a restaurant on the north eastern edge of the fort called Daawat Khana).
- Touristic/Heritage: The surviving Mughal buildings are frequented by tourists.
- Commercial: There are 45 shops in Chatta Bazaar.

PROPOSED PROGRAMME:
We must value our built heritage for what it is, what it displays and what it is capable of becoming without loss of its intrinsic aesthetic value or cultural significance. At this point it is important to understand the zones and layers of the fort. The morphological zones indicate their functions clearly. The morphological layers also indicate their usage, “Although some parts of a building may be so precious to us that they are conserved in a museum like state, other parts might need to adapt to become capable and viable otherwise they become redundant and deteriorate.” In the context of the fort, the Colonial buildings are ideal for reuse while Mughal buildings need to be conserved.

On overlapping the morphological zones with the functional layers, certain pockets are created within the fort.
- Zone A and B lack historical structures from the Mughal period. However the presence of Colonial structures and perhaps future interventions could accentuate the recreated Dilli gate axis. This axis could be the
Fig. 2.26 The circulation that emerges from the existing entry/exit points superimposed on the proposed morphology and programmatic zoning of the fort.
cultural axis interspersed with interventions that could redefine the cultural role of the fort. The existing Colonial buildings could house the formal lecture halls, conference rooms and cultural activities of interactive nature.

Zone C and D were the most formal parts of the fort, glimpses of which are visible in some of the existing pavilions and structures. Zone C is ideal for excavation of the footings of the palaces. The colonial buildings here could house ASI and the excavated finds. In Zone D the gardens and open spaces of the Mughal period can be recreated. The Colonial buildings could further display the artefacts by adapting a new function of being used as museums.

Zone E is the core of the fort, the setting of which is recreated. This core along with Mughal structures forms the most important part of the fort.

2.2.3 USAGE: CIRCULATION AND ACCESS POINTS

PAST
There were five gates within the Red Fort. Out of these, two were public gates, Lahore Gate was the main ceremonial public entry point, Dilli Gate was used mainly by the soldiers and other people who worked at the fort. The third gate was located below Mussaman Burj and was used exclusively by the Emperor when he arrived by boat on river Yamuna. Another riverside entrance was located below Asad Burj on the south east corner of the fort. This was connected with Dilli Gate by a semi public route (Rastah Bakht Burj) and was used for transporting goods brought by boats. The fifth gate was connected to Salimgarh Fort via a bridge.

The position of this gate was relocated when the railway line was laid down ad parts of Red Fort, Salimgarh Fort and the city had to be demolished.

PRESENT
There are two main entry points between the fort and the city:

1. Lahore Gate has always been the ‘ceremonial public entry’ and is even today used as the main entry point by public visiting the fort.
2. Dilli Gate entrance was mainly used by soldiers and other people working at the fort. Even today it exists as ‘selective entrance’ mainly used by the staff of ASI and CISF.

The gate connecting Salimgarh Fort via a bridge is also open to public since Salimgarh houses some prisons used by the freedom fighters. The other riverside entries have been locked for the purpose of conservation. However the entry under Asad Burj exists in a reasonably conserved state and there is a proposal to reopen this to connect the fort with the vast landscaped parks (CCMP).

PROPOSED CIRCULATION

The two axes are still the main circulation arteries. The historical ceremonial axis emphasizes the main touristic circulation while the cultural axis redefines the movement of people who are interested in other parts of the fort. This is used by people who work at the fort or who come to explore the newer functions of the fort. There is a new circulation created by an informal path that connects all the Mughal Gardens. Also the pockets of the fort can be approached from the central core of the fort.

Thus the proposed masterplan for the fort is a balance between zones marked for conservation, archaeological excavation, recreation and possible future interventions.
2.3 ARCHITECTURAL SCALE: BUILDING WITHIN THE FORT
Fig. 2.27 The three main morphological elements of the Academy block.

Fig. 2.28 Section through Dilli Gate axis showing the location of the Academy within the fort.
2.3.1 MORPHOLOGICAL AND SPATIAL LAYOUT

The new layer
This new layer is a carefully chosen new function in the fort. The physical form of this function reflects the layered morphology as well as the underlying principles of the fort. The architectural intervention intends to represent the conceptual as well as architectural interpretation of the fort in contemporary terms and appropriate that identity as the solemn study environment, a sanctuary for the cultivation and evolution of traditional design cultures.............

Jahanara, Academy of Design for revival and contemporary reinterpretation of traditional culture of Shahjahanabad.

Location within the fort
Its position in the fort is defined by the framework. Along the Dilli Gate axis, the new built form defines the periphery of an old formal structure in the zone for the ordinary people of the city. This zone was formerly the city within the fort and was defined by informal organisation of space. This rectangular demarcation is the only formal structure here. Its proximity to Dilli Gate gives it an additional advantage of separate and easy accessibility.

Juxtaposition of new vocabulary into a historical setting in this case becomes mutually beneficial by making history visible in the coexistence of the old and the new. Morphologically the building comprises of 3 important elements:

1. The arcade is a part of the larger infrastructure that defines the axes within the fort. The arcade is constructed in contemporary material and is expressed as a series of three dimensional arches (vaults). Though it defines the entrance to the Academy building, there is also a clear distance between the arcade and the building justifying their entities as separate and disjointed.

2. The orthogonal rectangular block which defines the footings of an old Mughal structure (refer fig.1.02). This is not symmetrical and is enclosed by a solid stone wall which defines the periphery.

3. The inner court which represents the Chahar Bagh with the pavilions placed symmetrically. Since chahar bagh is the Islamic quadripartite paradise garden it is a representation of perfection. It is marked by water channels, fountains, cascades and beautiful pavilions. To seek the perfect symmetry within the rectangular periphery, the axis of the chahar bagh is tilted to match the mid point of the entrance to the mid point of the opposite side. The pavilions follow the same orientation. This orientation coincides with the orientation of the mosques of Shahjahanabad (Jama Masjid and Moti Masjid). The form of the outer periphery responds to the orthogonal arrangement of the neighbourhood and the inner core responds to the inner order.
Fig. 2.29 The axis of the symmetrical Chahar Bagh court superimposed on the axes of the orthogonal block.

Fig. 2.30 Plan of Moti Masjid within the fort showing the tilt of the inner courtyard towards Mecca superimposed on the orthogonal axes of the peripheral walls.
2.3.2 THE PROGRAMME

Programmatic Relationship with the fort:
The programme for the Academy is based on the crafts that have survived in the city and an understanding of the functioning of Design Academy in Eindhoven. The areas are based on the number of students that can be accommodated in a premier institute for the revival of traditional handicrafts. The scale should not be confused with the scale of the fort. The Academy is only one proposed function of the fort that is perhaps capable of transforming the approach towards the fort and the city.

The programme, in scale, is like a drop of colour spread in the water but the intention is to colour the water completely.

Based on the Metric Handbook Planning and Design Data, the following areas were arrived at, [refer appendix for details].

1. Academic Areas (includes lecture rooms, seminar rooms, tutorial rooms, research rooms + Computer Room): 600 sq. mt
2. Workshops: 450 sq. mt.
4. Administration (includes conference room, space for administrative staff, reception): 600 sq. mt.
5. Library (includes reader space, book shelving and storage, administration and support facilities): 450 sq. mt.
7. Academic and Studio facilities for Cuisine: 300 sq. mt.
8. Exhibition Space + kiosks (for cuisine and commercial outlet for the Academy): (450 + 500) sq. mt.

Total Covered Area: 4310 + 33% for walls and circulation= 5813 sq. mt.

In the context of the Academy, additional spaces have been provided as semi open corridors where the students can work and interact. As a result of its morphology, additional corridors with water channels have been added and the total covered area of the Academy as per the design is: 7113 sq. mt.

Relationship between programme and morphology

"Architecture is the thoughtful making of spaces. It is the creating of spaces that evoke a feeling of appropriate use". Louis Kahn

The functions are appropriately placed in the building. The workshops, lecture halls and studios are meant for focussed work and are placed in the relatively closed spaces of the orthogonal block.

The corridors are wide and interactive. They are the spaces where the classrooms and workshops spill into a more open, relaxed environment. Louis Kahn talks about these corridors in the academic institutions designed by him, "By making the corridors wider, by allowing classroom time to these spaces instead of passage time from class to class, they would become a place of possibilities in self learning and add to the vitality of the institution."

The open courtyards in the chahar bagh arrangement are the open spaces within an enclosed form which are vital for creative thinking. Charles Correa describes these spaces under, “The Blessings of the Sky” as, “the best place to be in late evenings and early mornings. In India the sky has profoundly affected our relationship to built form. Hence the symbol of education has been the guru sitting under the tree. True enlightenment cannot be achieved with the closed box of a room. One needs outdoors, the open sky.”

The functions can be classified into 4 categories:

1. Academic Section: This includes lecture rooms, library, computer rooms, seminar rooms, tutorial rooms.
2. Workshops and Practical Areas: Workshops of important craft traditions (textile, jewellery, metal work) and Storage.
3. Cuisine and Food Section: Cuisine workshop, storage, lecture halls, studios with preparation room.
4. Administration and Exhibition Spaces: Space for administrative staff, academic staff and meeting/ conference room.

These are clustered around four courtyards which together form the Chahar Bagh configuration. The commercial outlets and kiosks for commercial purpose are located in the arcade.
Fig. 2.31 Plan and section of the Academy block showing the relationship between the programmatic layout and morphology. It also indicates the clear hierarchy of spaces from closed rooms to semi open corridors to completely open courtyards.
2.3.3 THE PROPOSAL
Building As a Contemporary Interpretation of the fort:
The built form represents interpretation of concepts and architectural elements present in the fort and its context in contemporary language. “It is about saying something new about something old.”
There were strong underlying principles in the original layout of the fort:
1. **ORDER:** Axes and geometry played an important role in the layout of the fort. In the Academy also the outer orthogonal layout responds to the layout of the fort while the inner court is aligned to another axis. This is formed by connecting the mid point of the entrance with the opposite side. Coincidentally this axis is close to the axis of the inner court of the mosques of Shahjahanabad (where the outer periphery responds to the orthogonal layout and the inner axis is oriented towards Mecca).
2. **SYMMETRY:** While the building encloses an asymmetrical area, the perceivable open spaces within appear symmetrical. To achieve symmetry within the asymmetrical peripheral form, the inner court tilts along with the symmetrically placed pavilions.
3. **HUMAN SCALE:** It is addressed in monumental scale: While the building appears monumental, the individual spaces are scaled down to address the human scale. Large courtyard enclosed by the built up space is also split into four to form Chahar Bagh. The monumental arcade that encloses the courtyard is followed by a ring of arches that address the human scale.
4. **INTEGRATION OF BUILT AND OPEN SPACES:** Close relationship between inside and outside with landscape and built form integrated.
5. **HIERARCHY:** Transition from solid outer walls to open core.

Fig. 2.32 Section of the Academy block showing the relationship between the programmatic layout and morphology.
Fig. 2.33 The new building with enclosing walls and gateways interpreted from the fort.
Fig. 2.34 Walls of Red Fort
Architectural elements in the fort were interpreted in contemporary terms:

1. Fort walls interspersed with towers: Strong enclosure defined by a solid wall outlining the periphery of the building. The wall is punctured at places to let the light in. The stark monotony of the walls is interrupted by wind towers. They have a strong presence in the architecture of Red Fort and Jama Masjid. In the Academy building these towers, besides articulating the exterior, have an additional function of cooling the inside of the building.

2. Gateways: Besides the cooling towers, the vast expanse of the enclosing wall is interrupted on each side by a gateway. These gateways are tall structures addressing the monumentality of the walls. However as the entrance is approached, the scale transforms through a progression of rhythmic movements to address the human scale with the jharokha (small balcony protruding out) above the entrance.

3. Arches: These are curved structural elements that were used to span openings. In India arch was introduced by the invading Islamic rulers. The arch, later became stylised and came to be associated with a particular dynasty or style of architecture. In the red fort there are arches belonging to Mughal and Colonial period. The arch has been interpreted as it was first conceived by the Romans, a semi circular form. This arch when overlapped produces a relatively stylised arch within. In this juxtaposition the arch is visible as a geometrical form which when played around with produces other forms that symbolise architectural styles and dynasties. Arches have been used in the Academy building at different places:
   - The monumental arches articulate the courtyard, addressing the scale, function and concept of arches today.
   - The smaller terracotta arches articulate the inner corridor, creating spaces within that...
Fig. 2.41 Entrance Gate of the Red Fort (Lahore Gate).

Fig. 2.42 Open pavilion in the fort next to the water channel.

Fig. 2.43 diwan-i-khas designed as a pavilion.

Fig. 2.38, 39, 40
Detail of the Pavilion with a view of the tensile structure.
address the human scale.

- The arcade outside represents a series of three dimensional arches (vaults) in contemporary material.

4. *Chahar Bagh* (quadripartite gardens) with water channels and fountains: The paradise gardens were defined by the presence of water, geometrical pathways and beautiful greens arranged in a symmetrical order. The four pavilions are also aligned to the orientation of the *Chahar Bagh*. There is an arrangement of fountains, cascades and water channels that integrates with the pathways and pavilions. The 4 open courtyards are green and symbolise the geometry of the gardens in the *Chahar Bagh* of the fort.

5. Pavilions: The pavilions in the *Chahar Bagh* of Red Fort are covered structures open on all sides that offer a view of the exquisite gardens. The pavilions, in the context of Indian architecture, were also referred to as ‘*Chhatris*’ or umbrellas.

The pavilion in the Academy is the only open structure in the enclosed introvert scheme that offers a view of the outside world. In the overall morphology of the building these are the voids in the dense rectangular block. Built with tensile material, the pavilions are inverted *chhatris* to symbolise the open structures or clear voids in the building.

6. Tensile Structures: As is suggested by paintings and other literary sources, large cloth canopies were installed beyond the buildings and pavilions to create large sheltered open spaces. This was in response to the high temperature in Delhi during hot summer months. There were ‘*shamianas and kanats*’ projected over pavilions. Besides during peaceful times the army stationed itself in the large open space outside Lahori Gate and lived in tents. The tents have been interpreted in form and material in contemporary terms.

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Fig. 2.44 Plan, Elevation and Section of the Pavilion Building.
fig. 2.45 Section through the Academy showing layered materialisation.
Materialisation:

According to Technologies of Architecture, (ToA 5, History, Performance and Conservation, chap 46, Principles, Ethics and Criteria of Conservation), the intervention should portray a complete ‘absence of deception’ which is defined as

Absence of Deception: The guiding principle here is that intervention work should be obvious to the trained eye without detracting from the overall impression of completeness to a lay observer.

The building is made of the same material as the fort and the newer materials used also blend in colour and texture. Materialisation reflects the authenticity of the structure and is built of the same material that is visible externally.

Further the layered morphology is interpreted in the layered materialisation of the building.

The outer defining wall is made of the same material as the fort walls, rough red sandstone. The layering of the sandstone follows the same pattern.

The intermediate layer is a neutral, timeless yet contemporary material, the brick. Historically, the pavilions were made of marble and depicted the highest level of craftsmanship.

The innermost layer houses the pavilions and uses a stone whose finish is the product of technology today, polished granite.
Fig. 2.46 Circulation and Cooling of Air within the Building through the Wind Shafts.

Fig. 2.47 Air Cooling for Ground Floor (A)  
Air Cooling for First Floor (B).

Fig. 2.48 Section through the building showing the circulation of air.

Air Flow on First Floor
Air Flow on Second Floor
Morphology and Spatial Order as a Response to the Context Today

Morphology of the building is a carefully sculptured response to a highly imposing context, a physical form that blends with its context externally. In the internal arrangement it represents the underlying order of the fort, constantly drawing analogy with individual elements and features of the fort and the city interpreting them in today’s context. The culmination of this process is an identity that is perhaps a representation of the Red Fort today in terms of its layered morphology and contemporary meaning. The building, in its morphology and functioning addresses the contemporary issues of environment as well. The introvert building with the courtyard as the centre of this inner world becomes a reservoir of cool air. The courtyard is of the size that can be shaded by the enclosing built form and remains cool in the morning and evening. The presence of trees and water channels further cool it. The courtyards are surrounded by loggia running around them which block direct sunlight from entering these spaces as well as the rooms inside. The rooms are enclosed by a thick stone wall with openings provided for light only. Delhi, being in proximity to the arid region, has hot and dry weather conditions for as long as 9 to 10 months in a year. This can be counteracted by air cooling which involves movement of air and cooling of air by introducing water. Traditionally, wind shafts were built in the mansions of Shahjanabad (Varma: 1992: 34). Similar structures have also been used in Persia (Qanat badghir) and the Gulf. These structures are used in closed introvert buildings and stand tall (between 10 to 15m) to catch cooler wind (Kay: 1991: 14). The openings at the top of these towers are small which helps in cooling the air further. In a contemporary setting these have been installed with blowers that make the air pass over cool water before being thrown into the rooms. A network of these provide cool air into the whole building. Each of these towers open either on the ground floor or first floor. The rooms are constantly being ventilated with higher openings on the opposite side. Further the sun comes into the building to provide enough light. The deep corridors while keeping the building cool get enough light through the clerestorey windows of the roof at three different levels. Further interpretations of traditional architectural concepts and elements of the fort and the city were made using technology, materials and understanding of requirements. All this was juxtaposed with an awareness and intention of conserving and correlating the built as well as the unbuilt environment into a balanced whole.

The Academy is a chapter in the masterplan of the Red Fort, an indicative project in addressing the presence of the past in the present.
3. SYNTHESIS
3. SYNTHESIS

The Design Process: a Reflection

Design as a process involves opening up possibilities, understanding the issues involved by analysing and synthesizing into a form that reflects this assimilation. The journey of recovering the Red Fort in its spatial and chronological context has addressed all these stages. At every stage, there was a decision made on the understanding of the issues involved and the process of design continued. Given the time frame of the present, the journey has culminated here but the journey of interpreting the past in present is endless and will go on into the future.

The Beginning
The journey began with a need to initiate a process that would uplift the historical city of Shahjahanabad from uncontrolled commercialisation and urbanisation and reconnect it with its historical and cultural roots. An understanding of the history and transformation of the city implied a direct rather steering role of the Red Fort in the context of the city. An understanding of the fort confirmed its role as a microcosm of the city. However drastic twists and turns of history have disconnected the city as well as the fort from each other as well as their cultural heritage. Clues were taken from historical sources and the threads of continuity located in the city as well as the fort. Spatially and programatically these threads were woven together to initiate a programme to revitalise the fort such that it would reconnect with its estranged context (the city) as well as relocate itself in the entangled periods of its history. This became the starting point of the graduation project but the journey ahead had much to assimilate.

The Challenges
"In many works where restoration and respect for the old are involved, a loss of nerve takes over and then you see it's a kind of bowing down and not a hope for another generation."

There were many such issues that had to be addressed in the context of the Red Fort: there were issues of conservation (of buildings belonging to different periods of history), archaeological excavation (of the layers of footings underneath) and most importantly understanding the extent of intervention in a complex of this nature. Various other forces came into play: there were ongoing projects in the fort as well as the city, being a World Heritage Site imposes certain restrictions on the level of intervention, Archaeological Survey of India also formulates guidelines for its usage. An understanding of the conservationists’ point of view helped to identify the extent and issues involved in intervening in a historical fabric.

"If we are to value our built environment, we need to understand it, how and why it was formed and how it needs to be conserved, not only in respect for the past, but also for the benefit of future generations". A clear understanding of the history of the fort and its spatial configuration through the twists and turns of time provided a base.

However, the built environment in this case is a record of 350 years of eventful history. Every period had left its mark and the fort is a fossil record of historical moments, both pleasant and unpleasant. "Conservation is valuing the built environment for what it offers both as a resource for understanding history as well as a resource for use." The next challenge was to interpret history in a way that each morphological layer is visible as separate and is in the correct perspective in terms of its significance in the history of the fort. "While some parts may be so precious that they are conserved in a museum like state, other parts might need to adapt to be capable of viable use".

Delayering the fort meant using tools to enhance the original layout of the fort and defy the solidity of the subsequent layers. This was done by recreating the central core of the fort with the two perpendicular axes. Since the intervention was already taking up a physical configuration and location within the fort, the next challenge was the architectonic language
of this intervention. An understanding of Carlo Scarpa’s intervention in the historic building of Castelvecchio guided the next phase. He saw integrity not in the return of a building to some original state but in respect for the gradual accretion of things that made it a whole. Scarpa’s new constructions are inserted into old structures. His additive elements were constructed using materials, techniques and criteria of our own time. This further led to the challenge of understanding the contemporary language which itself had gone through phases of modernism and post modernism. Over these transformations, contemporary language has assumed a universal character which makes it more difficult to address the particularity of such a strong context. The uniqueness of belonging within such a strong enclosure had to be brought out.

There have been historic interpretations of traditional architecture in India. Lutyens’ New Delhi and Le Corbusier’s Chandigarh have been inspired from very strong Indian context. Their interpretations had set the trend for Indian architecture for years to come. But all contemporary interpretations address a certain time frame. In the 21st century, the time frame has changed again and the architectural language needed to address this time frame. Contemporary issues and understanding of environment also needed attention at the same time.

**The Culmination**

Louis Kahn sums it up as—“The process of design begins with the immeasurable, goes through the measurable and culminates in the immeasurable’’.

The analysis and understanding culminated in an entity that could address the past in the present, use a contemporary language of technology, materials and understand larger issues yet stay rooted in tradition. This identity could act as the interface of past and present and lead into the future as an indicative project. “The presence of past in the present attains new meanings over time”. It is this realisation that conveys the continuity of such a project. The process of recovering the Red fort in its spatial and chronological dimensions has not ended with this graduation project. But it has perhaps given an insight into possibilities that could emerge from an overall understanding of such a site.

The Red fort has been a fossil record of layered memories. I earnestly hope that this graduation project can help Red fort open its gates to anticipation..... but care has to be taken to maintain its overall presence and most importantly to keep it connected in space and time. With this hope I end this graduation report.
Abbreviations and Notes
Some of the abbreviations that have been used in this document are:
ASI: Archaeological Survey of India
CISF: Central Industrial Security Force
CCMP: Comprehensive Conservation Management Plan

Some of the terms that have been used are:

1. **Chahar Bagh:** (Persian, four gardens) Quadripartite garden enclosure with a cruciform plan.

2. **Jharokha:** A small balcony overlooking an open space.

3. **Chowk:** A square or open space usually with reference to urban architecture.

4. **Bazaar:** A boulevard or market place along a street

5. **Chhatri:** An umbrella, also refers to pavilion covered by a dome which is open on all sides.
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Appendix

CCMP

The Red Fort has been declared a World Heritage Site. In an effort to conserve the monument, a plan has been prepared in a joint effort by ASI and CRCI. A detailed analysis of existing buildings in the Red Fort was done in this report. Some of the conclusions from CCMP were referred to for deciding on the viability of certain structures within the Fort. Some drawings from the document are as under:

The recommended programme for historic building conservation emerged after correlating the values of buildings with documentation and condition assessment for civil and decorative surfaces as part of the detailed conservation plan (see section 6B). It is important to note that each building received two assessments: the value and condition of its physical structure, and the value and condition of its decorative surfaces (see section 6A, information in HBIS). Both assessments have been considered when preparing the programme and priority for action plan. For example, a building might require immediate work on the conservation of its decorative elements, while its structural conservation may be undertaken at a later phase. Therefore, the historic building conservation plan outlines a conservation methodology for buildings and one for decorative surfaces. Risk assessment is another important factor that is contributing to the conservation plan and its implementation.

Figure 10-4: Structural Condition Assessment, CCMP 2006

<table>
<thead>
<tr>
<th>Structural Condition</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory</td>
<td>Brown</td>
</tr>
<tr>
<td>Average state</td>
<td>Black</td>
</tr>
<tr>
<td>Serious state</td>
<td>Grey</td>
</tr>
</tbody>
</table>
A: Conservation methodology for civil works

In order to propose an appropriate conservation plan for the historic built fabric of the site, all buildings – Mughal, colonial and modern – were researched, surveyed and documented to determine their historical, associational, architectural, artistic, educational, and locational values. For each value, the buildings have been given a rating of 'unique', 'average' or 'none'. The classification of values is briefly described below:

1 Historical value:

Mughal buildings were rated as unique, colonial buildings as average, and Modern buildings as having no historical value.

Figure 10.5: Historical Value Assessment, CCMP 2006

HISTORICAL VALUE

- Unique
- Average
- None
2. **Associational value:**

Buildings that housed Mughal activity and those that have direct association and/or were the venue of significant historic events (the buildings that were the site of the trial and imprisonment of Azad Hind Fauj soldiers during the national freedom movement) have been rated as unique.
3. Architectural value:

Multiple criteria were used to assess the architectural value of buildings. Given that the site has buildings which belong to three periods, Mughal, colonial and modern, the architectural value of a given building has been determined by its authenticity; whether it is representative of a certain style; its contribution to an understanding of a particular period of architecture; its relation to the earlier layers of history (whether it disturbs the architectural or the spatial character of an important component of the site).
4. **Artistic value:**

Assessment of the artistic value of buildings was based on a survey and assessment of their extant decorative features. Decorative elements need not be from the original period of construction of a building to receive a 'unique' rating. For example, the ceiling of the Diwan-i-Khas has been classified as of 'unique' value even though it was introduced in the British period.
5. Educational value:

The educational value of a building has been determined by how the building contributes to the overall significance of the site and how it can be used to tell the multi-layered history of the site. Educational value has not been determined by the age of the structure. Buildings from all periods – Mughal, colonial and modern – have an educational value. All buildings with educational value should be incorporated into the site interpretation plan.

Figure 10.9: Educational Value Assessment, CCMP 2006

EDUCATIONAL VALUE

- Unique
- Average
- None
6. **Locational value:**

Locational value has been determined by the location of the building in relation to visitor movement. Buildings that are currently situated in key visitor areas, as well as those that lie in areas that will be accessible to visitors in the future, have a higher locational value than those that will not be seen by visitors.

**Figure 10.10: Locational Value Assessment, CCMP 2006**

**VISIBILITY**
- High
- Medium
- Low
**Area Calculation**

The number of students in the Academy is based on analysis of similar institutions in Delhi (between 300 and 500) and the Design Academy, Eindhoven (640 undergraduates and 60 graduates).

The Academy could cater to 300 students for design and another 150 students for cuisine. The areas have been calculated for these number of students based on Metric Handbook Planning and Design Data, the following areas were arrived at (pg 29-5).

1. Academic Areas (includes lecture rooms, seminar rooms, tutorial rooms, research rooms + Computer Room): 450 + 150 = 600 sq. mt.
   
   This is based on the calculation of 2 sq. mt per student. (1.15 for academic space + 0.35 for tutorial space + 0.40 for support space)

2. Workshops: 450 sq. mt. This is based on 1.5 sq. mt per student.


4. Administration (includes conference room, space for administrative staff, reception): 600 sq. mt. Calculated @ 0.75 sq. mt per student (0.45 sq. mt for central admin. and 0.25 sq. mt for maintenance).

5. Library (includes reader space, book shelving and storage, administration and support facilities): 450 sq. mt. (reader space @ 0.35 sq. mt + shelving space @ 0.5 sq. mt + admin. and support @ 0.15 sq. mt per student).

6. Kitchen + Cafetaria: 200 sq. mt. (@ 0.45 sq. mt per student).

7. Academic and Studio facilities for Cuisine: 300 sq. mt.

8. Exhibition Space + kiosks (for cuisine and commercial outlet for the Academy): (450 + 500) sq. mt.


**Total Covered Area:** 4360 + 33% for walls and circulation = 5813 sq. mt.

In the context of the Academy, additional spaces have been provided as semi open corridors where the students can work and interact. As a result of its morphology, additional corridors with water channels have been added and the total covered area of the Academy as per the design is: 7113 sq. mt