

# COGNITIVE ASPECTS OF VISUAL ELEMENTS IN PUBLIC OPEN SPACES

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Guide : Prof . Ravi Hazra

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**COGNITIVE ASPECTS OF VISUAL  
ELEMENTS IN PUBLIC OPEN SPACES**

Special Project

By Zoeb Kanorwalla

Guide : Prof. Ravi Hazra

Submitted in partial fulfillment of the requirements  
for the Masters degree in Industrial Design

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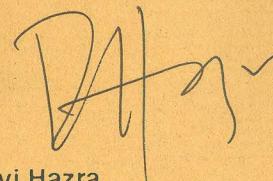
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## APPROVAL SHEET

Special project entitled "Cognitive aspects of visual elements in public open spaces " By Zoeb H Kanorwalla is approved in partial fulfillment of the requirements of the Master of Design Degree in Industrial Design.

Guide :

Prof. Ravi Hazra.



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Zoeb Kanorwalla

March 1996

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### Introduction

Public spaces are crucial components of the city both in terms of the physical as well as social function they serve. These spaces not only form the image of the city, but people coexist within this space in the presence of the various visual elements it offers and the manner in which they are perceived. The purpose of this project is to provide an understanding of existing public spaces in Bombay and to study the cognitive aspects of the numerous visual elements in the open public spaces. To achieve this it is essential to articulate the different visual elements in a select set of places and make a comparative analysis to get a deeper insight into the visual elements and their perception and varying interpretations.

### What is a Public place ?

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A public place is any place open or otherwise where people go to in order to entertain, relax or generally to seek fulfillment of their social needs and supplement the deficiency of the house and work environment.

Sometimes it is left over land and the problem sites, that become raw material for urban spaces. Our vernacular past is rich with visually satisfying environments whose development was based on a leisurely sequence of growth. Today, development is rapid and changes come swiftly within a few years. Public places have essentially to do with space, which is basically formed by the relationship between an object and a human being who perceives it. When architectural space is considered, the relationship is affected by olfaction, audition and tactility. Rain wind and sunshine affect it too.

Exterior space is separated from nature by a frame and within this created frame there lies a centripetal order with all elements directed towards the center unlike nature where everything is directed outwards.

This frame or space is brimming with human intention and function. It is these public spaces which offer to its citizens a place to interact with each other in their moments of leisure and relaxation. In the absence of such public spaces the city life begins to feel scary, isolated, fraught with anonymous danger.

The famous Greek architect - planner Constantin Doxiadis wrote, "Public space is the stage upon which the drama of a city's community unfolds. The streets, chowks, parks of a city give form to the ebb and flow of human exchange. These dynamic spaces are an essential counterpart to the more rapidly settled places, the routines of work and home life. They provide the channels for movement, the nodes of communication, and common grounds for play and relaxation."

Public spaces should be responsive, democratic and meaningful. Responsive spaces protect the rights of user groups. These are accessible to all groups and provide for freedom of action and also for temporary claim and ownership. It offers a sense of power and control limited only by the rights of others.

Meaningful spaces allow people to make strong connections between the place, their personal lives and the larger world, and maybe to one's own history or future or to one's culture. By the build up of overlapping memories of individual and shared experience a place becomes "sacred" to a community. The Banganga Tank, Mount Mary church, etc are examples.

Cognition of any place varies with each individual's experience of that place and as such every individual subconsciously develops an image of the place, relating himself to the various aspects that make up the place. Thus he creates a definition of the place based on its character, its mood, the purpose and the function it serves. Consequently the way a person perceives a place and relates himself to it varies largely from place to place. The character, mood and function of Victoria Terminus station differs from Shivaji park which again differs from Banganga. Therefore it is these visual elements and their language which creates its own identity in our minds. Besides sustaining interest and expectation the existence of landmarks, unusual structures, street furniture, monuments etc. in a place create a grammar of their own and so the statement made by a place is strengthened by its punctuating elements.

Every place has a physical and visual boundary which is created by the very sense of that place. It may be due to the structures around, the change of scale, the variation in age, in style, colour, or natural landscape, thus creating either a physical or visual enclosure. Besides these aspects, the surface we tread on, adds another dimension to our comprehension of a place i.e. the paving, the texture of surface, the colour, pattern, the softness or hardness, the ascent or descent etc. which again relate differently.

The advertisements, signages, hoardings are strong features essential in a city which can assist in the functional aspects of a place eg. Directional signs, information signages but an excess and haphazard presence of these create a visual chaos and noise which may overshadow other intended visual elements thus disturbing the very meaning of a place.

Now we shall have a brief idea of the various cognitive aspects of the visual elements in the three places in the following pages.

### Bombay City

Bombay is gritty, impossible, unforgettable place. It has child beggars, pavement sleepers and sprawling urban slums; noise, tangled traffic, sky scrapers, fashionable apartment blocks; the very poor, who have migrated from villages in the surrounding regions to seek better fortune; and the very rich-merchants, industrialists, film stars. It is also, in a very special sense, India's most cosmopolitan city. The Indian subcontinent is the home of peoples as diverse, ethnically and in terms of language and custom, as those of all the countries of Europe put together; and no city is more representative of this diversity than Bombay, to which people from almost all parts of the country have gravitated.

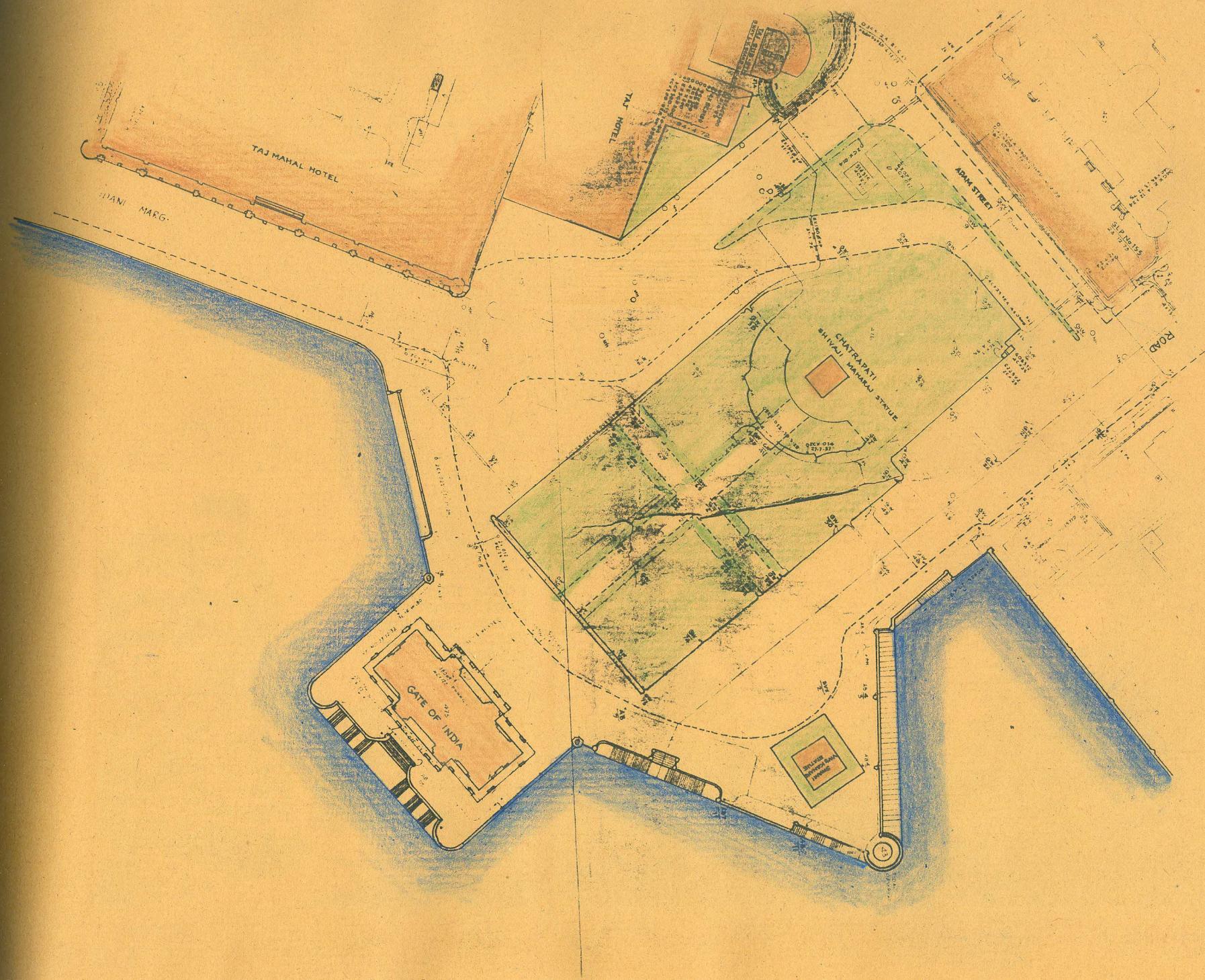
Among the numerous public spaces in Bombay, the three places chosen for case studies for this project are The Gateway Of India, Flora Fountain and Banganga which are very different in nature and provide an array of visual elements with varying cognitive aspects .

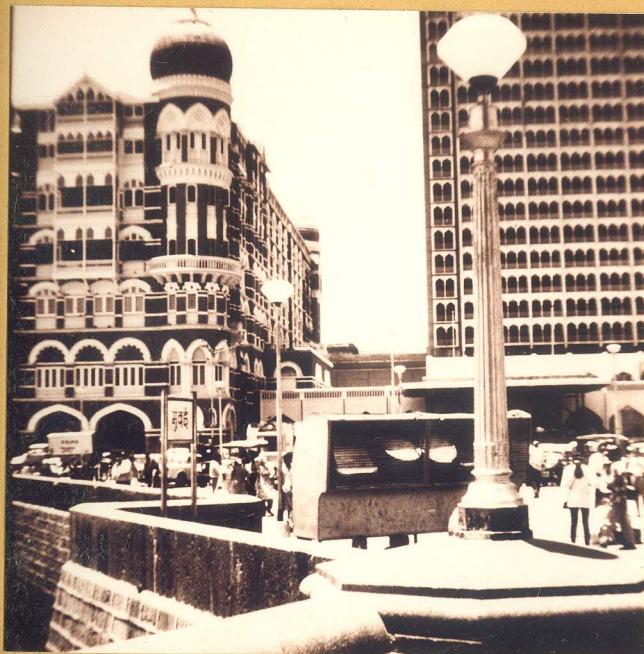


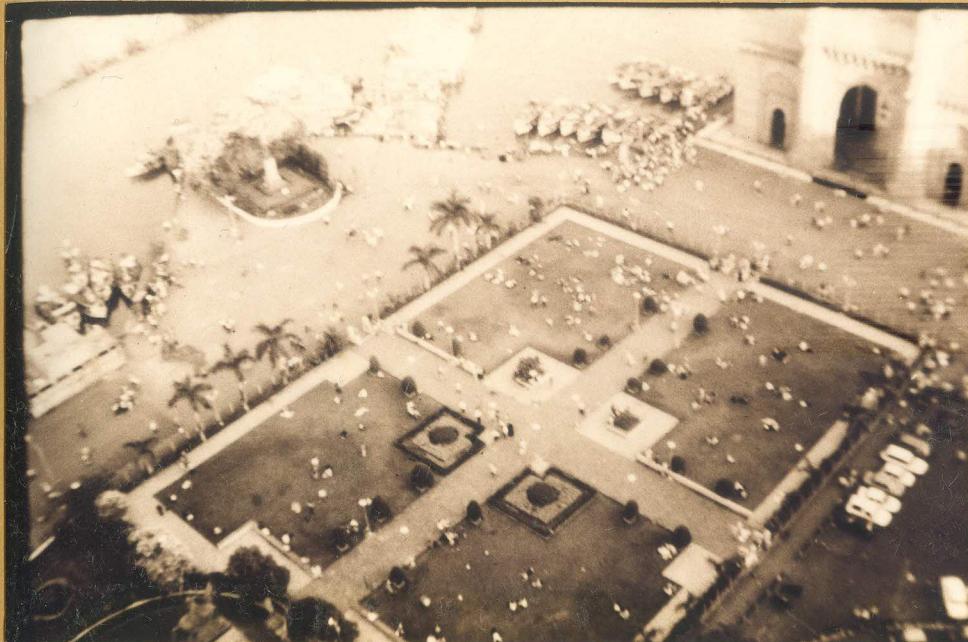
### THE GATEWAY OF INDIA

A series of bunders, or piers, protrudes into the harbour, the oldest of these being Apollo Bunder. In the heyday of the British Raj, passengers from Europe would disembark at Apollo Bunder and, that era is recalled by a triumphal arch erected here to commemorate the arrival of King George V and Queen Mary on state visit in 1911. Constructed of yellow basalt and completed in 1924, the massive arch is known as the Gateway Of India. Perched at the end of the bunder, it serves no practical purpose but is regarded as symbol of Bombay itself.

On the Colaba sea front facing the Gateway stands the Taj Mahal Hotel, opened in 1903. The "Taj" was the first building recognized by sea voyagers as they approached the city.



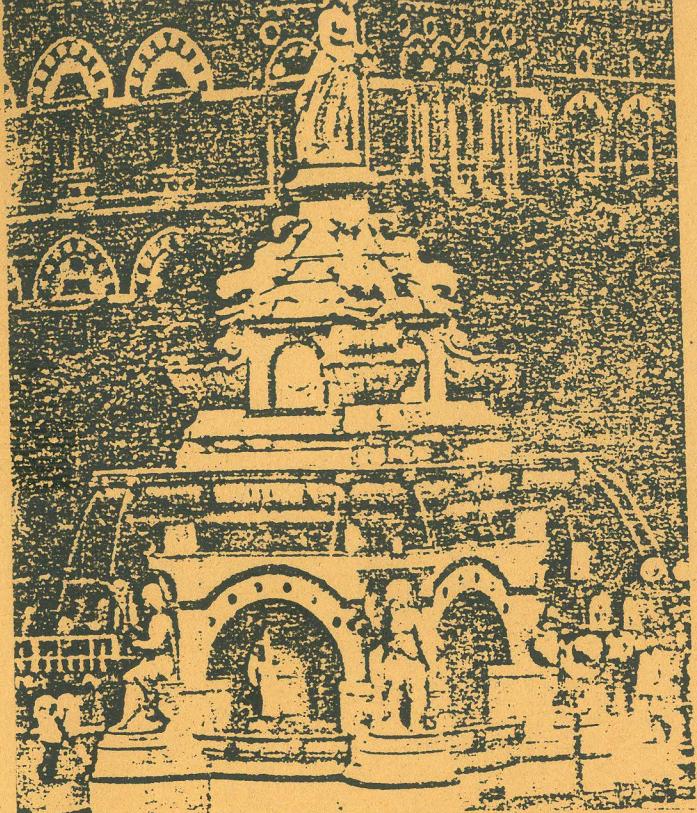




The Gateway obviously provides a strong relation to our history. This single monument embraces maximum visual form at the site. The enclosure of the space is partly defined by the buildings around and partly infinite due to the sea which extends upto the horizon. The garden occupies a large bulk of the space in front of the monument. The monument projects into a space.

The Gateway Of India is one of the major tourist spots in Bombay. It is a magnet for tourists and leisure activities. The age of the monument relates to the age of the city and gives a sense of maturity to the place. The space has a monumental scale. The natural landscape forms the boundary. The ships and harbour lend a visual character to the space.

The approach to gateway is not very eventful or rhythmic since the monument is visible as soon as we enter the space, that is the element of mystery is not sustained. This public place is characterized by continuity of movement of people. The pattern of movement of people is partly defined around the monument but quite random otherwise. Public activity is dominant with adults and children, hawkers, and foreigners, on the move all the time. There is also a partial conflict between pedestrians and automobiles.



### THE FLORA FOUNTAIN

A monument of the Victorian era stands at the center of Fort: Flora Fountain, an ornate structure in dull stone decorated at its four corners with mythological figures and topped by a representation of Flora, the Roman goddess of flowers. Erected in honour of a British Governor of the city, Sir Bartle Frere, it was placed in position in 1869 at the conjunction of five broad thoroughfares. Now we also have a monument of Hutatma in the same space adjacent to the flora fountain and besides this there is a state map cascading down 9 levels. not very legible five feet above the ground with a token tilt for the passerby. With hardly any room for people there is however place for 150 Cars, Pay and Park. Three collection cubicles too. The place is surrounded with neo Gothic structures.



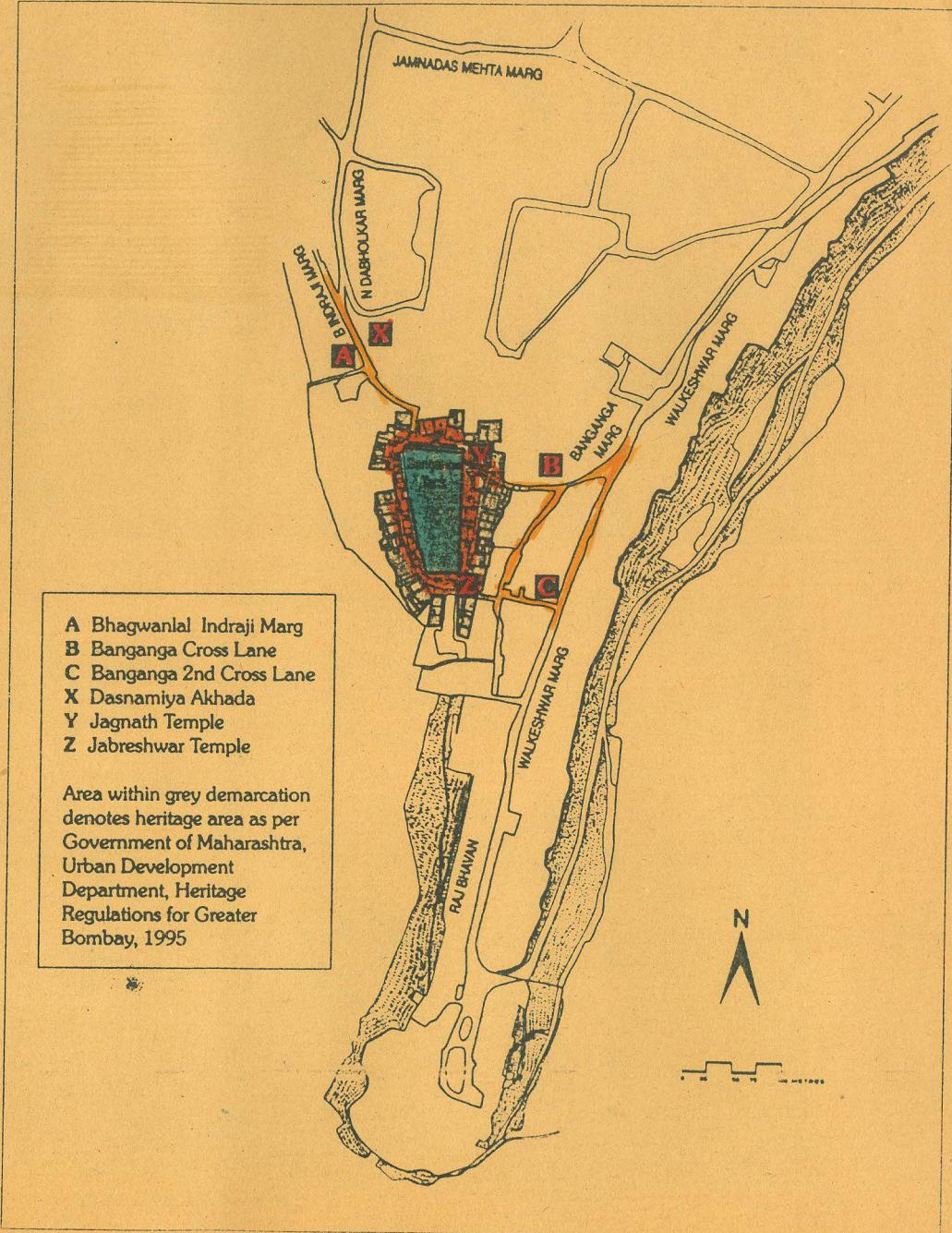
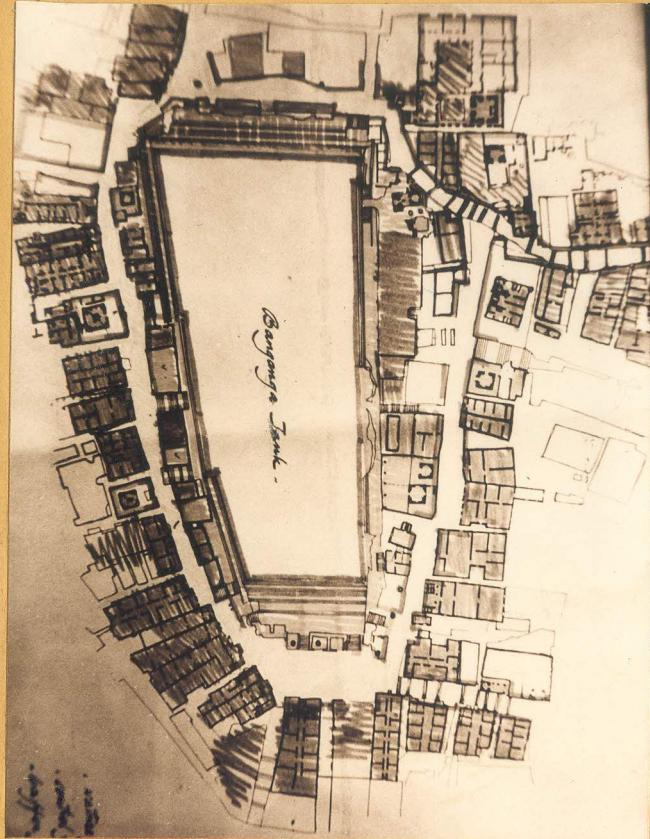


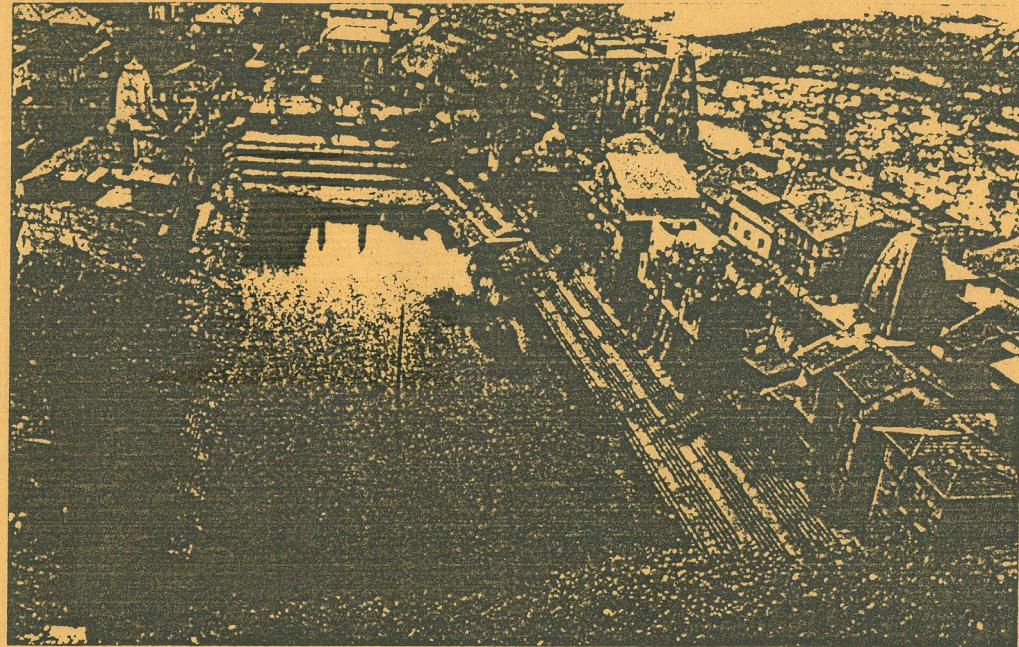
Flora Fountain has a strong architectural and urban identity. The focal site intended earlier has been disturbed by the presence of the Hutatma statue. The enclosure is well defined. In this case the monument is constructed within the space. Flora Fountain is a commercial magnet of the city. The buildings form the boundary. Vehicles and people add character which are further characterized by the presence of innumerable advertisements. The age of the buildings reflects upon the age of the enclosure and the area. The space here has a urban scale smaller than the monumental scale of the Gateway of India. The nucleus in the center is the focal point intended but disturbed. It is characterized by the continuity of use and purpose. The patterns of movement of people is very restricted and lack of democratic attitude in the space. There is extensive public activity and immense conflict between pedestrians and automobiles thus giving a confusing circulation element.

## BANGANGA

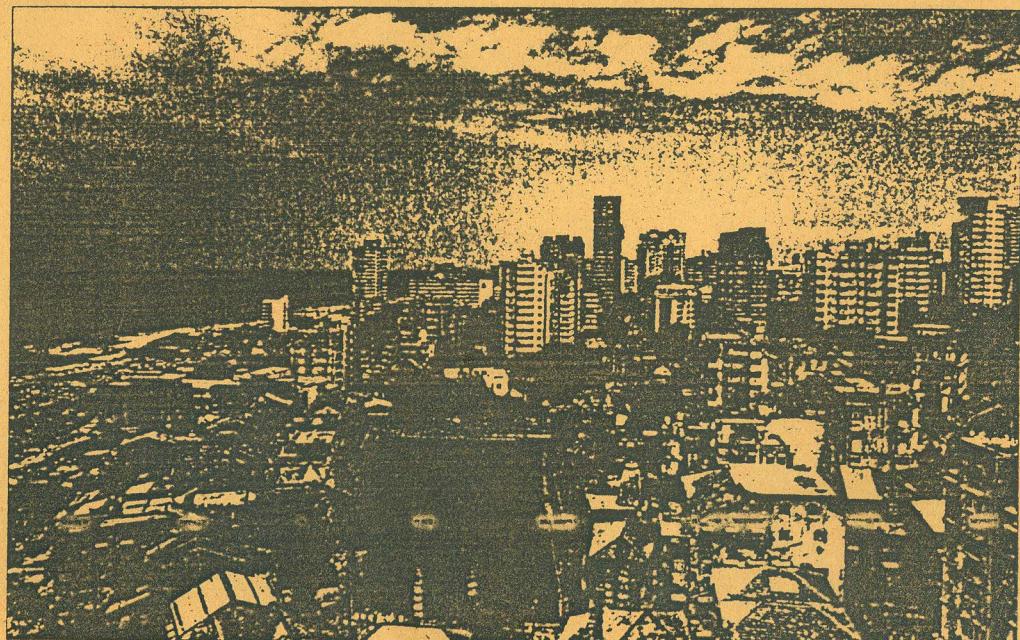
### Its Sacred origin

Banganga is a water basin situated at the heart of the village of Walkeshwar. A pilgrimage place for about 1000 years, its legendary origin is based on a episode in the epic tale of Rama Dasarathi the seventh incarnation of lord Vishnu. The name Banganga is derived from "Bana" arrow, and "Ganga" the sacred stream. It is believed that Ram shot an arrow into the ground when he was thirsty, the spring he thus created is the source of Banganga tank rising in the NorthEast corner.

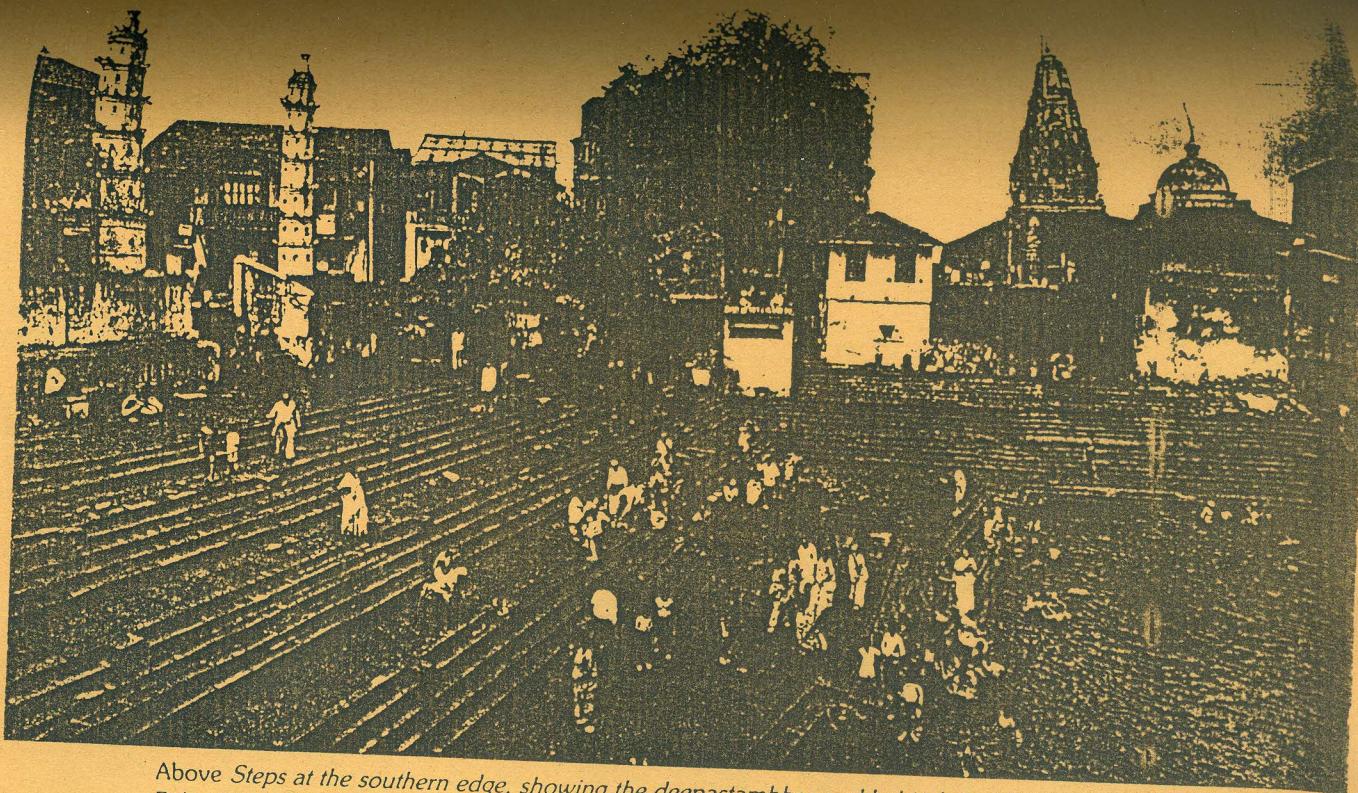




*Banganga tank in the 1970s showing broken steps*

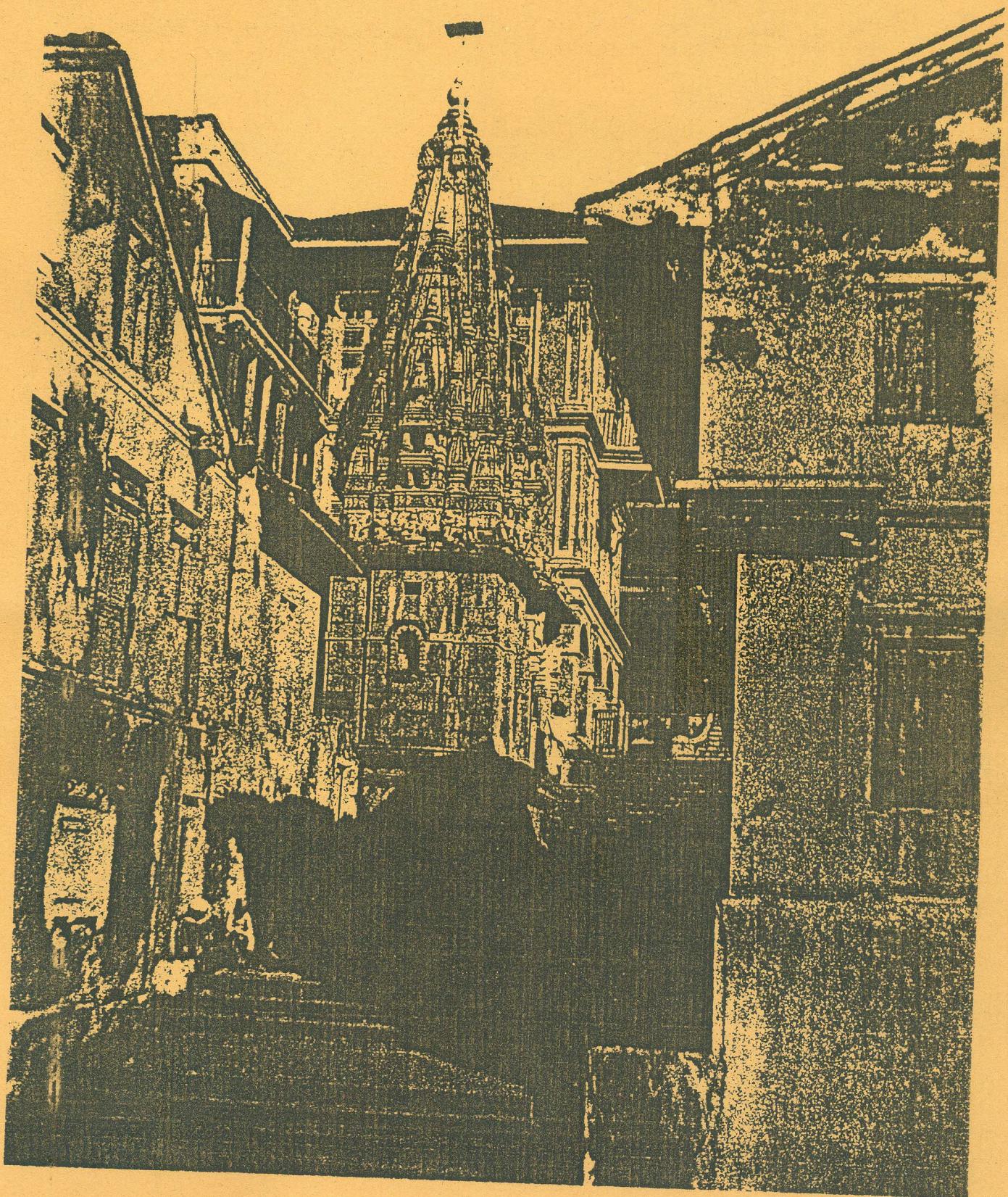


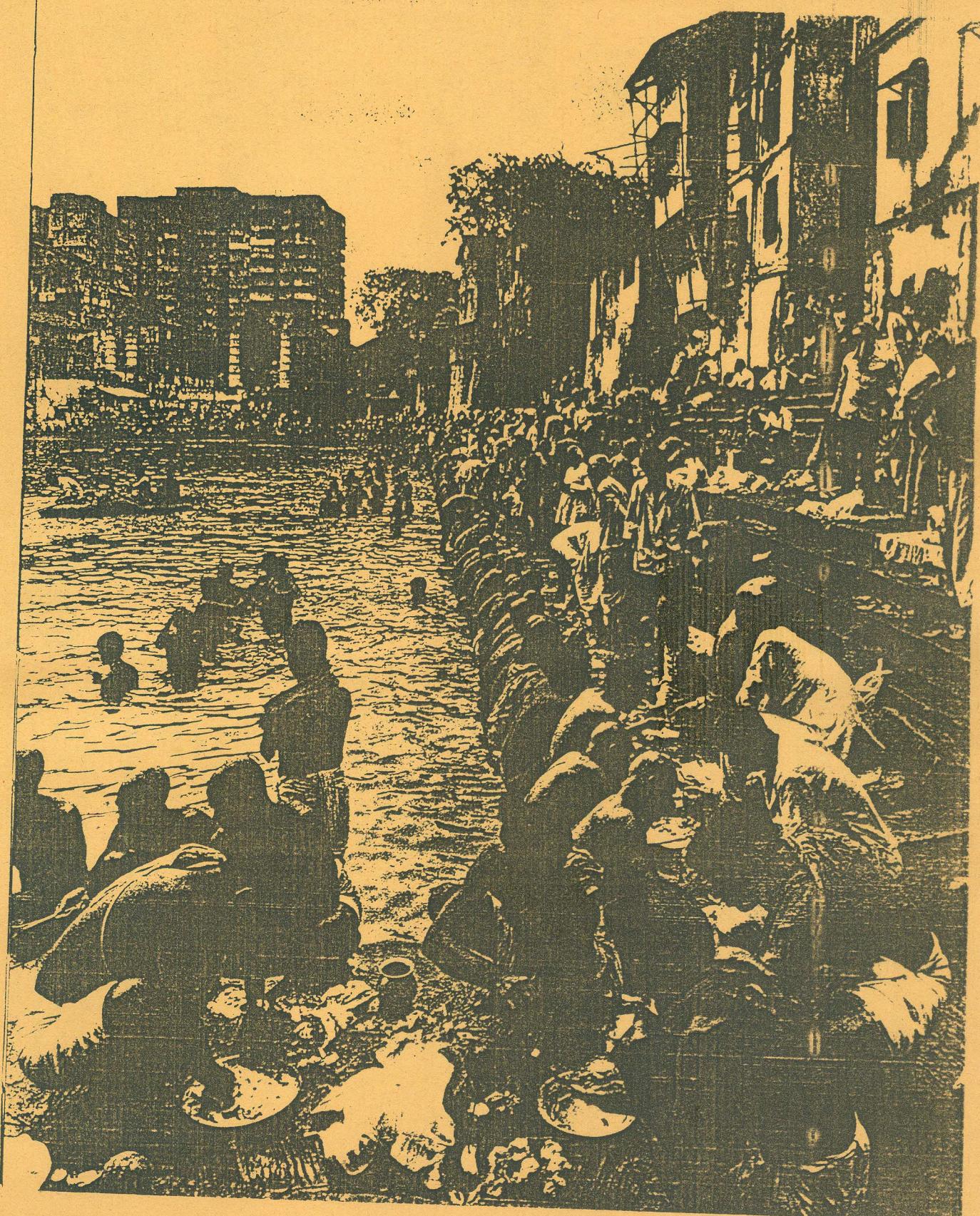
*The Banganga complex looking north, 1995*



Above Steps at the southern edge, showing the deepastambhas and behind them some dharmashalas  
Below The western edge of Banganga tank. Notice the wooden pole stambha at the centre of the tank









This Tirtha sthan or place of pilgrimage coexists with this constant source of water. Water which is a life giving, purifying and fertilizing element being present, its current which is the river of life (like Ganges) can be forded in inner realization and the pilgrims crossover to the other shore. The holy bath (Snana) aids in achieving moksha (union of soul and supreme being). Once this symbol of purity and the religious significance of Banganga is understood the formal topography begins to be comprehensible.

The approach to Banganga is from Ladder street which is now absorbed in the fabric of the city and is no longer the main road. After an easy descent the circumambulation of the tank begins, which proceeds in a clockwise direction. Every temple in this village relates directly to this path. The walk is intended to reveal and incorporate all the aspects of the divine and represents the life long journey and all the various qualities of manifest divinity by participating in which the pilgrim can obtain moksha. The Tank has become a well defined center of a more tangible Hindu complex, which comprises of Dharamashalas, maths, samadhis, with many shrines and temples. These numerous temples have further intensified the sanctity and importance of Banganga.

The temples are now engulfed by new buildings added over time, and create a tense but imposing relationship with the surrounding structures. The cosmic orientation with respect to the Sun and metaphysical orientation determines the East West orientation of almost every temple.

Visual elements which further characterize this place.

Although the physical environment is now run down, the place is animated by people, especially on festive days. The space is transformed by sheer activity. Unheard legends add fresh insights into the character of this locality. As we move around the tank we see that the physical state of the complex has



deteriorated but the ambience and the sanctity seem intact. South and West directions are for rituals of the dead. North and east are auspicious and for sacred rites. The presence of priests and gurus enhances the sanctity of the complex.

A cultural mix is observed now. Shops of soft drinks, fast food, coal and building material are seen. Visitors include tourists, art students, children studying or playing Cricket, people feeding ducks, pigeons, geese. Solely religious acts of former times are replaced by and supplemented by contemporary social acts.

There are five Deepastambhas at the South end of the tank. These are believed to be built as memorial stones on the jivant samadhis of ascetics. The Deepastambhas are not mere landmarks and indicators of Temples but are believed to be related in orientation to each other by a cosmic order. Banganga is like a sanctuary where it is possible to distance yourself from the complications of the outside world. The streetscape is very dense but the tank offer a sense of expansiveness in contrast to the surrounding landscape. The boundary or enclosure of Banganga is clearly apparent. Also apparent is the sense of symmetry while facing the tank.

The North end of the tank is physically and visually blocked.

At the center of the tank rises a wooden pole located on a stone base. It is the image of communication between earth and heaven. Here it symbolizes the great rod fixed to Visnu the Turtles back. It is a representation of mount Meru the axis of the world around which the model of the cosmos, the Sun, the Moon, the Stars revolve. It is the point from which all sacred space is defined. The Temples, their towering shapes to their Shikhar tips, are forms which, step by step, level by level lead the eye and mind of devotees from this world to the world above.

Like an island in time, this place presents an image of what might have once existed, places from which numerous stories could have been created. The many phases of change with time add richness and sanctity to this place, which is full of memories and overflowing with legends. Bombay will continue to change and so will Banganga but what will remain is the strong and strange link of this public place with the past which is strengthened by myths, legends, tradition and religious belief that binds each generation with the next.



## CLASSIFICATION AND COMPARISON OF COGNITIVE ASPECTS

GATEWAY OF INDIA	FLORA FOUNTAIN	BANGANGA
Strong Historic relation	Strong Architectural and Urban identity	Strong religious relation and history in terms of Hindu myth.
Magnet for tourists and leisure activities	Magnet of the city as a Commercial center	People visit with a pious intent - a religious place
Single monument which embraces maximum visual form	Focal site intended but disturbed	Area of focus clear
Enclosure partly defined partly infinite	Enclosure defined	Enclosure defined like an island in time.
Monument projecting into a space	Monument in a space	Buildings on a space
Natural landscape forms the boundary	Buildings form the boundary	Steps, Path and Temple Shikhars form the boundary

GATEWAY OF INDIA	FLORA FOUNTAIN	BANGANGA
Ships and harbour add visual character	Vehicles and people add character along with advertisements	Sea around and temples add character
Age of monuments relates to age of city	Age of buildings around relate to age of the enclosure and area	Age difference between new and old clear in terms of Architectural style
Space has a monumental scale	Space has urban scale scale	Space has intimate
Approach not eventful or rhythmic	Nucleus in the center is focal point but event is disturbed by Hutatma statue & state map	Path around eventful and rhythmic
Characterised by continuity of movement & appearance	Characterised by continuity of use & purpose	Characterised by religious purpose
Pattern partially random & partially defined for people	Patterns of movement of people restricted	Patterns defined for people
Public activity dominant	Extensive public activity	Varying public activity
Partial conflict between pedestrians & automobiles	Conflict between pedestrians & automobiles confusing circulation element	Place pedestrianised

Walking Looking Thinking-A pedestrian views public places in Bombay

H. Masud Taj Essays and Photographs

Ritual of the City - By Eric Parry

Proceedings of the workshop on Public places in Bombay - Dec. 15-16 1995

By Max Mueller Bhavan Bombay

UDRI Bombay

Habitat forum Berlin.

Great cities of the world / Bombay

## Bibliography

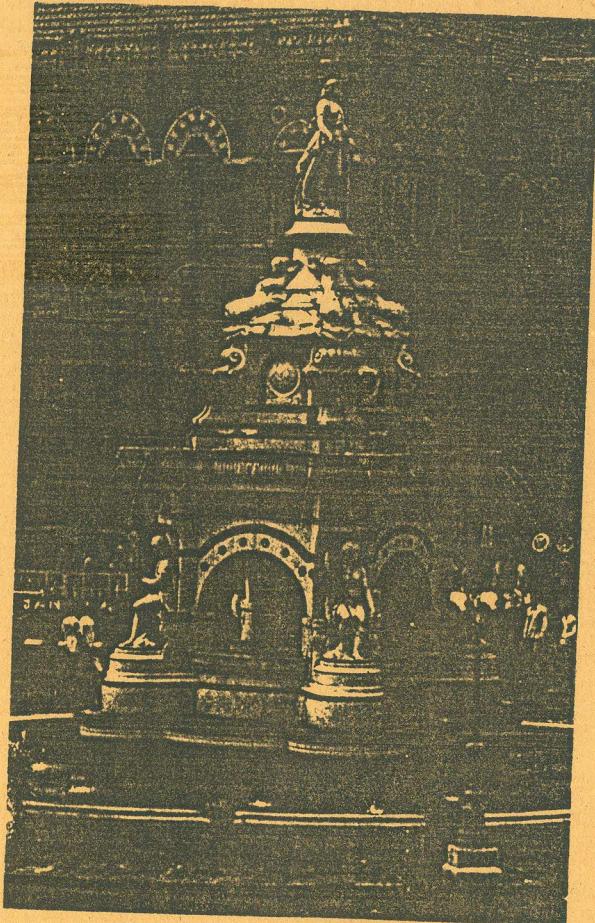
Banganga - Sacred tank 1996 edition by Rahul Mehrotra & Sharada Dwivedi Published by Eminence (Bombay).

Bombay A to Z (map Guide) 1993 edition published by S.M.Karmarkar enterprises.

The Great cities/ Bombay By Dom Moraes and the editors of Time - Life books. 1979 edition  
Chapter 1 The Gateway of India Picture essay pg. 5 to pg. 26.

Street furniture Design Council 1984

Urban Design By Spreiregen P.D. The architecture of towns and cities New York, McGraw Hill,1965.  
Chapter 3 Vista and skyline pg. 62  
Chapter 4 Some basic principles and techniques pg. 67 to 88.



Flora Fountain, in front of the ornate Public Works Secretariat, marks a junction of five streets that is to Bombay what Piccadilly Circus is to London. Topped by a figure of the goddess Flora, the fountain was built in 1869 and paid for by a wealthy Bombay merchant to honour a former Governor, Sir Bartle Frere.