

THEORY AND CITY FORM: The Case of Ahmedabad

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ABSTRACT

The thesis seeks to formulate an approach to urban design intervention in the walled city of Ahmedabad, by first developing an understanding of the context. This is to be undertaken by applying the methodological tools suggested by two theories of city form, those of Kevin Lynch's "*Theory of Good City Form*" and N.J. Habraken's "*Concept of Territory*" which forms part of the book, "*Transformations of the Site*."

In applying two different theories together to the city, the study endeavors to develop a more comprehensive understanding of the city. The exercise of applying theories to the city, also provides way of evaluating the theories, and their efficacy as methods for observing cities. The observations derived from the application of the theories, may be helpful as a basis for formulating strategies for urban design intervention in the walled city of Ahmedabad.

Thesis Supervisor: Julian Beinart
Title: Professor of Architecture

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- And to all my family for their understanding and indispensable support all along the way.

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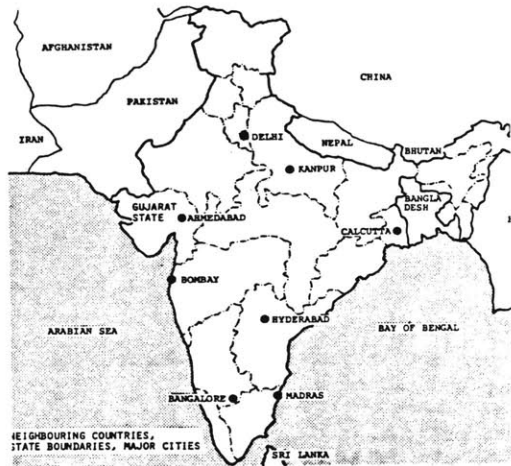
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INTRODUCTION

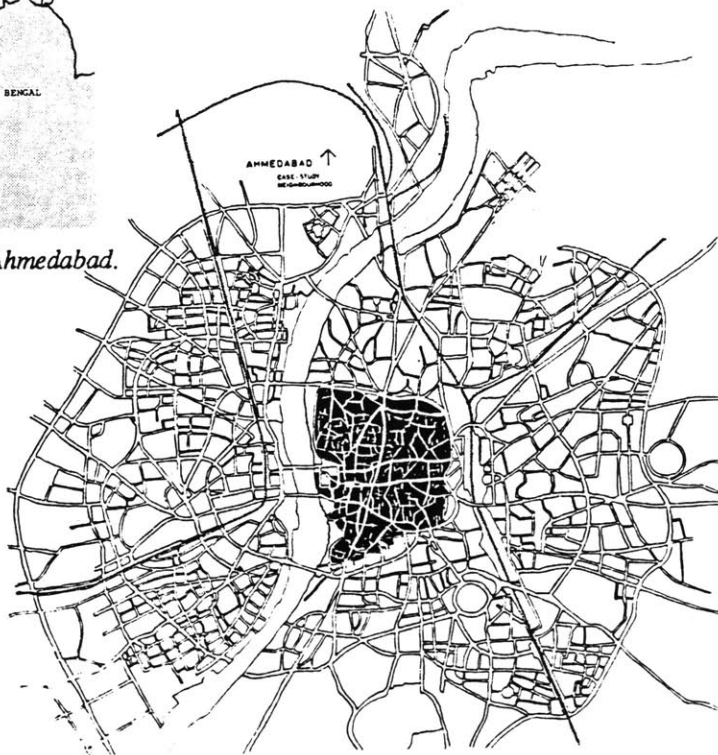
Ahmedabad, like many other cities in India, is experiencing a rapid rate of urbanization. This unprecedented growth is putting enormous pressure on the walled city. Over a period of time, Ahmedabad has been inflicted with many wounds to its historic areas, and the city as a whole. This rapid growth rate is likely to perpetrate further damage to the city if the trend of intervention is allowed to continue. Destruction of the fort wall of the city was a blow to its historic character. Some of the pols (residential neighborhoods) in the city were demolished when new roads were laid out, and existing roads widened. Before the city is sacrificed at the altar of its rapid growth rate, and incongruent structures become the norm, it is imperative to see how we as professionals can develop a strategy to intervene in the urban fabric of Ahmedabad so as to establish a sense of continuity in the built environment. The idea is not to treat the walled city as a monument, but to accept the

dynamics of change within the life of the city.

In fact, as the city has been described, "*Unlike Bombay, Calcutta, Madras, and Kanpur, Ahmedabad was not a creation of the British, but a city which, while remaining true to itself, successfully adapted to the new industrial age, carrying over commercial and industrial skills and patterns of traditional social organization. In no great city of India can the continuity of the past and present be seen as clearly as in Ahmedabad.*"¹ It is this characteristic of continuity in the urban fabric which needs to be carried forward in future interventions in the city.



1. Map of India showing location of Ahmedabad.



2. Map of the city of Ahmedabad inclusive of the walled city.

This study seeks to formulate an approach to urban design intervention in the walled city of Ahmedabad. *"City design never begins with a virgin situation, never forseees a completed work. Properly it thinks in terms of process, prototype, guidance, incentive and control and is able to conceive broad, fluid sequences along with concrete, homely details."*² Therefore, to engage in the process of city design (i.e. to intervene in an existing urban fabric of a city) it is crucial to develop an understanding of the setting in question before formulating strategies for urban design for the same.

*"City design occurs at the confluence of a number of forces. The issues and questions are both of theoretical and practical relevance. Such questions are theoretically relevant since the solution of practical problems will be made much easier if it is founded on a body of theoretical knowledge which has previously undergone empirical examination."*³



3. Aerial photograph of the walled city.

The study seeks to develop an understanding of the city by applying the methodological tools suggested by two theories of city form to the context under study. The two theories are those of (i) Kevin Lynch's "*Theory of Good City Form*," in which he has developed five performance dimensions to evaluate a city, (ii) John Habraken's "*Concept of Territory*" which forms part of the book "*Transformations of the Site*", in which he has evolved a methodical process of observing the urban fabric. The theories each have their idiosyncracies, biases, and concerns, but both have developed methods to observe the city. It is their similar interest but different emphasis that this study hopes will lead to a more comprehensive and deeper understanding of the city. As part of the process of the exercise of applying the theories to the city, the study entails an evaluation of the theories and their usefulness in comprehending the city.



4. *View of a street in a pol.*

Certain aspects are likely to affect the framework of the study. The application of theories is based on methods which require empirical evidence from which to derive certain inferences. Since the study is being conducted away from the context, the evidence presented is a collection of written material, informal talks with the residents, and my own observations made during a period of stay in the city. The understanding of the city and the observations arrived at can provide a basis which may help to structure an approach to urban design intervention in the walled city of Ahmedabad.

NOTES

1. Gillion, Kenneth. *Ahmedabad*. p.2
2. Lynch, Kevin. *Theory of Good City Form*. p.291
3. *ibid.* p.295

Chapter One

HISTORICAL BACKGROUND

AHMEDABAD

The form of a city can be explained as a response to a number of factors and forces. It can be also expressed as a changing response to changing factors. Therefore to develop a complete understanding of the present day structure of the city, it is important to examine the historical account of the city and, the various factors that were influential in its evolution.

The objective here is to trace the evolution of the walled city of Ahmedabad to its present day, and to identify factors influencing its pattern of development. This has involved in observing the city at two levels: one, is at the macro scale of the city, and second, is at the micro scale of the neighborhood. The material has been acquired from historical sources

and, the observations of the city have been derived through research, experience, informal talks and interviews with the residents. The material has been structured with respect to the major political phases of the city, and the socio-economic, and physical changes that occurred at the time.

THE MUSLIM RULE

The city of Ahmedabad, was established by Sultan Ahmed Shah in the year 1411. The city derived its name, from its founding ruler who, established the city mainly for political reasons. The geographical location of the city was along former trade routes and, in the vicinity of an existing commercial settlement of Asha Palli. The population therefore remained commerce oriented, with an economy based on flourishing trade. The indigenous financial and mercantile elite of the city, have been responsible for shaping the



5. Growth map of Ahmedabad.

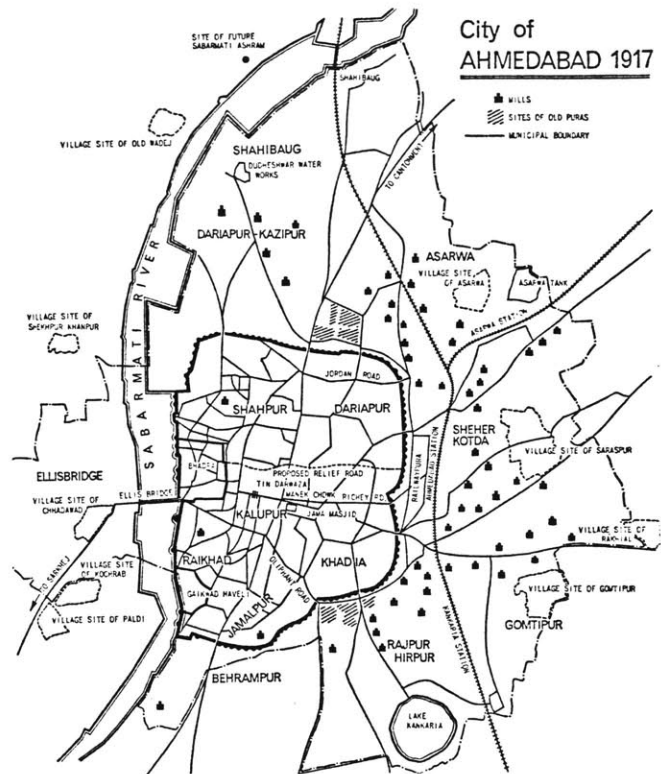
city, and, the future of the city has depended on them.

The planning of the city was believed to have been based on Hindu canons, drawing inspiration from existing cities like Patan, which was the former seat of Ahmed Shah before Ahmedabad. Historians have debated the origin of the plan of the city, with ideas, that the city is a 'Sarvatobhadra' (happiness everywhere) type of a settlement, or a 'Dandak' (staff) which developed into a 'karmuka' (bow) type of town.¹

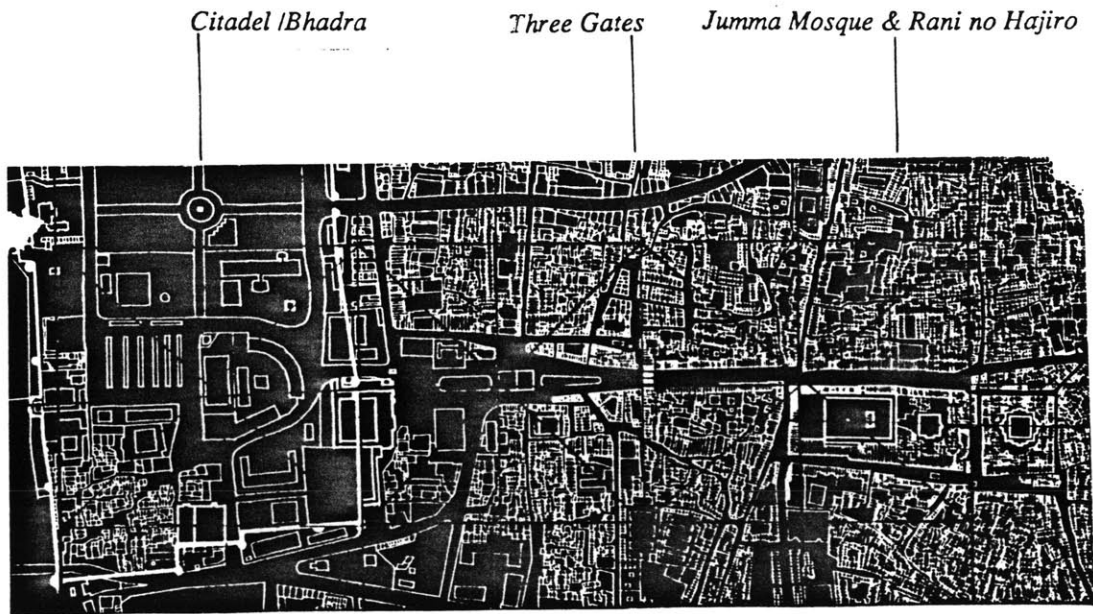
The city was begun with the construction of the citadel, the three gates, the Friday mosque and the ceremonial avenue connecting these elements. The city developed with seventeen major roads, forming the main transportation network. Travellers noted the city having, "*wide streets lined with tall trees, and the many garden suburbs.*"² The rest of the city developed gradually. The sites near the citadel, were considered ideal with regard to defense and accessibility, and therefore, were allocated to those in favour with the rulers. The Muslim community that formed most of the administrative structure, occupied the sites near the citadel; Hindus lived in the eastern part of the city.

Initially the development of the town was slow, until the initiation by Sultan Mohamad Begada, who introduced a policy of a dispersed administrative structure. He permitted his commanders to establish townships (paras) and collect revenues in exchange for services to the Sultan.³ The city expanded very rapidly under these successful policies. The city walls were constructed in 1457, to check the growth of the city and, provide for security to its inhabitants. The wall being a later addition, accounts for the irregular shape of the city.

Until the time of the Marathas, the officers of the state were largely Muslims. The



6. Map of the walled city with the paras.



7. Map of the city centre.

financiers and traders were generally Hindus and Jains, except for Bohras, who traded in silk. The wealth of Ahmedabad was controlled by them, and they acted as army paymasters, financiers to princes and merchants, served as trustees for religious and charitable purposes, etc. The merchants and financiers had an important place in the complex social and political system. Their influence was reflected in the survival of old institutions like the mahajans and the Nagarsheth. These guilds which were powerful in the time of the Buddha, remained so in Gujarat even in the nineteenth century. *"In pre-Mughal and Mughal days, they were as much rulers of the city as the loyal governors and officials and for the individual of far more immediate significance."*⁴

In Mughal times, Ahmedabad was under the Subehdar, who was responsible for the defense of the city, criminal justice and the police, and the Diwan for finance. There were other subordinate officials like the Faujdars or chiefs of police, the Kazis who administered law, and the Kotwal, who was the head of the city's police. The Karoris collected market dues and tolls. However, much of the royal authority that the residents were subject, was filtered through the guilds and castes. The mahajans performed many of the functions of the modern government and municipality.

The government was 'usually responsive if not responsible to' to the opinion of the different communities in the city.⁵ The bankers and merchants were most influential, but every occupation had customary rights and privileges, as well as obligations. There was no press to voice grievances, but the mahajans could threaten to migrate to another area. This was commonly done when people were fewer, and states competed for craftsmen. This was a way of asking for justice at that time. Then there was the Nagarsheth to speak for the city. When required the Nagarsheth would call the heads of the mahajans together, and preside over their meetings. His prestige and influence contributed to the settling of

disputes between mahajans and individuals. Similarly, there were the Kazis to speak for the Muslim community. The Kazi was also a buffer between the government and the communities.

GUILDS IN AHMEDABAD

There were about forty guilds in Ahmedabad, which were predominantly Hindu or Jain bodies. The Muslim guilds were not comparable to those of the Islamic cities. A guild could absorb members of several castes, and a caste, members of several guilds. There was no strict separation of religious, social and occupational problems. Admission to a guild was hereditary or by purchase. Expulsion was an occupational and often a social disaster. The guilds controlled admissions, restricted competition, maintained joint charities through levies on their members, kept up standards, determined wages, controlled prices (sometimes), set holidays, safeguarded the interests of their members against the government, other guilds, and outsiders. The mahajans were able to exclude foreigners from the commerce of Ahmedabad and, to tame social conflicts within the city.⁶

The social divisions of the population, were reflected in the layout of the city. In the walled city of Ahmedabad, there was less differentiation of living and working quarters than in the cities of today. Most people worked at home except, when they went to the market to sell their wares, which was held once a week. No large scale employment was called for except, in the paper and silk industries and government offices. Most people lived and worked in a house group known as the pol, normally (but not always) associated with one caste.

POLS IN AHMEDABAD

In 1872 there were 356 pols in the city. A pol is a residential neighborhood with well defined boundaries. There is an entrance through a main gateway, a primary street, and secondary streets along which a cluster of houses adjoin. Often there was a quadrangle, with a temple/mosque and well, and there were common latrines at the entrance. The pol has a defined area of jurisdiction spread over continuous houses, binding the families under certain rules and regulations, and creating a sense of belongingness among its inhabitants. The house property in the pols was to some extent, commonly held. In 1879 this was the situation:

"Formerly no man could sell or mortgage a house to an outsider without first offering it to the people of the pol. Though this rule is not now kept, inmates of a pol are careful to sell to men of their own class and never to people of low caste. When a house is mortgaged or sold, the people of the pol have a right to claim from one-half to two per

- Temple
- ▣ Gateway
- ▨ Quadrangle
- ▤ Community Hall
- ▥ Well / Platform



8. Lay-out of Moti-Hamam Pol.

*cent of the money received. Again on wedding and other great family occasions, each householder is expected to feast the whole pol, and in some cases all men of the pol, though not of the same caste, are expected to attend any funeral that may take place. If the pol rules are slighted, the offender is fined, and, in former times, till he paid, he was not allowed to light a lamp in his house or to give a feast. The money gathered from gifts, fines, and the percentage on house property sales forms a common fund managed by the leaders, seths, of the pol. This is spent on repairs to the pol gate, the pol privies, or the pol well."*⁷

The configuration of the pols provided for privacy to the occupants in spite of the proximity to the public areas. Another interesting aspect of the pols was that, there was no differentiation of area of residence by wealth. The rich seths lived within the pols among their caste fellows, unlike today, when they have moved to the suburbs and live in bungalows surrounded by gardens. In the formation of the guilds was reflected the social structure of the city. This became manifest in the grouping of the pols in Ahmedabad, which were occupied by people from the same guild or the same caste.

THE MARATHA RULE

The second quarter of the seventeenth century saw Ahmedabad experience a period of decline. The decline of the Moghul empire, and the resulting shift of India's political centre towards the south and east, weakened Ahmedabad's importance as a centre of trade. The interference by the Portuguese was another reason for the reduction in the trade.



9. View of street in a pol.

- Mosque
- ▨ Large House
- ▩ Small House
- ▧ Community Hall



10. Fine grain of character.
Economic status expressed in size of houses.

The degree of political control determined the collection of land revenue, and the security of the caravan routes through Ahmedabad. It can be seen, that the decline and misgovernment had begun before the Maratha rule, whose reign saw the city plummet into an even further state of deterioration. The administrative system of the Marathas was not equal to the task of governing a great commercial city like Ahmedabad. The city became a source of profit to the Marathas who, indulged in illegal exaction and bribery from the citizens. The building restrictions were disregarded, and the wide streets narrowed or even blocked. The houses were in a state of disrepair, and the people unwilling to spend any more on the repair of their houses than was needed to prevent them from falling.⁸ The strong business culture of Ahmedabad survived even these bad times, and, it was only after the British annexed the city in 1818, that the city began to revive.

THE BRITISH RULE

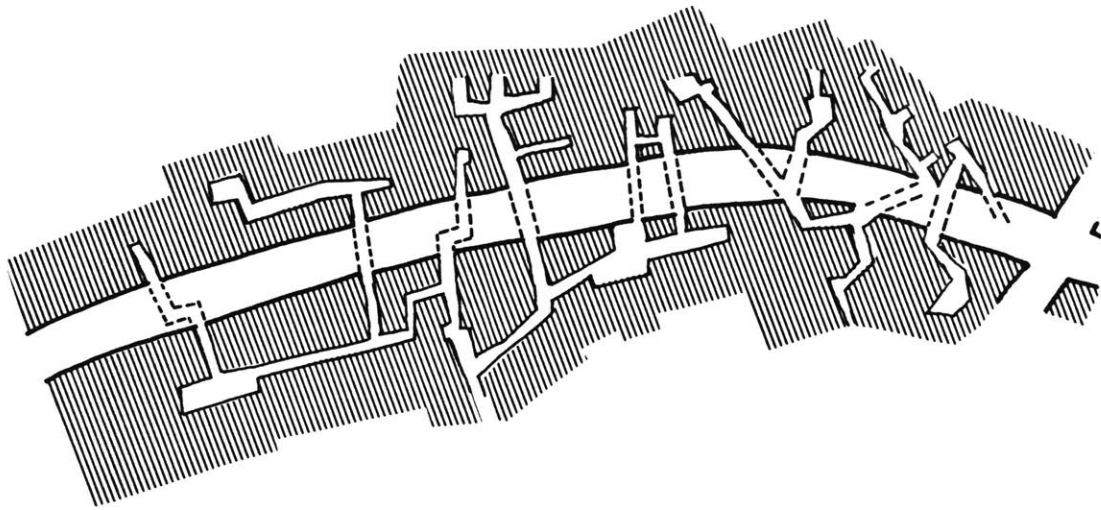
The British annexed the city more, due to the high status that Ahmedabad held than due to its location, or reasons of collecting revenue. They realized the business character of the city, and sought co-operation of the rich and influential, merchants and bankers in governing the city. The Ahmedabad merchants too, were pragmatic and had acquired, through experience, the art of getting along with the ruling elite.

Amongst the first policies that the British adopted, was the relaxation of duties levied on goods entering the city, which led to the revival of the city's trade and commerce. The British paid respect to the traditional offices of the city. The Nagarsheth and the Kazi were appointed to committees by the government, and the petitions from the people to the government were signed by them. The wealth and social eminence remained for some

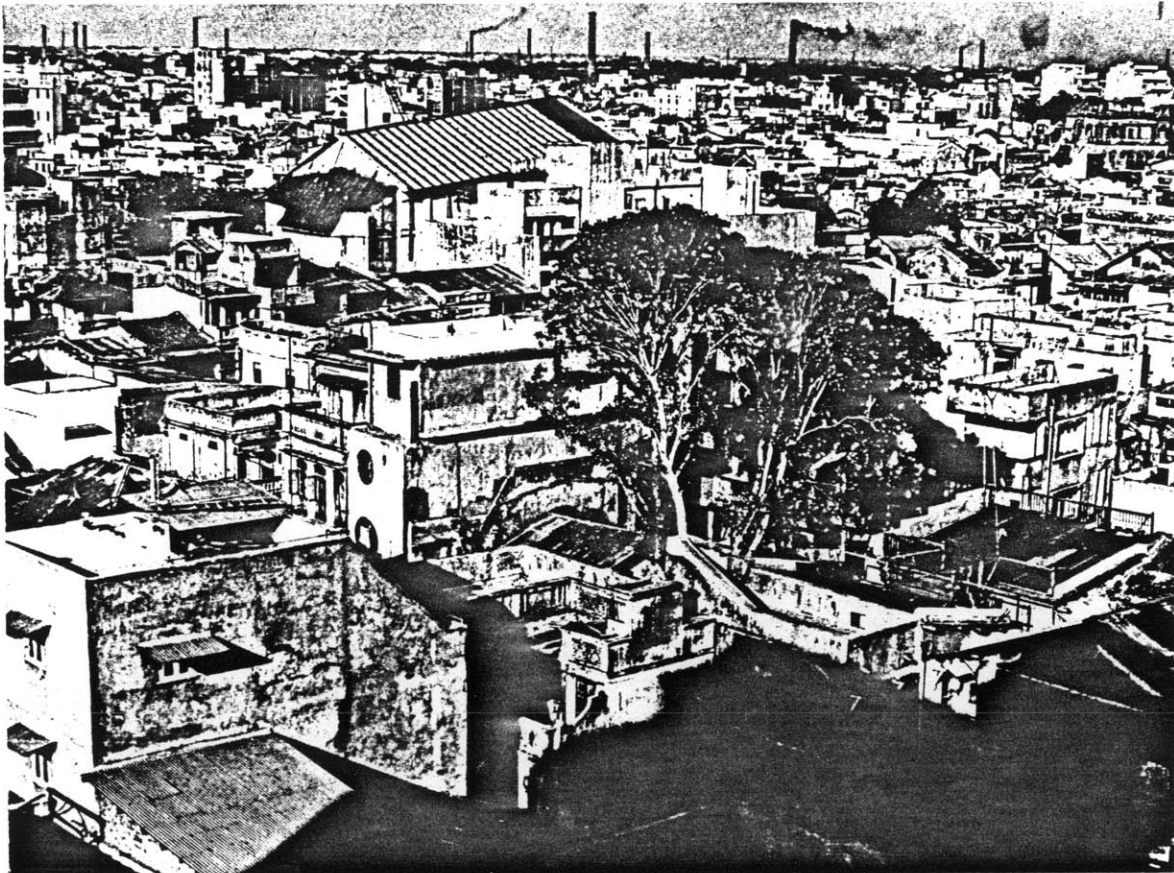
time in the hands of the established trading and financial families. In the nineteenth century, the dominance of the established firms was reduced. The power of the mahajans also declined, although the guilds were still active. There was more internal democracy and, less control by hereditary seths and patels. The political, social, and economic changes of the nineteenth century were calling for a different environment. *"Among them were the greater security, the weakening of the tight control of caste and mahajan, and the formation of large industrial undertakings."*⁹

There were a series of events in the nineteenth century, which intensified the growth of the city: the emergence of the Municipal commission in 1857, the city Municipality in 1874, the building of the first Ellisbridge in 1870, which was washed away in the flood of 1875, the introduction of railways in 1864, and the first textile mill in 1861, which was located within the city at Shahpur. With the rise of economic prosperity in the city, the population of the city began to increase. There was an influx of migrants from the surrounding villages, which created a demand for housing. The density kept rising as the houses were subdivided to fulfill this growing demand for housing. The average density in the walled city reached 220,000 persons per square mile, with certain neighborhoods having a density as high as 350,000 people per square mile by 1971. The rising congestion and deteriorating living conditions saw the elite in the city move out to the suburbs across to Ellisbridge or to Shahibaug where the British had located their cantonment.

The Municipality made several new roads to encourage a spread of settlement, relieve congestion, connect the centre of the city to the railway station, and open up the pols. This work aroused resentment in the people, and was in fact no solution to the problem of congestion, because it compressed the communities in the pols even further.¹⁰ The



11. Pols demolished to create new roads in the walled city.



12. View of the city.

municipality did not take into account the needs of the people who preferred to live close to their communities.

The administrative structure in the city was formalised by the British. They institutionalized many of the other functions performed by the mahajans and the Nagarsheth, with the formation of the city municipality, law courts, banks etc. This reduced the indirect control that the people had through their representatives (the leaders of the mahajans), at the government level. It is true that with the growth of the city, the scale of the problems increased, and there was a need for qualified individuals to tackle the new problems. The alienation of the people from the government can be seen in some of the unsuccessful projects, like the demolition of the pols to widen roads. These projects were carried out without an understanding of the society, their customs, and the likely repercussions on the occupants and the city as a whole.

The British have left their legacy behind in the various institutions that they formed. The municipal corporation functions in a similar manner today, as when it was established. The city has continued to grow into a large metropolis- today it is the sixth largest in the country. Ahmedabad's major importance lies in its cotton textile industry, which employs a large proportion of the labour force. Today, there are other industries like chemicals and machine products, which have gained importance. Ahmedabad became the capital of the newly formed Gujarat state in 1960 (till the decision to move the capital to Gandhinagar was taken in 1971). This brought an expansion of the administrative and service sectors in the city. Today, it is the leading industrial and commercial centre in Gujarat.

The development has been uneven across the various socio-economic classes in the city. This is distinctly reflected in the spatial character of the city. The elite have mostly moved

out of the walled city, which is now being occupied by the middle income and incoming migrants to the city. Most of the public and civic institutions like the government offices, civil courts, banks, the wholesale markets, and other traditional markets are still located in the walled city. They continue to serve the population of more than two million today. The walled city is facing development pressures and is already witnessing a disappearance of some of the residential areas. It is therefore important to develop a strategy to deal with the walled city as part of the metropolis of Ahmedabad, to establish a process of continuity within the fabric, before it is obliterated by market forces.

NOTES

1. Bhatt, Panoobhai. *Ahmedabad in Time and Space*.
2. Gillion, K. *Ahmedabad*. p.16
3. *Ahmedabad Gazetteer*. as quoted in Shah, V. *Street Developments: Case of Ahmedabad, India*. p.29
4. Gillion, K. op.cit. p.19
5. Tinker, H. p.17 III as quoted in Gillion, K. op.cit. p.20
6. Gillion, K. op.cit. p.23
7. *Ahmedabad Gazetteer*. p.295 II as quoted in Gillion, K. op.cit. p.25
8. Gillion, K. op.cit. p.32
9. *ibid.* p.144
10. *ibid.* p.127

Chapter Two

Application of Kevin Lynch's

A THEORY OF GOOD CITY FORM

Lynch's theory of Good City Form, "*deals with the generalizable connections between human values and settlement form.*"¹ Building a full theory according to Lynch, is a long range effort, if it is to be a theory which deals with form and process, and which is an understanding, an evaluation, a prediction, and a prescription, all in one. Lynch has suggested a set of uses of the theory, of which this study seeks to attempt an understanding of the walled city of Ahmedabad, and the factors that influenced its existing pattern.

One of the objectives of Lynch's theory is that it should be appropriate and applicable to diverse cultures and to variations in the decision-making situation (which, I presume,

means the political structure). The theory, while at root a way of evaluating settlement form, should suggest new possibilities.² These are amongst other requirements that the theory sets out to achieve.

Lynch has developed five performance criteria and two meta-criteria in this theory, an alternative to what he calls "*the dogmatic norms that customarily guide discussions about goodness of cities.*"³ Lynch's performance standards applied at the city scale refer to "*those goals which are as general as possible, and yet whose achievement can be detected and explicitly linked to physical solutions.*"⁴

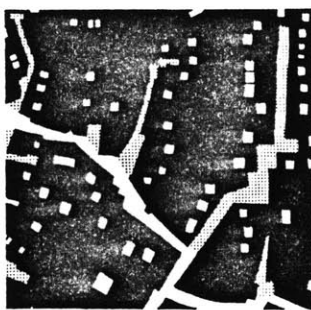
1. VITALITY

"*An environment is a good habitat if it supports the health and biological well-functioning of the individual and the survival of the species.*"⁵ This first dimension is about place quality and is the basic relationship of settlement to the biological requirements of human beings. Lynch considers vitality as a basic requirement for the human race and is similar across different cultures. Sustainance, safety and consonance are the three features that contribute to place quality and make an adequate lifeground. This criterion has been stated as being useful for long range planning. It begins by making an evaluation of the environment, which is to be done by examining the spatial quality of Ahmedabad as it exists today.

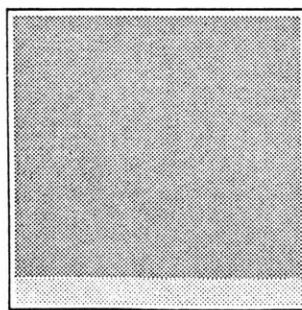
The walled city of Ahmedabad, when evaluated by this criterion, falls far short of being able to provide for the basic needs of the populace. The walled city has a high density, high pollution levels, and there is a lack of adequate and affordable facilities like schools and hospitals. The rectification of these deficiencies would entail introducing policy

measures at the government level. There is a deficiency in the proportion of facilities to the inhabitants in the walled city, which seems magnified because the informal and transient arrangements for these facilities (like the vendors who sell anything from produce to furniture) do not get recorded.

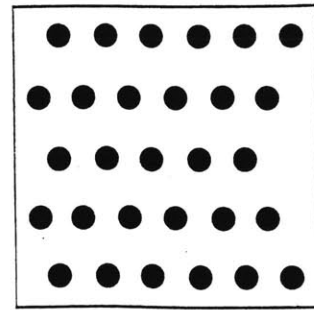
If we evaluate the density in the walled city, we find that the average density in the walled city reached 220,000 persons per square mile, and in certain areas having a density as high as 350,000 per square mile by 1971.⁶ In comparison, the suburbs had a density of about 15,000 persons per square mile. These unusually high figures of density, can be seen in the deteriorating living conditions in the walled city, the burdening of the infrastructure, and of facilities like schools, hospitals and in its repercussion on the standards of health. The government needs to respond to the problems in the city, before the condition deteriorates even further. The effect of the density figures can be seen on



Walled City



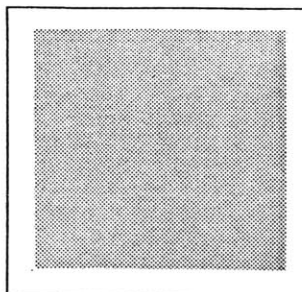
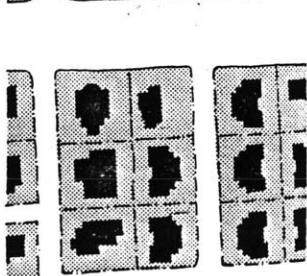
PERCENTAGES	
Streets/Walkways	8
Playgrounds	-
Cluster Courts	8
Dwellings/Lots	84



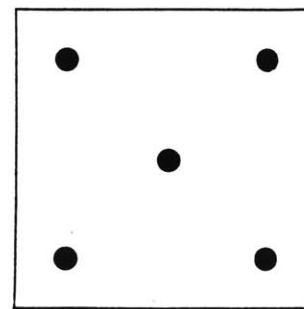
DENSITIES	
Persons/hectare	588

● 20 Persons

Navrangpura Co-op Society.



31
-
69



100

13. Comparative densities

infrastructure like the water supply, drainage and the street network- the question remains whether it can continue to provide for the increasing population.

The congestion and traffic in the city, are also telling on the level of pollution, which today is one of the most polluted cities in the country. This attribute of the city seems difficult to believe, if one reads the historical accounts of travellers to the city, who described it as having "*wide streets lined with tall trees and the many garden suburbs, for Ahmedabad was a spacious city in those days.*"⁷ There is no sign of tree-lined streets and only numbered green areas in the city today.

Vitality is not an absolute good, except for the survival of the species itself. Hence criteria can be set as ranges of tolerance and measured as the likelihood of stress, disease, reproductive failure, or death.⁸ Before the city of Ahmedabad reaches its climax of tolerance, measures need to be taken by the government, since only policies at the city level are likely to channel the growth of the city and bring about changes in a desired direction.

2. SENSE

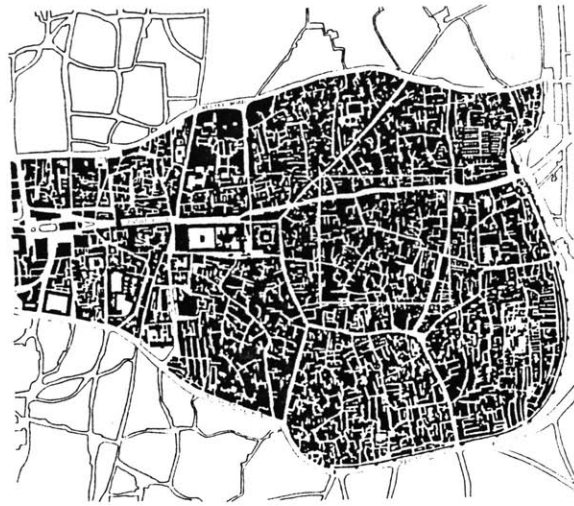
Sense "*is the join between the form of the environment and the human process of perception and cognition.*"⁹ By the sense of a settlement, is meant "*the clarity with which it can be perceived and identified, and the ease with which its elements can be linked with other events and places in a coherent mental representation of time and space and that representation can be connected with nonspatial concepts and values.*"¹⁰ This dimension covers what is also known as place perception or place identity and which gives body to the intuitions of planners and designers. Sense depends on spatial form and

quality, but also on the culture, temperament, status, experience, and current purpose of the observer. The sub-dimensions, identity, structure, congruence, transparency, legibility and symbolic significance reveal the degree of sense in the built environment as perceived by the users. The exploration of how sense i.e. identity, structure, congruence, transparency, legibility and symbolic significance was achieved in the past will provide clues as inspiration to evolve ideas for the future.

Identity

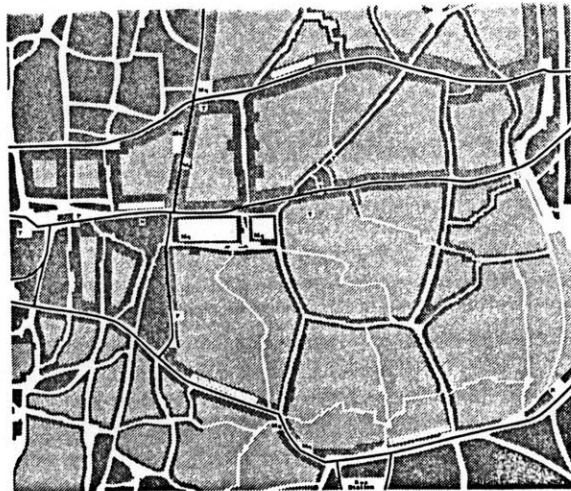
In the narrow meaning of the term, identity is a sense of place. It is "*the extent to which a person can recognize or recall a place as being distinct from other places- as having a vivid, or unique, or at least a particular character of its own.*"¹¹ Identity of a place or event can be analyzed and crudely measured by simple tests of recognition, recall and description. Due to the fact that this study is being conducted away from Ahmedabad, the results may not be absolutely accurate. Nevertheless I have conjectured some of the perceptions of the people through informal talks I have had with the residents.

The walled city of Ahmedabad, as has been described earlier, has a clear morphology: the city is constituted of a centre with major commercial areas and civic institutions and the pols located in the vicinity. Each pol is identified by a name, and a specific character of its location- e.g. like being located next to a particular pol, or a Jain temple etc. With the city having distinct areas and names, if a resident is shown a photograph and also given a description, I expect that they would recognize the place. In that light, the city does have a sense of identity , a sense of place. There is also still a prevailing sense of occasion, due to the deep rootedness of religious festivals and rituals among the people.



14. Land Use patterns in a section of the walled city.

AREAS
 RESIDENTIAL
 COMMERCIAL
 INDUSTRIAL
 OPEN SPACES



15. View of a gateway in the city.

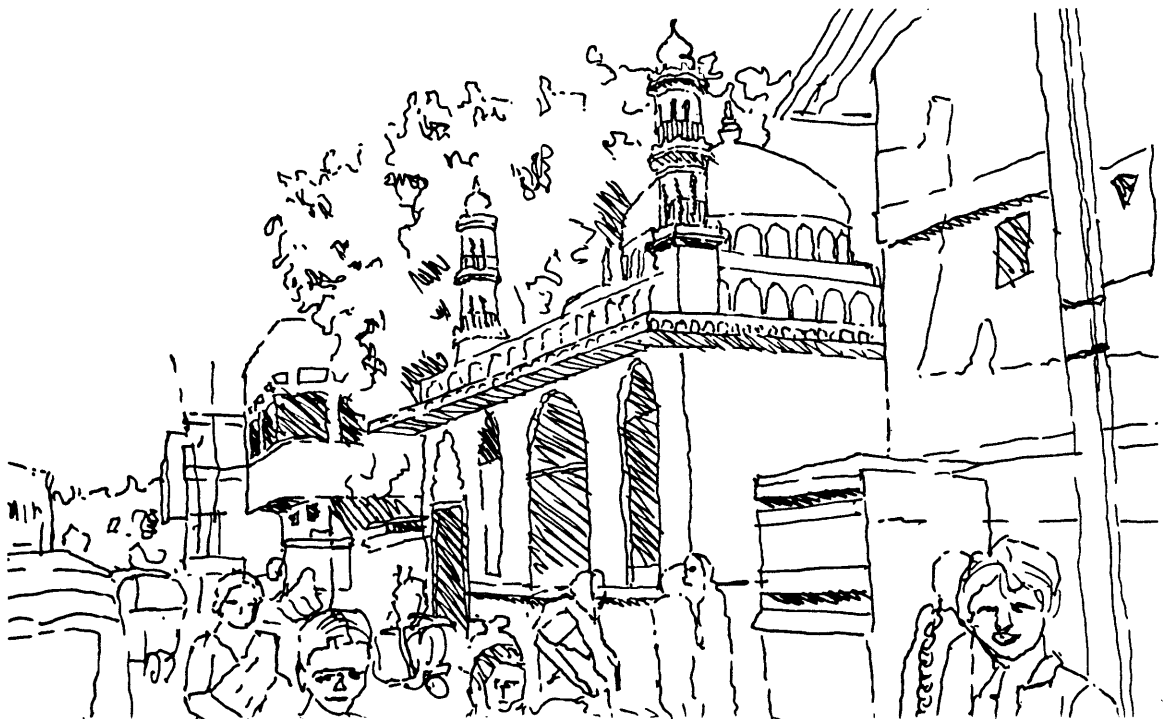


16. Identity strengthened by elements like temples and towers.

Structure

At the scale of a small place, the formal structure *"is the sense of how its parts fit together, and in a large settlement is the sense of orientation."*¹² Just as there is orientation in space, so there is also orientation in time.

At the scale of the pol, which has a clear layout: the entry defined by a gateway (it does not exist everywhere now), a quadrangle with a temple/ mosque, a well (which in many cases has been covered), secondary streets along which the houses are located. This is a common pattern in most of the pols. Hence if a person entered the pol, it would not be difficult for most people to locate themselves. At the scale of the city too, this is likely to hold true. Since the city has a good sense of identity, it helps in its sense of orientation, since the elements in the city can be used to recall the directions to a place.



17. A mosque along a street provides identity.

Orientation in time: *"It includes that grasp of clock time, which enables us to order our day, know when events occur, and co-ordinate our actions with those of others."* *"Since our internal representation of time is poorer than our internal representation of space, we are more dependent on external clues to keep us temporally well oriented."*¹³

If this were to be analyzed similar to orientation in space, accuracy about time taken to travel from a pol to the city centre or elsewhere, is more easily understood by foot or bicycles. The traffic congestion is too great and unpredictable to estimate time with other modes of travel. The other measure is events that take place at certain times of the day: e.g. the temples are opened at sunrise, certain festivals are held at definite times of the year. In a city which is bounded closely by customs and habits, there could be a fair measure of orientation in time.

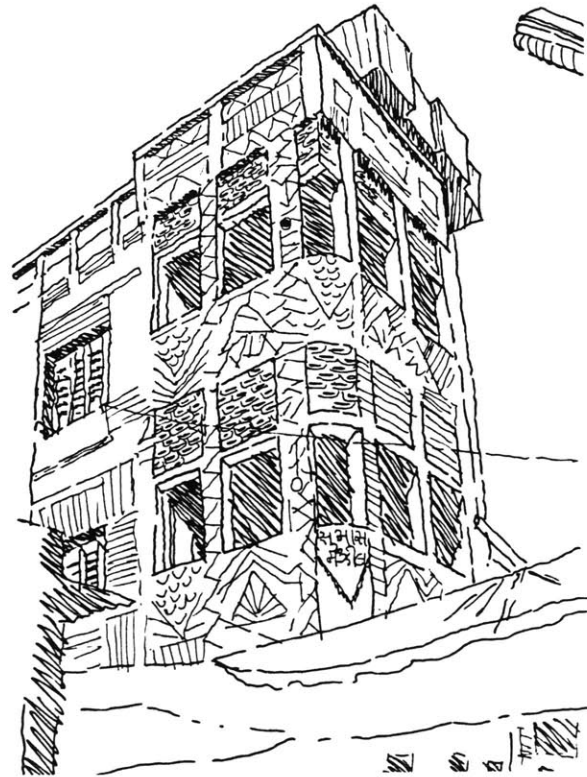


18. Lay-out of a pol showing the primary street and cul-de-sacs around which houses are located.

Identity and structure are those aspects of form which allow us to recognize and pattern space and time in themselves. Congruence is "*the purely formal match of environmental structure to nonspatial structure.*"¹⁴ That is, does the abstract form of a place match the abstract form of its functions, or of the features of the society which inhabits it?

Congruence

This can be tested by asking local people to describe the formal match between place and function. e.g. in Ahmedabad, in the city centre near the three gates and Manek chowk, formerly functions common to the city occurred- the weekly market where people came to exchange goods, was located near Bhadra fort and the three gates which had the aura of a public space of a city. In the pol, the common space varies in size and character, suitable to the activities in the pol. The kind of structures being constructed today do not have this character, this degree of congruence: e.g. the office building towering over the pols.



19. View around Manek Chowk. 20. New buildings on Relief road: example of an incongruent structure.

Transparency

Transparency or immediacy is "*the degree to which one can directly perceive the operation of various activities and social and natural processes that are occurring within the settlement.*"¹⁵ The processes "*convey a sense of life within the settlement, and with congruence, are the direct perceptual basis for deeper meanings.*"¹⁶ There are some events which can be perceived immediately like the movement of people, people socializing near temples, children playing in the streets etc., while there are others which need a degree of penetration before they are revealed, e.g. the activities in the pol are known only on entering the domain of the pol- the level of privacy among the people is not at an individual level, but at the family and community level. The degree of transparency differs according to the amount of direct perception of activities in the city. Transparency may vary with regard to the kind of functions being referred to and the culture under study- their habits and life styles.

Legibility

This is "*the degree to which the inhabitants of a settlement are able to communicate accurately to each other via its symbolic physical features.*"¹⁷ Each pol is defined by an entrance gate, each house has an ota (an entrance porch) before entering the interior. These are some of the commonly understood signs amongst the residents; defined areas of transition between the public and private domain- a zone where an outsider would stop before proceeding. This is just an example of the system of signs that exist in the traditional fabric of Ahmedabad, and which have a richness among them and a connotative value among its inhabitants; these have survived in spite of other physical changes that the city has witnessed.



21. *Perceiving children playing: Transparency in the city.*



22. *An entrance gateway to a pol: Transitional element -commonly understood sign.*

Significance

Symbolic significance of a place is the degree, in the minds of its users, to which the form of any settlement is a complex symbol of basic values, life processes, historic events, fundamental social structure or the nature of the universe. It is *"the holistic meaning of a city, as opposed to the series of meanings converged by its separate symbolic elements."*¹⁸

Symbolic significance can be intuited but is at root elusive. Lynch's proposition of a good place is one in which, *"in some way appropriate to the person and her culture, makes her aware of her community, her past, the web of life, and the universe of time and space in which those are contained."*¹⁹ This can be a point of departure to understand the significance of a place. This requires the perception and a closer observation of the residents about this deepest level of legibility, than the informal talks from which other

inferences have been drawn.

Unfoldingness

The quality of unfoldingness (that a settlement should permit an unfolding creation of meaning) as Lynch himself mentions is not so clear as to how this quality can be measured or even identified, or how to evaluate a place in these terms. This component is also elusive and hence is difficult to apply.

Lynch has commented on how designers have unconsciously relied on their own implicit values and perceptions, projecting them on the physical world as if they were inherent qualities. He feels one must begin with the images and priorities of the users of a place and look at place and person together.²⁰ Here Lynch stresses two aspects: that of public opinion and participation in achieving sense in a place and also about designers who assume the opinion of the users. I hope the inferences drawn do not fall into the same trap, because many of them are my own observations of the fabric, including experience and interaction with the residents of the city over a period of time.

3. FIT

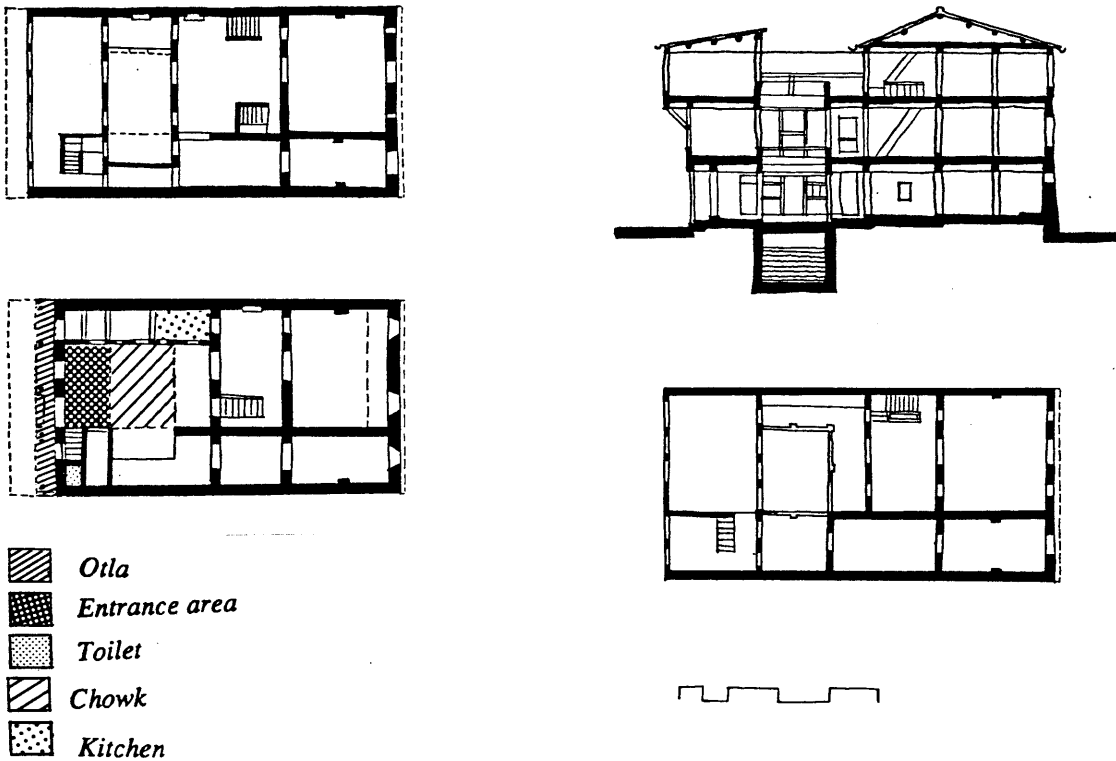
*"The fit of a settlement refers to how well its spatial and temporal pattern matches the customary behavior of its inhabitants."*²¹ The criterion of fit is *"a measure of the degree of congruence between daily behavior, overt or intended, on the one hand, and the spatial setting on the other."*²² It can be achieved by modification of place, or behavior, or both.

Fit deals with the functional aspect of city design. It can be evaluated by analysis of

prototypical settings: the characteristic settings for (i) family life i.e the house in a pol, (ii) community life: the pol as a neighborhood and its components, and place of work/shopping. The spatial setting of these areas will be evaluated to see if there is a degree of congruence between it and the behavior of the people. Due to the limitation of the data, the focus will be on the neighborhood and its components.

Family Life: House in a Pol:

A typical house in a pol consists of an ota (entrance porch), an entrance area/room, a courtyard (chowk) along which the kitchen is located, an inner room and at the rear, the storage room. The house normally has two-three stories with a terrace above which is used actively. There is an underground storage tank for collecting rain water which, with the introduction of piped water, is now used as an extra room.



23. House in a pol.



24. House in a pol.

The element of an opla (entrance porch):

This is a transitional element leading from the street into the house. It serves as a setting for :(i) functional purposes, and (ii) social purposes.

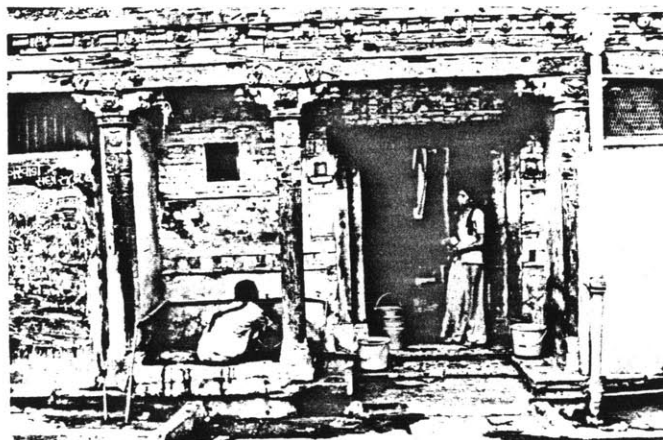
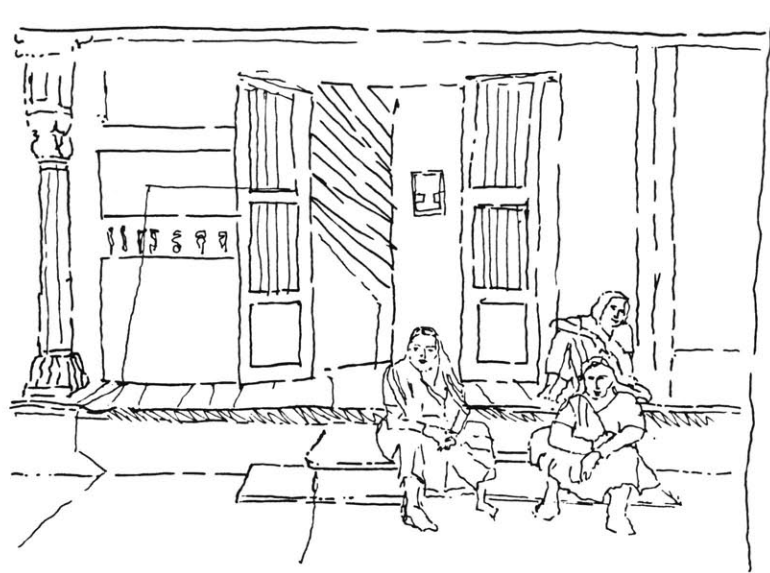
(i) It is from the opla that the shopping of fruits-vegetables and other wares from vendors is done. The wash place is located on the street, outside the the opla in most houses, and in remodeled houses or new houses it is located within the house. (ii) It is from the opla that the elders and women exchange notes with their neighbors. The parents can keep an eye on the children playing in the streets from here too.

The element of an opla is still widely used in most parts of the walled city. The influence of suburban living is affecting life patterns of a small percentage of the pol population (the relatively affluent)- where the opla has retained itself as a transitional element and for functional purposes, but has a restricted use for social purpose with changing ideas of privacy.



25. View of a pol.

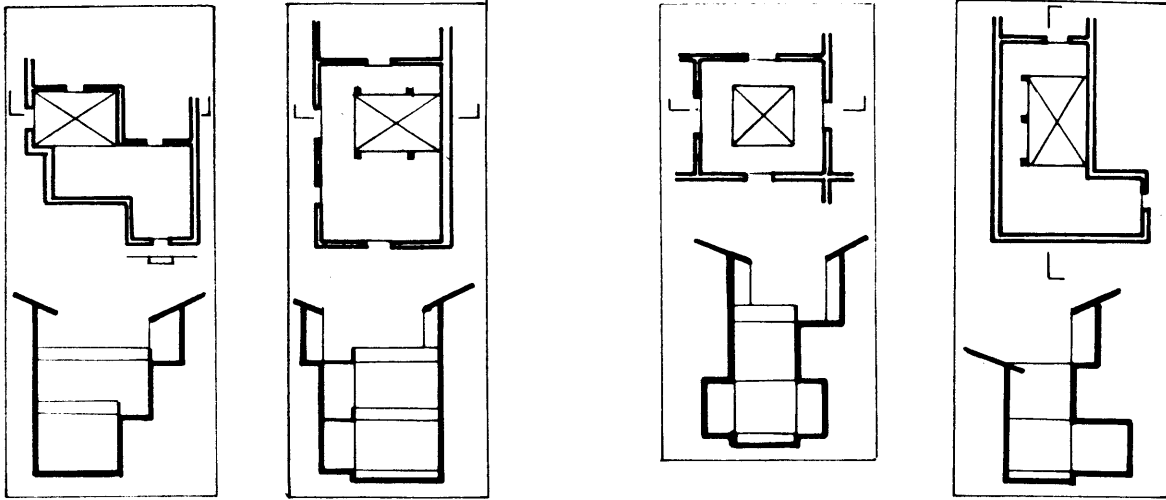
26. Use of *otla* by the residents.



27. Use of *otla* for washing

The Courtyard/ Chowk :

This traditional element in a residence serves to provide the family unit a private setting. The chowk serves for overflow of the kitchen activities where vegetables and grains are cut and dried. It also serves as a semi-living area - an area for the visitors and for drying of laundry. The chowk has served as a response to the hot-dry climate of Ahmedabad. Today with the changing needs of the people, who want a greater seclusion from the communal living that a *pol* offers, the court still successfully provides for the privacy.



28. Courtyard as a space articulator

Contemporary houses built today also incorporate this element.

The Terrace:

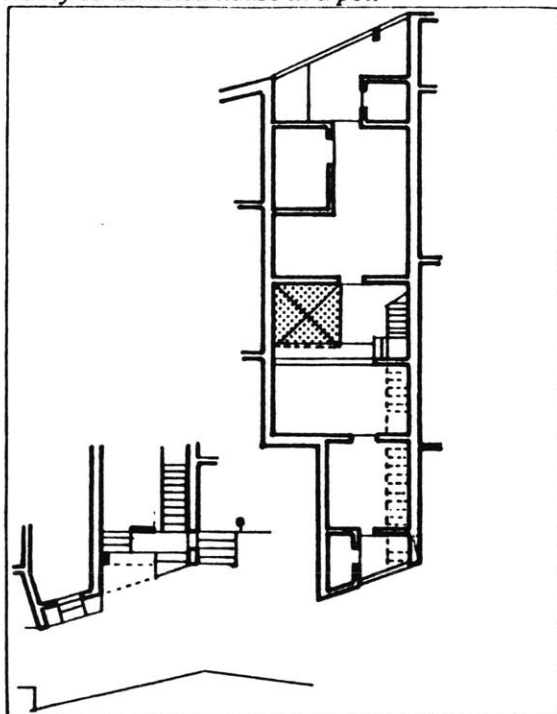
The terrace provides for a pattern of activities above the street level, depending on the the season, the time of the day and occasion. In summer, when the rooms heat up during the day, the terrace is used for sleeping at night; in winter it is used more often during the day. The terrace is also used for drying clothes, making pickles, etc. The kite-flying festival sees virtually the entire population of the city assemble on terraces, where, besides kite-flying, people have a feast and socialize with their neighbors. Terraces between two houses are separated by a parapet wall; at the same time it is possible to cross over onto a neighboring terrace. The terrace even today is very actively used and is incorporated in new houses too.

The new houses constructed in the pols display both, the continuity in the use of some of the elements like the court and the terrace, as well as the transformation of some elements like the ota and, in the configuration of the house, reflecting the changing concept of privacy among some of the residents. The ota is not used as frequently as in the older

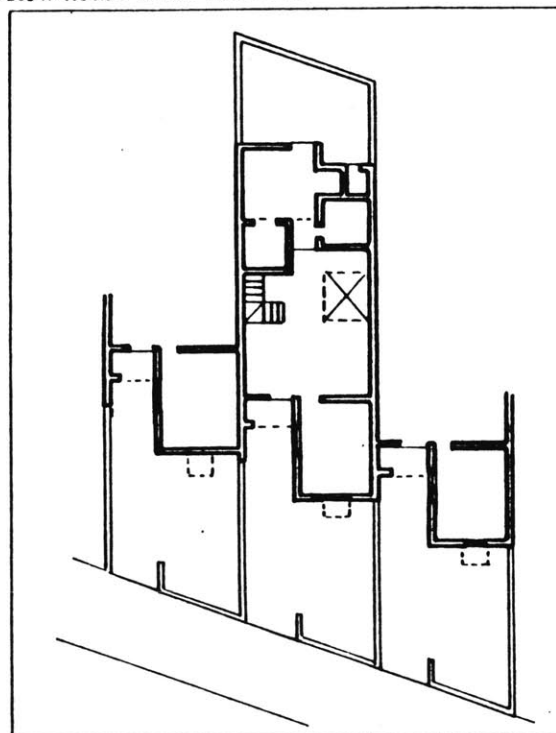


29. View of terraces in the walled city.

Newly constructed house in a pol.



Row house in the suburbs.



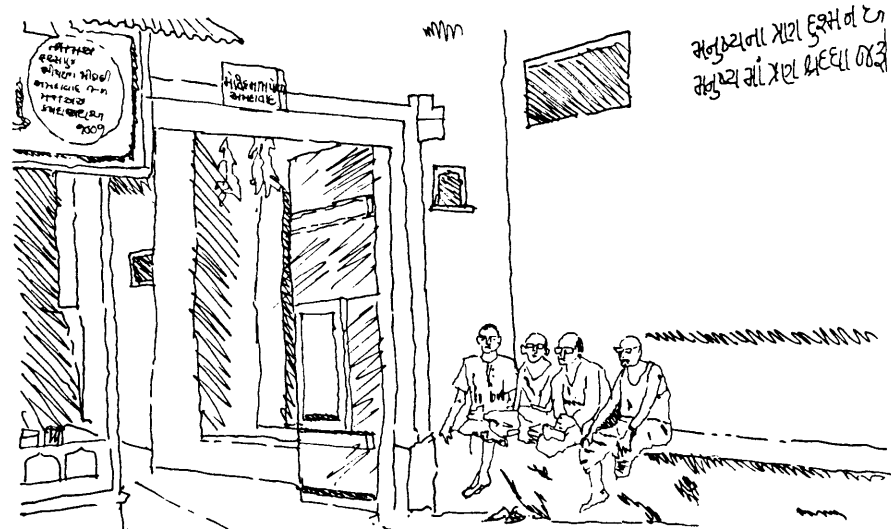
30. Examples of transformation of the pol house type.

houses, but it still exists as a symbolic element of entrance and for buying goods. The suburban row house does not have an internal court nor a defined *otla*. It has a private frontyard and a backyard, the dining area has a high volume, reminiscent of the court in the *pol* houses. These houses have a terrace, and privacy is achieved at both the levels by staggering the houses.

One can here see some of the elements of the *pol* house have been carried forward, but, transformed to suit the changing life styles of the people. A greater degree of privatisation of rooms in the houses, more spacious areas, are some of the desired changes that the people have sought to incorporate in the houses.

Community Life: the *Pol* and its components: The *pol* consists of an entrance gateway, a quadrangle, temple/mosque, well, community hall, streets and houses.

Entrance Gateway:It is an element that formerly provided for security to the residents and the gate used to be closed after dark. It no longer serves that function, but it still exists as a symbolic element. It also defines the territory of the *pol*, giving a sense of



31. Entrance Gateway provides setting for social interaction.

belongingness to the residents of the pol.

Quadrangle: It serves as an area for children to play, and for community gatherings during festivals and weddings. The quadrangle serves as a communal, social space for the people even today.

Temple/ Mosque: Almost every pol has a sacred abode. It varies in size according to the pol, but occupies a prominent location either near the entrance, or off the quadrangle in the pol.

Community Hall: This is a multipurpose space; it is used for educational purposes: there is a small library and, tutorial classes are held in the evenings for students; the sports mandal (voluntary association) organizes sports activities for children; the Bhakta mandal



32. *Quadrangle in the pol with a birdhouse: a multipurpose space.*

(religious association) arranges for religious discourses, and gatherings during festivals. It is also used for weddings by the residents and rented out to outsiders, and generates some income which is used for maintenance of the hall.

Streets: The streets used to be formerly owned jointly by the residents of the pol, and are now owned by the government. In use, the streets do not reflect the ownership- with most of the houses extending their activities onto the streets: the washing place of each house is located on the street, where the residents wash their clothes and utensils. Children play on the street adjoining the houses, so that the parents can watch them. The street also serves for parking of bicycles and scooters.

The unit of a pol, when evaluated by this criterion, portrays very positive characteristics. From the unit of an individual house, to the configuration of the pol as a functioning neighborhood, there seems to be a degree of congruence between the daily behavior of the inhabitants and the spatial setting, both of the elements in the house as well as the layout of the houses and other common facilities in the pol. Lynch suggests user control as being the most powerful way of improving fit of our environment, an aspect to be



33. Street serves as an extension of the house: wash place located in the street.

discussed under the criterion of control which follows later.

4. ACCESS

*"Access is one fundamental advantage of an urban settlement, and its reach and distribution are a basic index of settlement quality."*²³ Access, another criterion deemed important for good places, consists of a diversity of accessible places, equity of access for different users, and the control and management of the access systems. Lynch defines *"A good environment is a place which affords obvious and easy access to a moderate variety of people, goods and settings, while this variety can be expanded if a person wishes to expand further energy- an explorable world, whose vast diversities can be sought out or ignored at will."*²⁴

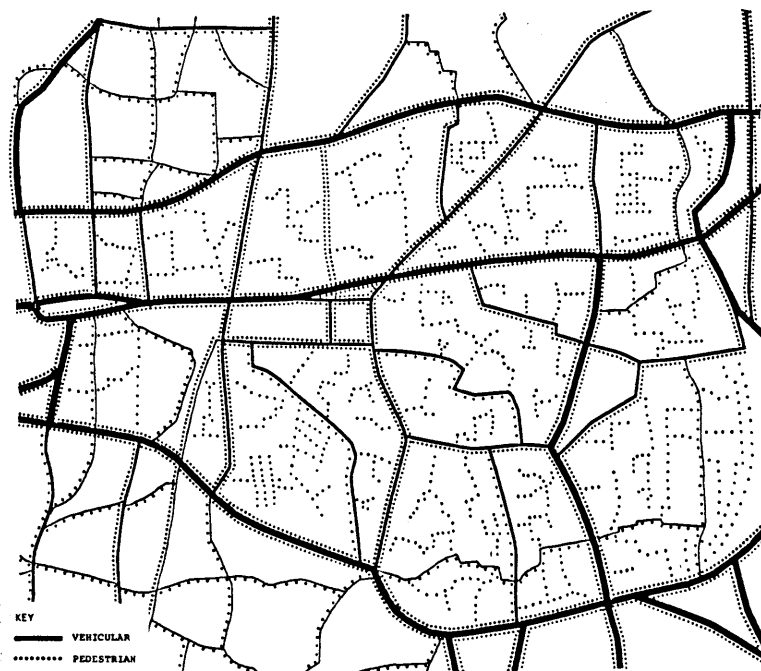
Maximum access is not sought after, but rather some optimum level. Lynch mentions *"the use of diversity as a criterion depends on knowing the levels of choice that people desire and can tolerate."*²⁵ (and this may vary in different cultures) Access is central to studies of the productive economy, according to Lynch, as also for an understanding of the social system and for analyzing the psychological impact of the city. It remains to be seen how the walled city of Ahmedabad deals with providing access for its citizens, to suit their needs and aspirations, thus revealing the degree of diversity, equity and control in the access system in the city.

The area around Bhadra (the former citadel), the three gates, which used to be the centre of the city in the past, continues to be the hub of activities even today. The civil courts, the financial market, banks, wholesale markets, are located around this area on Gandhi road and the parallel Relief road. The municipal and government offices are located in the

vicinity. From this area, the major streets radiate to the gates of the city, off which the pols are situated.

In the past, the pols were self-sufficient for the daily needs of the people, providing the social, communal, religious and working environments for the people. The facilities in the city centre provided for facilities of the population at large with the market areas, Friday mosque, etc. The Maratha rule saw a degenerative phase in the city, when the city experienced a deterioration in all aspects including access in the city.

The city began to revive after the British annexation. The growth of industries saw a rise in economic prosperity, and a subsequent increase in the population. This created an imbalance, both in the diversity and equity of access in the city. The same number of facilities were to serve a larger population. Following the deteriorating living conditions



34. Access routes in a section of the walled city.

in the city, the elite moved out to the suburbs, and today the new development is concentrated in the suburbs (60% of the city's expenditure was directed in the suburbs),²⁶ and the city does not get a fair share of attention, in spite of the development pressures it is facing.

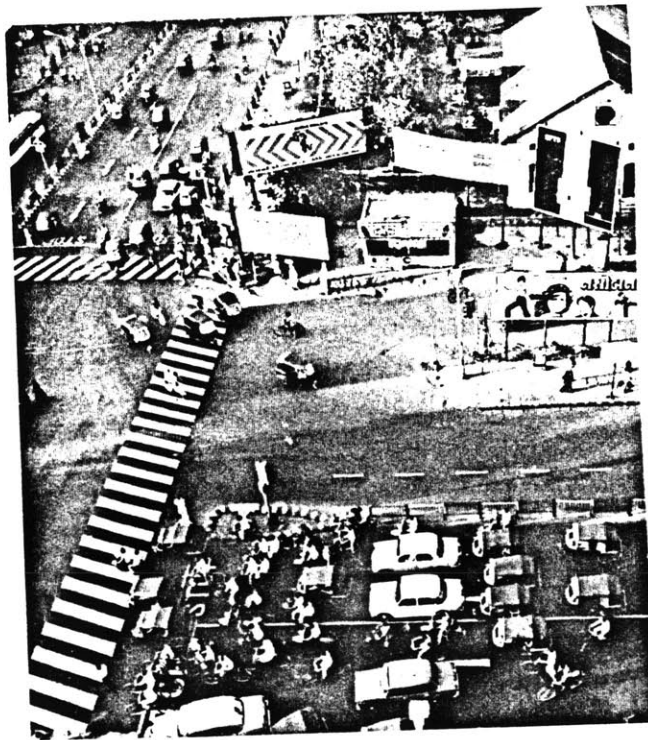
The access system, as it exists today in the walled city, reflects inadequacies with regard to its diversity, equity, and control. Today, with the changing needs of the people, the suburbs have grown to incorporate new requirements. Facilities are distributed between the suburbs and the walled city; major wholesale areas, financial institutions, and most public institutions are in the old city, while new commercial developments, offices, theatres, department stores, colleges, and hospitals are located in the suburbs. When the walled city is seen as part of the metropolis, there is a diversity of facilities. People from both parts of the city need to move in either direction to access the facilities. Access is



35. Gandhi Road: overlapping of vehicles & pedestrian on congested artery.

provided by a transportation network of buses, rickshaws (three wheeler cabs), along crowded streets. The rich have mobility with their private vehicles, while others have to depend on public modes of transport which is not very good, or personal bicycles or scooters, raising questions about the social equity of access in the city. While the new development is concentrated in the suburbs, the walled city is not getting a fair share of attention to its problems. The control of access is in the hands of the state to ensure equity of access among the populace. The decision-makers live in the affluent suburbs, which might explain the emphasis on the suburbs.

The criterion of access is both evaluative of the existing access system in the city and suggestive of improvements to it. The process of evaluation arriving at the optimum level of access is subjective. It reflects the political stance of a government and the priorities of a society. There is a clue that Lynch provides in the devices for improving the access in



36. Nehru Bridge linking the walled city to Ashram Road.(commercial spine in the suburbs)

the city. There are obvious ways by providing new modes of transport like trains, increasing roads, substituting communication for transport etc., which would be difficult to implement, both economically and physically in Ahmedabad. "Rearrangement of origin and destination"²⁷ for people travelling from home to work, is where the clue lies. In the past, till the introduction of large scale industries, the place of work and home were integral to the pols, and later distinctly separated. This situation cannot be replicated today, but the solution lies in the reduction of distance between work and home.

5. CONTROL

*"A good settlement is one in which place control is certain, responsible, and congruent, both to its users (present, potential and future) and also to the structure of the problems of the place. The relative importance of these dimensions and their level of adequacy will depend on the social and environmental context of the settlement."*²⁸ Control should ideally be open to potential users and conservative of the future, and which is interspersed with areas of low control, tolerant of diversity and deviance. There are two ways of analyzing place control: 1. Identify typical behavior settings and communication systems and ask a prescribed set of questions. 2. Look at crucial groups in society and ask a similar set of questions.²⁹

Congruence

Congruence of use and control is *"the extent to which the actual users or inhabitants of a space control it, in proportion to the degree or permanence of their stake in it."*³⁰

Control at the level of the pol: The pol consists of a group of houses (formerly it comprised of living and working quarters of the occupants), a quadrangle, a well, and a

temple or a mosque. The pol normally has a main street and secondary streets with cul-de-sacs around which houses adjoin. Most of the houses are owned by the residents (or inherited), with a few sub-let partially (for additional income) or completely if they have moved to the suburbs. Since these houses have no large open spaces within them, the children play either in the streets or in the quadrangle, which is a common area in the pol. All the access areas are owned and controlled by the municipality. Since the users are neither the sole owners of the space, and do not have full control, can one then say that the place control is not congruent?

With the introduction of water supply and drainage, the access to the pols and its interior



37. Area of a pol formerly owned, controlled and used by the mahajans.



38. Area owned and controlled by the mahajans Area now owned and controlled by the municipality.

streets was required by the municipality for maintenance. Therefore, the control that the mahajans formerly had over the common areas, was restricted and henceforth shared with the municipality. There have been repercussions in the maintenance of the public areas, since the immediate users are no longer responsible. In the use of the common area, the residents have a degree of flexibility in spite of the intrusion of the authority within the pol, i.e the residents and the mahajans have a social control in the pol even now. The social control extends to the code of behavior among the occupants of the pol. There is no written regulation, but certain commonly understood customs among the people that are adhered to. The activities within the common areas in the pol, are still controlled by the mahajans of the pol. Does this decrease in the level of control, or rather the sharing of control between the residents, the mahajans and the municipal authorities, make the pol less congruent?

Responsibility

This is the balancing criterion to congruence i.e. it takes into consideration that "*those who control a place should have the motives, information and power to do it well, a commitment to the place and to the needs of other persons and creatures in it, a willingness to accept failure and to correct it.*"³¹

In the past, when the responsibility was handled within the city by the Subehdars, Kazis, Nagarsheths and mahajans, each of the officials were answerable to the people directly and hence, were more committed to their work. It is true that the scale and number of activities were fewer than what the municipality handles today. The leaders of the mahajans represented the people of the pols, and with the Nagarsheth and Kazi met with the Subehdar (governor), who in turn was answerable to the Emperor in Delhi.

Within the bureaucracy of the municipality today, which has control over the public areas it would be difficult to think about motivated, committed, dedicated, individuals working at their tables, anonymous and away from the people. The personal touch that the mahajans displayed towards the discharging of their duties and towards the inhabitants of the pol cannot be replicated by officials taking decisions in the municipal corporation. The proportion of the representatives to the citizens is not adequate, to establish a degree of accountability as in the past. There is truth in the fact that the complexity of managing the city today, warrants service from qualified individuals- and the hereditary system of the Nagarsheths and the Mahajans may not necessarily fulfill those requirements. The solution lies in breaking down the scale of the city administratively, to establish greater public participation.

Lynch has suggested, "*making community control of community space a reality will require drastic changes in our economy, political power, and way of life. The effective units of space control, commensurate with current issues, may likely be the family (even if it is a family modified and enlarged), the very small residential neighborhood or small workplace, where association by propinquity still maintains, the political community of moderate size, in which representative politics can be face to face, the great urban region, and thence up to very large regions of the world.*"³²

Certainty

Certainty is "*the degree to which people understand the control system, can predict its scope, and feel secure with it.*"³³

The boundaries of the pol as in the past are clearly defined. The gates/gateway to the pols exist even today, though they are not used for the purpose of security anymore. The

various mandals in the pols promote and, are responsible for religious /social /educational /sports activities which occur in the quadrangle or the common areas of the pol. The maintenance and upkeep of immediate needs are seen to by the residents; cleaning and other long term maintenance of the infrastructure is done by the municipality. The individual houses are the responsibility of the owners. In case of new construction, the bye-laws and zoning regulations set by the municipality apply.

It is obvious that there exists a clear control system, which people understand and feel certain about. The social structure has remained unchanged in spite of other physical changes. It is probably this factor that instills a feeling of security about the system, since there is a community that shares the consequences and not the individual on his or her own. The security therefore comes from the communal feeling, rather than the certainty from the control system, which is the root cause of survival of the society and the city through the various changes and the phases of decline in the city.

The measurement of certainty hence, may not be an accurate representation of the actual situation thus proclaiming it to be a good settlement. In the past the city has displayed periods, when because of a harmonious system of control within the city, the place control was certain, responsible, and congruent; with inefficient bureaucrats of the municipality, and changes in value systems, it is no longer the same. The close-knit structure of the society does not reveal the actual situation, as in the degree of certainty; hence my feeling is that the inferences drawn from the observation, do not give an accurate representation of the context, and the culture.

Transfer of Control

The transfer of property in the pols was very well regulated in the past as described

earlier. The occupants of the pol along with the mahajans, had control over who the property was sold to, and also the terms for the contribution for maintenance of the pol through a tax/charge on the transaction of the house. There was a restriction on who bought the house with preference given to people related or families belonging to the same socio-occupational group.

Today there are regulations and laws set by the government, which govern the transfer of property. There is no formal and recognized social control. In fact the constitution specifically discourages social segregation (implying grouping by specific social group/caste) which has not curbed the occurrence of this phenomenon in Ahmedabad and as in cities elsewhere. The criteria for grouping may vary, but the grouping continues to happen universally in free countries. Though the bye-laws do not specify the choice of occupants, the pols continue to remain homogeneous in its socio-occupational pattern. The residents of the pol still have an unwritten control about monitoring its occupancy patterns.

Achieving Control: (by physical means)

The organizational pattern of the pol makes it appear as a unified spatial unit with the row of houses defining the edge, and the gates controlling the access to it. The residences being row houses have clearly defined boundaries with the front of the house along the street. The steps to the plinth act like an edge, and a point of control. The columns on the otla (entrance porch) between the houses, define the edge on the sides of the individual houses. The next point is the stoop at the doorway or a curtain (in Muslim homes) which is a symbolic point of control. Except the entrance to the pol, the other areas are

accessible to the inhabitants of the pol who are like a close-knit community. Besides the gateway there are no other means of control within the pol where people live in a community.

Temporal Division of Ownership

The common areas within the pol have a degree of temporal division in their use. The quadrangle in the pol is used by different people at different times for different purposes. It is used by children for playing in the evenings; in the afternoons hawkers/vendors come to sell goods/produce; during festivals or other social occasions it is used by the community as a whole. Here it is not ownership that is being discussed but the use of a common territory.

This territorial sub-division is also reflected in the use of the community hall in the pol. It is used by different organizations during different times as per prior schedule and agreement or, by the community as a whole for weddings or festivals, or by students for tutorial classes or for religious discourses.

Lynch establishes the importance of user control on place quality. He argues that spatial control has strong psychological consequences such as anxiety, satisfaction and pride. This criterion has been useful in providing an insight into the understanding of the society and its environmental context. The control patterns are made explicit while using the tools for analysis such as congruence, responsibility, certainty, transfer of control, achievement of control, and temporal division of ownership. They are helpful in understanding some of the conditions, but tend to overlook the cultural ramifications while clarifying the other more objective information.

The choice of the performance standards and the sub-dimensions used for evaluation, display certain biases of the author. As Lynch himself confirms, "The comments above are clearly culture-bound and cannot be defended as eternally just. They reflect Western pre-occupation with equality and freedom and the author's preoccupation with individual development."³⁴

In the process of narrowing down various criteria to five performance dimensions and two meta-criteria of efficiency and justice (which have been referred to in the application of the other criteria), Lynch has taken into consideration a wide range of issues: he mentions the difficulty of constructing a cross-cultural theory. *"It is even dangerous, since it will inevitably be used to impose the value of one culture on another. Each culture has its own norms for city form, and they are independent of those of any other."* He further says that, *"nevertheless, the danger remains, as in any theory dealing with human values, that a handsome general formulation cloaks an ethnocentric bias."*³⁵ Lynch has defended his position, where he claims that being aware of the danger (of imposing values of one culture on another) is one defense against it.

NOTES

1. Lynch, Kevin. *Theory of Good City Form*. p.37
2. *ibid.* p.50
3. *ibid.* p.108
4. *ibid.* p.108
5. *ibid.* p.121
6. Ahmedabad Municipal Corporation- General Department, Records. as quoted in Shah, V. *Street Development: Case of Ahmedabad, India*. Thesis MIT, 1982 p.38
7. Ahmedabad Gazetteer pp.249-266 as quoted in Gillion, K. *Ahmedabad*. p.16
8. Lynch, K. *op. cit.* p.123
9. *ibid.* p.131
10. *ibid.* p.131
11. *ibid.* p.131
12. *ibid.* p.134
13. *ibid.* p.135
14. *ibid.* p.138
15. *ibid.* p.138
16. *ibid.* p.139
17. *ibid.* p.139
18. *ibid.* p.142
19. *ibid.* p.142
20. *ibid.* p.150
21. *ibid.* p.151
22. *ibid.* p.185
23. *ibid.* p.203

24. *ibid.* p.192
25. *ibid.* p.192
26. Shah, V. *op.cit.* p.38
27. *ibid.* p.203
28. *ibid.* p.220
29. *ibid.* p.219
30. *ibid.* p.208
31. *ibid.* p.211
32. *ibid.* p.219
33. *ibid.* p.211
34. *ibid.* p.230
35. *ibid.* p.101

Chapter three

Application of N.J.Habraken's CONCEPT OF TERRITORY

The book "*Transformations of the Site*", by N.J.Habraken deals with "*what we may learn when we observe the built environment.*"¹ He feels, it is legitimate to look at the environment, not with the objective to act, but simply to understand. Only on comprehending the subject of the study, will there be a hope of predicting the result of our actions. The built environment according to him, is a reflection of the patterns of control, which we understand instinctively. The book, further discusses the '*patterns of transformation*', through which the built environment reveals its most permanent structure.

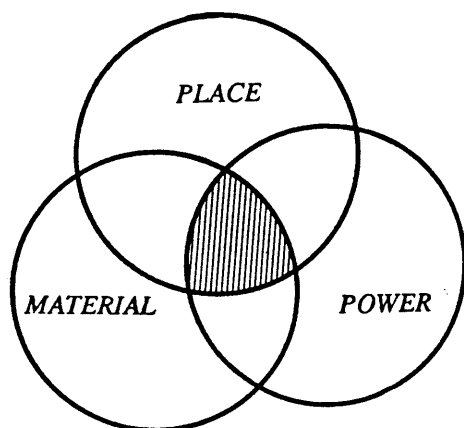
For the purpose of this study, I will elaborate on the concept of territory expounded in

this book, in an attempt to understand the built environment in the walled city of Ahmedabad. The patterns of claims, of ownership, use, and control within the traditional fabric, are intricately interwoven, and difficult to decipher without an in-depth observation of the urban fabric. The concept of territory will be used to unravel this complexity of the built environment.

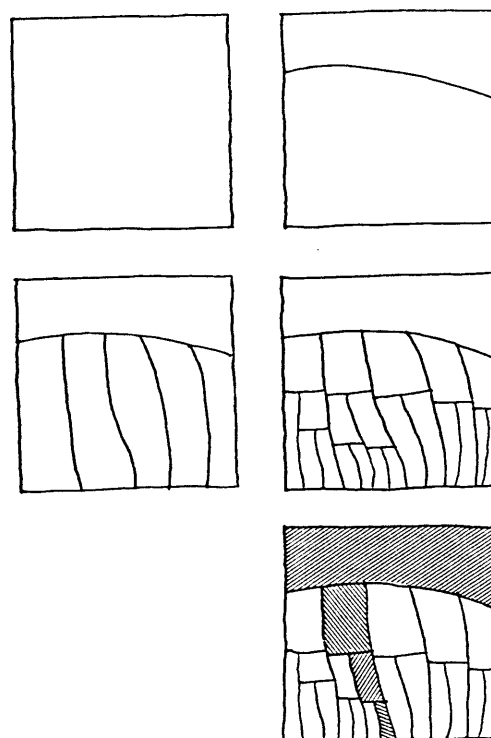
The Concept

The main body of ideas put forward in the concept of territory are as follows:

1. The concept of territory indicates a whole in the environment where power and space are indistinguishable.² It is where there is a unity of place, material and power.³ Territory is determined by the act of control of space. Control of space would actually be the control of the elements in that space.
2. Principle of territorial inclusion: Each territory has a public space and a private space. The private space can be sub-divided without changing the balance between public and private. A deeper territory results by a further division in each new territory.
3. Territorial space is not achieved by the act of building; and built space is not territorial space. One building may hold several territories; and one territory may hold several buildings.⁴
4. *"Once buildings have been erected, the shifting of territorial boundaries does not necessarily mean the demolition of what is already there. It is easier to add than to remove."*⁵ 4a. *"The shifting of territories in a given environment expresses itself on a neighborhood scale as well, where boundaries are also created and recreated for diverse reasons : social as well as economic."*⁶
5. Although the spatial and architectural form may remain the same it is always possible to notice the transition into another neighborhood by the reading of clues.⁷
6. The ultimate territorial expression is not in physical elements but in behavior. 6a.



39. Unity of place, material and power signifying territory



40. Principle of territorial inclusion.

Throughout the expanse of the urban fabric, the territorial expression of social order can run quite independently of any previously established physical order. **6b.** Districts as distinct from territories, reveal only the powers that produced them. **6c.** The appearance of physical homogeneity is one thing and territorial subdivision another.⁸

7. The problem of the shared fence can only be dealt with where custom has created a clear understanding of the techniques involved and the patterns to be followed.⁹ **7a.** The issues of the party wall seem to point towards fundamental relations between the individuals, the group, space and material.¹⁰

8. Relations between territories of the same level must be avoided.¹¹

9 The built-unbuilt boundary, is not necessarily the boundary of a territory. There is a distinction between an entrance to building and an entrance to a territory.¹²

10. Once it is identified that the two borders of territorial distinction and built form distinction ran their separate but related courses," *it is not surprising to find that the*

*most durable and powerful lines grafted in the face of the built environment are there where the two converge into one, running in unison to make one joint statement."*¹³

11. Territorial Depth: This concept refers to the dynamics of power distribution behind territorial arrangements in the built environment. The addition of a territorial depth is always the result of the introduction of a new power. When there is a greater distribution of power, the territorial depth is considered to be greater, i.e. when there is a transformation of a higher power towards a more multi-layered territorial composition, it means downward delegation of control to powers in deeper territories; there is a decrease in the control of the higher power. Conversely, if the power is centralized, the territorial depth is reduced.¹⁴

In applying these ideas to the city, it will be examined how these concepts aid in the reading and, in providing a deeper understanding of the city under study.

HISTORY OF AHMEDABAD

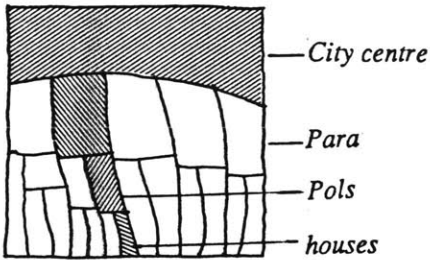
Ahmedabad went through phases of prosperity and decline during its history. The city expanded, and grew in wealth for a century after it was established, then, for sixty years it declined with Portuguese interference in its trade and the decay of the Gujarat dynasty. Its prosperity recovered, when it became part of the Mughal empire. The eighteenth century saw a period of disorder set in, with the disintegration of the empire. The city was jointly ruled by the Muslims and the Marathas from 1738 to 1753, and in 1757 was passed over completely into the hands of the Marathas. The East India Company annexed the city in 1817.

The Muslim Rule

The city of Ahmedabad was established by Sultan Ahmed Shah in the year 1411. The city developed along the river bank, where the citadel was first constructed. The sites close to the citadel were considered the best with reference to location, defense and accessibility, hence were allotted to those in favor with the ruler. The administrative structure of the city, was largely drawn from the Muslim community, which occupied the sites near the citadel. Hindus occupied the rest of the eastern side of the city.

Sultan Mohamed Begada, permitted his commanders to establish townships, and collect revenue, in exchange for services to the Sultan when required. This policy proved to be successful, leading to a rapid expansion of the city. The city wall, a later addition to the city, was constructed to check its growth, and thus accounts for the irregular shape of the city.

The city was begun with the construction of the citadel, the Three gates, the Friday Mosque and the ceremonial avenue, which connected these elements. The rest was allowed to evolve gradually. The city developed with seventeen major roads forming the primary network of communication.¹⁵ The seat of the royal government, was situated in the citadel, the Bhadra fort. The city was under the Subehdar (Governor) in the Mughal times. Criminal justice, defense of the city, and the police, were the responsibility of the Subehdar, and the Diwan was responsible for finance. The other important subordinate officials, were the Faujdars or chiefs of the police, the Kazis, who administered civil and criminal law, and the Kotwal, who was the head of the police and acted as the criminal judge as well. The Karoris collected the market dues and tolls. These appointments were officially designated posts. A lot of the other authority of administrative functions, filtered down to the guilds and the castes. It is important to remember, that the administrative



Territorial depth in the city



41. Lay-out of the city of Ahmedabad with the city centre and the paras.

functions of the city, were not as complicated, and were fewer than the municipality handles today.

The mahajans in Ahmedabad performed many of the functions of the municipality. Besides the appointed officials, there was a whole array of responsibility, which was handled by them. Within the mahajans, there was a hierarchy of importance; the bankers and merchants were most influential, but every profession had their customary rights and privileges, as well as obligations.

The Nagarsheth's voice carried weight within the city. This was a title conferred by the Mughal emperor for services rendered to the court, and to the city when in trouble. When necessary, the Nagarsheth would call upon the mahajans together and, preside over the meetings. He was well respected and, often served to settle disputes between mahajans,

or individuals, or mediating with the royal officials. This title was handed down within the family of Shantidas Jawahari. The Muslim community was represented by the Kazi. The office of the Kazi too, like the Nagarsheth, has been a hereditary one. He was not simply an official to the Subehdar, but served as a buffer between the government and the people.

The distribution of control occurred at two levels within the city: (i) Those officials appointed by the Governor, who were mainly responsible at the level of the city. The Nagarsheth, can also included among them, since he wielded a fair amount of power at the city level. (ii) At the neighborhood level, the mahajans of different guilds were responsible for issues dealing with the pol. During this phase, there was a balance in the distribution of power within the city. Though the Sultan was in command of the city, the power was not completely centralized in the hands of the ruler. There was an indirect participation of the residents of the city. When the city expanded, the *territorial depth* increased, with each of the paras under the control of the commanders.

While the city was under the rule of the Sultans of Gujarat and Mughal Viceroy, "*Ahmedabad was a splendid city by the standard of the time.*"¹⁶ Historical accounts and visitors to the city describe Ahmedabad as having "*wide streets lined with tall trees and many garden suburbs.*"¹⁷

The Maratha Rule

The Maratha rule that followed, witnessed a weakening of the political control in the city which heralded a decline in the trade. Indifference on the part of the Maratha officers, led to a disregard of building restrictions, resulting in narrowing or even blocking of streets.

Corruption and greed in them, resulted in a neglect of the city and its environs. Forbes described Ahmedabad in 1781: "*Solitude, poverty, and desolation. You behold the most heterogeneous mixture of Mogul splendour and Mahratta barbarism; a noble cupola, overshadowing hovels of mud; small windows, ill-fashioned doors, and dirty cells introduced under a superb portico; a marble corridore filled with choolas, or cooking places, composed of mud, cow-dung, and burnt bricks.*"¹⁸ This period clearly displayed the effect that the declining control had at various levels in the city.

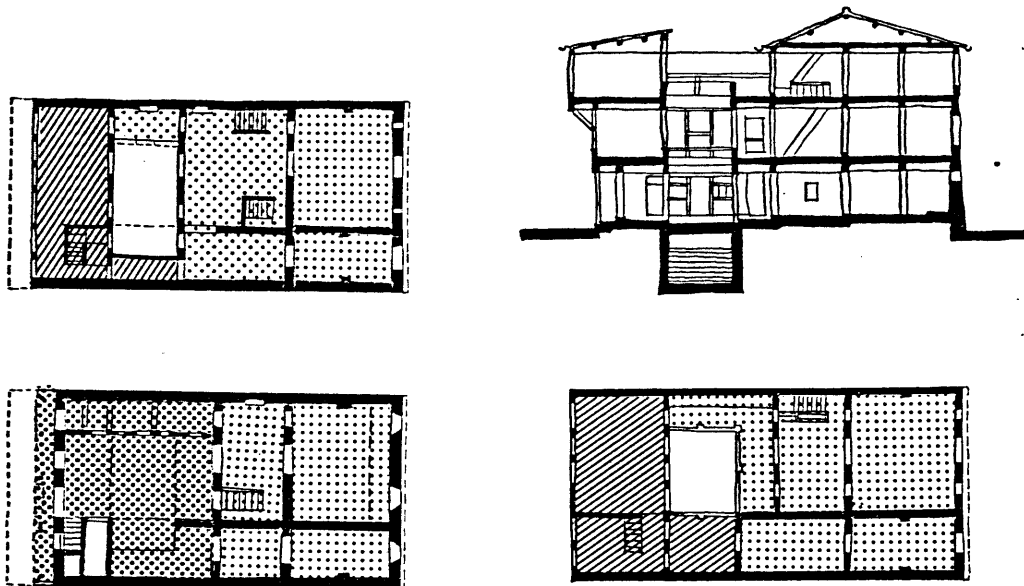
The British Period

The annexation of Ahmedabad by the British in 1817, found the wheels of progress in the city begin to move. The policies and taxes introduced by the British, encouraged trade and commerce in the city. With the growth of prosperity in the city, there was an influx of migrants from the neighboring villages and towns. The rising population, preferred to live close to relatives or their own community, resulting in the escalation of densities in the walled city. Introduction of a textile mill in 1861, and the rapid industrialization, intensified growth in the city. The western bank of the river Sabarmati, was opened up with the construction of the bridge in 1870. The Municipal Commission was formed in 1857, the city Municipality in 1874, and the railways were introduced in the city in 1864. All these events were harbingers of the change the city was to witness in its future.

With the return of prosperity to the city in the nineteenth century, and the subsequent increase of population, the congestion within the city grew worse. There were further encroachments on the roads, since provision had to be made for the larger caste communities which remained together, instead of moving into less crowded parts of the city.

The Municipality decided to make several new roads in the walled city, in order to encourage a spread of settlement, relieve traffic congestion, connect the centre of the city directly with the railway station, and open up the pols.¹⁹ These plans of urban renewal in the city: of razing to ground the houses that prevented the widening of roads, evoked resentment among the populace. In fact it was no solution to the city's problem of congestion, since it simply compressed the communities in the pols even further. The officials had not given adequate thought to the customs and living patterns of the people, while making the decision of making roads through the existing pols.

The rich industrialists who disliked the congestion, moved out into the suburbs in bungalows set in large compounds. At this time, the pols saw a *shifting of territories*. The large houses that the rich had formerly occupied in the pols were not sold off but either: (i) converted to institutional purposes- schools, colleges, etc. or, (ii) converted to



42. Pol house sub-divided- growth of deeper territories.

business locales, or, (ii) sub-divided and rented out to incoming migrants. This reinforces the fact that "*it is the large and wealthy powers that demolish before they build while the weaker ones inhabit and redivide the shells that present themselves.*"²⁰ The smaller houses in the pols also experienced the growth of *deeper territories* within their houses.²¹ A lot of families lived in one room households due to lack of space and affordability.

THE POLS IN AHMEDABAD

The walled city comprised of 356 pols (residential neighborhoods) in 1872. The pols were formed on a socio-occupational pattern. The pol can be identified as a *territory* consisting of several private houses. Though the pol fell under the jurisdiction of the Sultan, the Mahajans (community leaders) in each pol had control over the physical confines of the pol.

Control was exercised both at the physical level as well as the social level in the pols: "*The guilds controlled admissions, restricted competition, maintained joint charities*



43. Demarcation of territory of a pol.

*through levies on their members, kept up standards, determined wages, controlled prices (sometimes), set holidays, and safeguarded the interests of their members against the government, other guilds, and outsiders."*²²

The Panch (community leaders) of a pol decided on the residency in the pol, the transfer of property, settling of minor disputes, the use of communal areas, etc. *"Formerly no man could sell or mortgage a house to an outsider without first offering it to the people of the pol. Though this rule is not now kept, inmates of a pol are careful to sell to men of their own class and never to people of low caste. When a house is mortgaged or sold, the people of the pol have a right to claim from one-half to two per cent of the money received. Again on weddings and other great family occasions, each householder is expected to feast the whole pol, and in some cases all men of the pol, though not of the same caste, are expected to attend any funeral that may take place. If the pol rules are slighted, the offender is fined, and, in former times, till he paid, he was not allowed to light a lamp in his house or to give a feast. The money gathered from gifts, fines, and the percentage on house property sales forms a common fund managed by the leaders, seths, of the pol. This is spent on repairs to the pol gate, the pol privies, or the pol well."*²³ Today there are zoning regulations governing the development within the pols. This was formerly done by consensus amongst the occupants of the pol.

Ownership: Formerly the pols used to be separate, independent entities in the city. The Subehdars collected taxes from their respective paras in the city. The area of each of the pols was owned by the community that resided in it: the houses were individually owned and the public areas i.e. the streets and the communal open space, temple/mosque, the communal hall were commonly owned by the residents of the pol.

The houses continue to be individually owned even today. There are some houses which are subdivided and rented out. With the formation of the municipality, the pols fell within the jurisdiction of the city and, the public areas of the pol have become the property of the municipality. The municipality has gained access for maintenance of the infrastructure in the pols.

Use: It is in the use of the public spaces of the pol that the identification of ownership and control gets ambiguous. The above identification of ownership was done not from observation, but from information gathered from different sources. The issue of control was appraised from written material as well as from interviews. The use of the spaces is solely from observation: (i) the quadrangle in the pol is owned and maintained by the municipality, controlled physically and socially by the residents of the pol, and used by the occupants; (ii) the use of the streets as public areas, is even more amorphous: they are



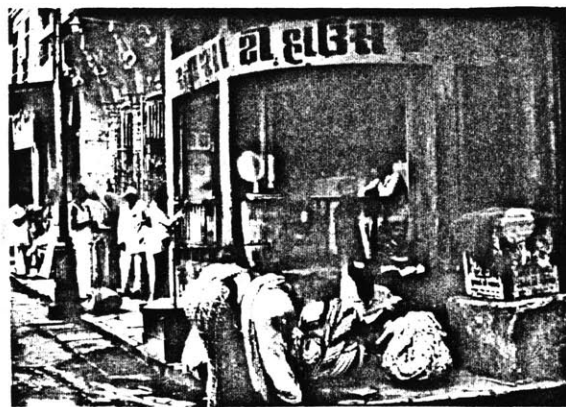
44. Ambiguity in use, control and ownership in street.

owned by the municipality, but in their use, are dominated by the occupants of the houses abutting the streets. This is especially evident in the secondary streets of the pol. Children play in the streets adjoining the houses, so that the parents can keep watch over them. The washing place of each house, is located on the street, where clothes and utensils are washed. There is an overlap, an ambiguity, between the ownership, control, and use of public areas in the pol as opposed to the separation, in the affluent suburbs in Ahmedabad, where the compound wall of the house, defines the ownership as well as the control and use of the property.

In the commercial areas (the bazaars) and other public areas in the past, built form and territory ran their separate courses. This led to the possibility of spontaneity and surprises in the fabric. This aspect of public areas has not changed even today, in areas outside shops where hawkers display their goods or produce vendors use the area after the shops



45. Hawkers selling goods on sidewalks.



46. Extension of cafe onto the sidewalk.

close their shutters, or where a tea shop extends onto the sidewalk with extra tables. It is these areas that permit chance occurrences and enrich experience in a city.

Moti Hamam Pol shown in the diagram is located in the northwestern area of the walled city. Within the *territory* of the pol, there are 121 houses. Though this pol is unconventionally regular in its layout, most of the other pols too, have a clearly defined *physical boundary*, which also happens to be its *territorial definition*. In J.Habraken's terms, it can be explained that there is a correspondence of form and territorial control in the pol.

The Moti Hamam pol is occupied by the Patel community, and is like many other pols, which have a homogeneous occupational pattern. There are also three Brahmin families, and two houses occupied by barber families. The occupancy has remained constant since the formation of the neighborhood. Members of the community, though not as close-knit as in the past, are quite attached to each other.

- *Communal areas- public*
- ▨ *Streets- public*
- ▤ *Houses- private*

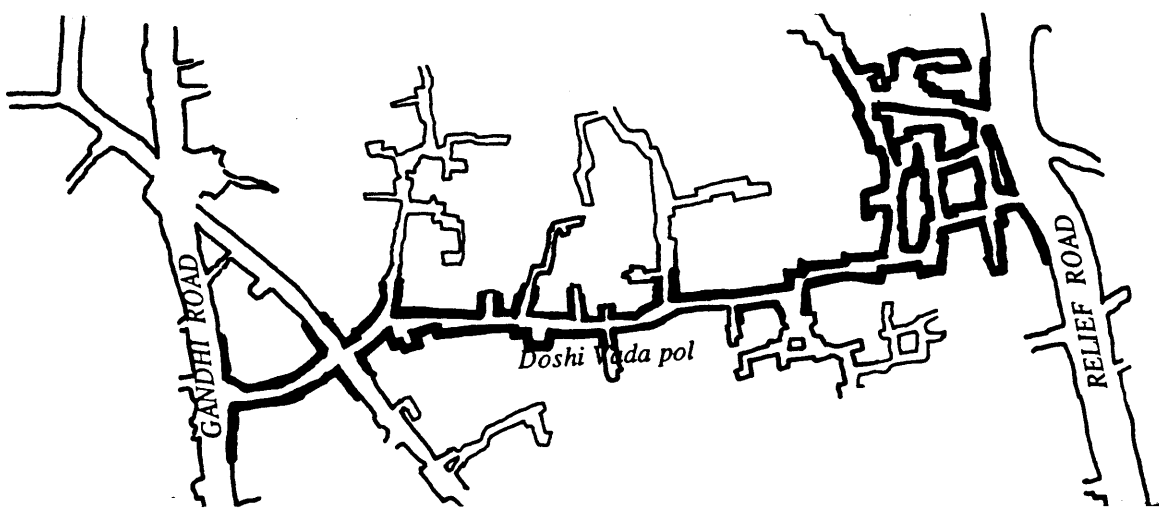


47. Public spaces in a pol.

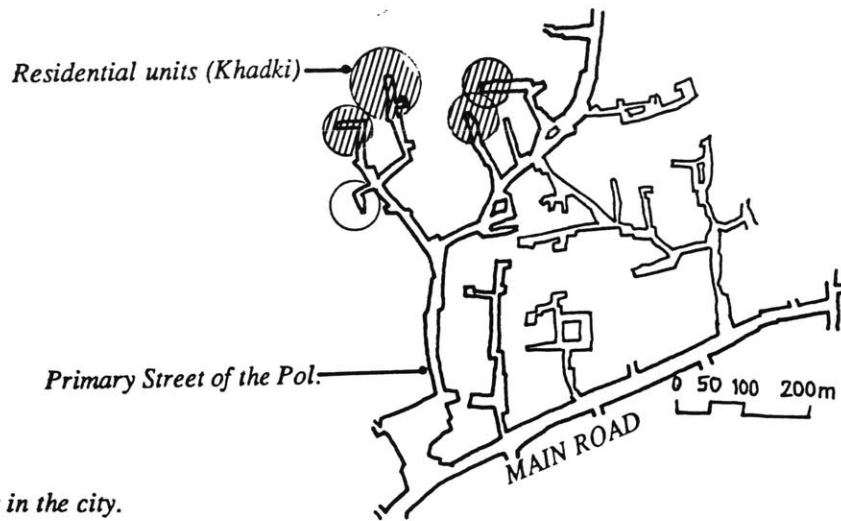
The entrance to the pol is through a gate. The gate serves as a transition from the public road outside, to the *territory* of the pol inside. Formerly, the gate was used for security reasons and served to keep out intruders. The gate exists even today but, serves only as a demarcation and a symbol of the territory. The Moti Hamam pol, is a close-ended pol, with no through access within the pol to other areas. There are some pols, where the gate is no longer existent. The primary street of these pols, are used to connect to other areas in the city.

The gate to the Moti Hamam pol, opens onto a large communal open space, which has a feeding place for birds (bird house) on one end, with a sitting platform underneath. The platform is where the well in the pol used to be located. The temple is situated next to the entrance, and a communal hall is alongside the common area of the pol. The central area and the streets are the *public spaces* of the pol.

There is a clear pattern of hierarchy of streets, from the wider, busier public road, to the central area of the pol, to the connecting dead end streets, along which the houses adjoin. This hierarchy, differs from the suburban American grid, where there is a uniformity in



48. Primary street of pol opened up to connect two major streets in the city.



49. Hierarchy of Streets in the city.



50. Suburban American grid.



51. Plan of a sector in Jaipur.

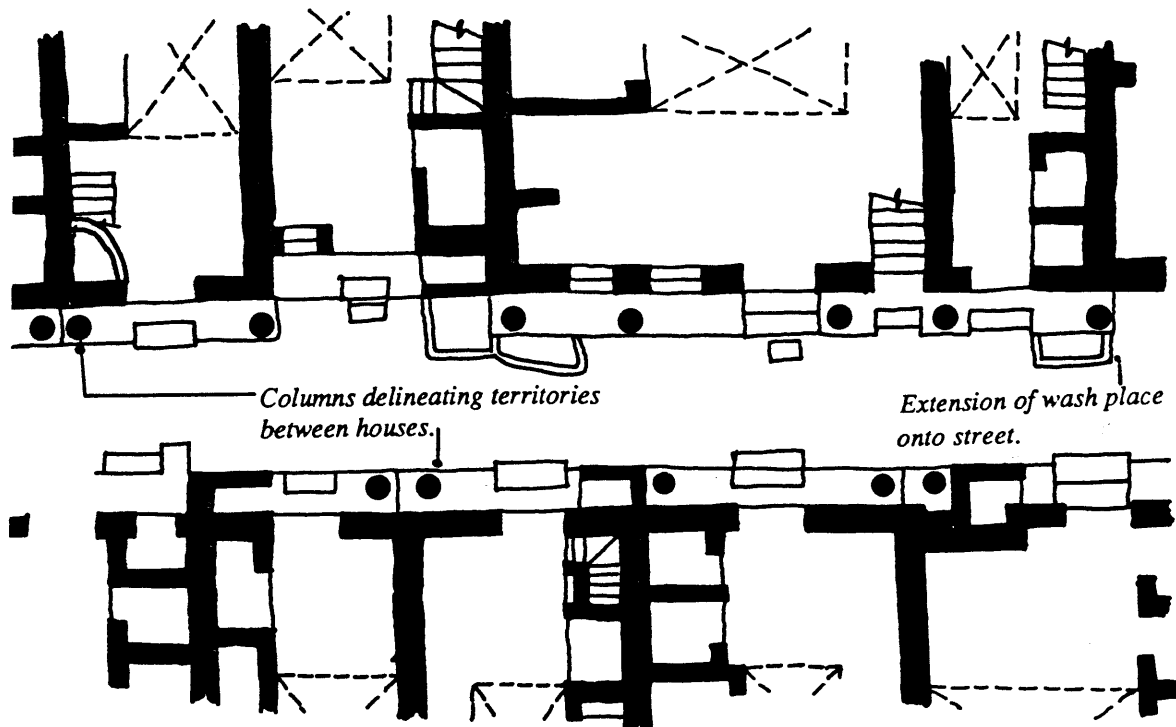
the street layout, and no hierarchical pattern of streets, like in the pols. The city of Jaipur too, is based on a grid for different reasons, but has successfully integrated the hierarchical system from the larger city layout, to the neighborhood level.

The pol layout, is a grid with straight roads and rows of houses. The central public space, acts as a connecting element for the secondary streets which originate from it. The houses open onto the secondary streets. They abut along the street, and hence have a *one-to-one relationship* between the inside and outside. Their *physical boundary*, demarcates their *territorial* limits. The street has been encroached upon for the wash places, as the water

supplied by the municipality does not come with sufficient force within the house. The *territory* of the house, has thus been extended beyond the former *physical boundary* of the house -an invasion of the public space by the residents of the pol.

A typical house in the pol, has a small Opla (entrance porch), an entrance area in the house, a chowk (court), and a room at the rear. The toilets have been a later addition and, are located on the opla. The houses have an underground tank, which is no longer used and, in a lot of cases converted into small basement rooms. Most of the houses, have a second and a third floor which has a terrace.

The houses in Ahmedabad have a peculiarity. They have entrances from the street and, they are also connected at the terrace level. The columns between the houses delineate the physical boundary on the opla, while at the terrace, the boundary wall provides for the



52. House and street: one to one relationship.



53. View of terraces in the city.

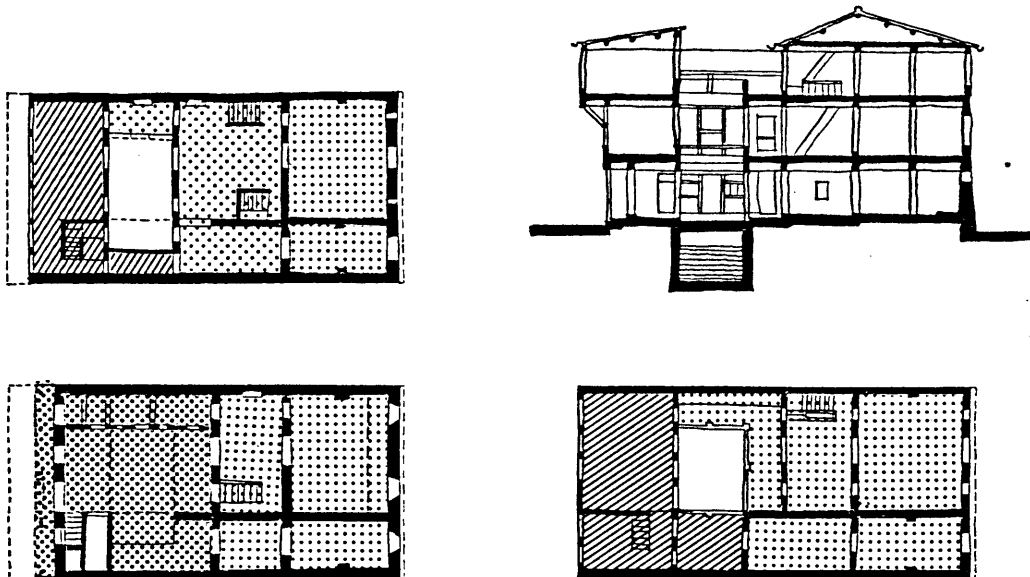
territorial definition. There is a pattern of life, that occurs at the two different levels: one is at the street level, and second at the terrace level. The usage of the terrace, is dependent on the season of the year and, the time of the day: in summer the lower floors and the ota along the street are used during the day and, the terrace is used for sleeping at night; in winter, the terrace is used during the day, while the lower rooms are used at night.

Each of the houses is not necessarily occupied by one family. In many houses, one finds a *shifting of the territories* ; the houses are either (i) partially sub-let to fetch in an additional income, (ii) sub-divided to accommodate relatives who have migrated, (iii) sub-divided to facilitate the breaking down of the extended family into nuclear family (where the married son no longer wants to live with the parents and cannot afford to move out). The diagrams, illustrate the growth of these *deeper territories* within the unit of the private houses. When the houses are sub-divided, the entrance area becomes a *public space* of the house, a point of connection for the other deeper territories.

From the observations made so far, it can be seen, that the movement from one territory to another, is done through a public space. When the pol is entered from the road, one

comes into the public area of the pol, the street too being the public area. In the case of a sub-divided house, the entry is through a designated public area too. The entry is governed in one direction: from the inside to the outside and not vice versa, i.e from the private space of the territory to the public space. It is thus an *asymmetric relationship* since the control is from one direction. Generally in most living quarters one finds that movement from one private territory into another is through the public space of that territory as has been observed by Habraken. There is another peculiarity of the pol houses: since people in the pol are either related to each other, or know each other, there are doors which connect the houses, which implies, that it is possible to move from one private space into another, without moving into the public space of the territory. There is a *symmetrical relationship/ horizontal relationship* in the case of the pol houses, where both the adjacent families have control over entry to the adjacent territory. A system of such connections exists between neighboring pols too, for possibilities of socializing

-  *Common area*
-  *Owner*
-  *Tenant*



54. Growth of deeper territories when houses are sub-divided.

without having to move out in the street, and for security reasons as escape routes which was formerly required. This relationship is possible only "*where custom has created a clear understanding of the techniques involved and the patterns to be followed.*"²⁴

Reflection on the Patterns of Control

During the rule of the Sultans, the dispersed patterns of control amongst the officials and the community leaders resulted in a homogeneous living environment as well as economic prosperity in the city. There was an established balance between the ruling powers and the merchants which ensured a steady process of prosperity in the city. The officials in the management of the city and the community leaders in the management of the pols maintained an atmosphere of contentment among the people.

The Maratha rulers did not have the political dexterity of their predecessors. They introduced levies on the incoming goods producing a negative effect on the trade in the city, which was the main reason for the success and growth in the city. Their corrupt and negligent attitudes led to an irreparable damage to the urban fabric. The reduced political control of the Marathas led to a chain reaction in the city: the city suffered an economic decline; their corrupt attitudes led to reduced power in the hands of the community leaders, resulting in a disintegration of the residential areas as well as the public monuments.

The British brought in a more stable administration which encouraged the growth of the city. They formalized the various institutions which were handled by either the officials or mahajans: they formed a formal administrative structure to the city like the Municipality and the Courts. With the growth of the city and the population, the complexity in

managing the city had increased and the administrative bodies were required. As a result the traditional bodies of administration lost their participation in the city events and decisions; at the same time the municipality gained control over the residential areas too, to provide for the infrastructure.

The impact of this foreign method of administration without making room for the existing patterns of claim can be seen and felt in the physical form of the city. Thus the gap between the territorial distinction and built form distinction is increasing in the pols, while the territorial depth is decreasing with the centralized control system. The social structure also underwent change with the outgoing elites and incoming migrants affecting the occupancy patterns. The people no longer have a similar degree of participation and a voice to state their changing needs to the decision-makers today, who most likely all live in the suburbs and have a changed set of values. The ambiguity in the territorial and built form distinction in the public areas which was present in the past, continues till today within the changed administrative structure.

Observations at the physical level have demonstrated the success of the neighborhoods both in the inner city as well as in the suburbs where co-operative societies are formed instead of pols. The aspect of territorial depth has maintained the integrity of the pols, and the hierarchy of streets has provided for a variety within the urban fabric. This has also assured that the houses do not open onto the major public access routes, but on secondary streets in pols, maintaining a level of privacy. Habraken's concept methodically structures observations on aspects of territory in the city. The abstract nature of the theory does not account for the cultural pattern, nor does it reflect the aspirations of the people due to which changes are occurring within the fabric. It only observes the way the city functions as it is, which is essentially what it sets out to achieve, to observe the built environment.

NOTES

1. Habraken, N.J. *Transformations of the Site*. p.3
2. *ibid.* p.90
3. *ibid.* p.109
4. *ibid.* p.143
5. *ibid.* p.143
6. *ibid.* p.147
7. *ibid.* p.147
8. *ibid.* p.148
9. *ibid.* p.150
10. *ibid.* p.151
11. *ibid.* p.152
12. *ibid.* p.152
13. *ibid.* p.152
14. *ibid.* p.105
15. Shankerlal Amritray. *Amdavadno Jivan Vikas* (Expansion of Ahmedabad City) in Gujarati, as quoted in Shah, V. *Street Development: Case of Ahmedabad, India*. Thesis, MIT 1982
16. Gillion, Kenneth. *Ahmedabad* p.15
17. *Ahmedabad Gazetteer* (Gazetteer of the Bombay Presidency, Vol. IV pp 249-266 II) as quoted in Gillion, K. *op. cit.* p.16
18. Forbes, J. *Oriental Memoirs*. 120(III), as quoted in Gillion, K. *op. cit.* p.32
19. Gillion, Kenneth. *op. cit.* p.126
20. Habraken, N.J. *op. cit.* p.145
21. By the growth of deeper territories is meant, the sub-division of a private space.
22. Gillion, Kenneth. *op. cit.* p.23

23. *Ahmedabad Gazetteer*, p.295(II), as quoted in Gillion, K. op. cit. p.25

24. Habraken, N.J. op. cit. p.150

SYNTHESIS

The study has so far applied the methodological tools of the two theories of Lynch and Habraken to the walled city of Ahmedabad. It is appropriate at this juncture to synthesize the observations about the city and, to review the usefulness of this method of understanding the city through the theories. The exercise of applying theories to the city, provided a way of evaluating the theories and their efficacy in providing an insight into the city.

Each theory has its own idiosyncrasies, a specific direction and scope and the cultural biases of the author. Therefore it seemed legitimate to use different theories to evolve a more comprehensive understanding of the built environment of Ahmedabad. The two theories, those of Lynch and Habraken, have each contributed in their own way, through

their application to the city, to observing and drawing inferences about the city. Through such a process, an approach to urban design intervention in Ahmedabad might be formulated.

Lynch's "*Theory of Good City Form*" is a normative theory, which "*deals with generalizable connections between human values and settlement form.*"¹ He has developed five performance criteria and two meta-criteria from which a normative theory can be built. These criteria are both, as he states, a way to evaluate settlement form and suggest ways of improving the urban fabric: Lynch offers no process in implementing the ideas within the political and economic framework.

Lynch's performance standards are an alternative to what he calls "*the dogmatic norms that customarily guide discussions about the goodness of cities.*"² When applied at the city scale, they refer to "*those goals which are as general as possible, and yet whose achievement can be detected and explicitly linked to physical solutions.*"³ Lynch has chosen values such as vitality, fit, sense, access, control, efficiency and justice for the performance dimensions. The choice of the values and the criteria for observation reflect the author's biases towards individual development, and the western preoccupation with equality and freedom.⁴ The values have been abstracted, nonetheless, as general performance standards to be made applicable to diverse cultures.

The main thrust of the book "*Transformations of the Site*" is on observing and describing the built environment. Habraken feels it is crucial to observe the environment and understand it before acting on it, so that there is a basis to predict the result of our actions.⁵ The concept of territory, while used as a descriptive device, provides some implicit notions about goodness of cities. However, this is not the aim of the theory;

Lynch's theory, on the other hand, prescribes in general terms, what a good city should be.

Territories in a traditional fabric are intricately intertwined and difficult to decipher on immediate observation. Habraken's concept of territory provides a methodical way of unravelling the complexity of the built environment. The theory does not claim any specificity in its application, though: it is more suitable to low-rise, high-density fabrics as it has been developed by looking at such traditional fabrics. With reference to applying the theory to diverse cultures, Habraken asks the reader to move away from professional thinking, from the habit of investing values, meanings and quality in the built environment. He does not want to argue about any qualitative opinion, but simply to explore the way things are from the chosen point of view.⁶ Habraken has opted to look at the built environment away from the cultural norms and meanings that people attach to it. He looks at the physical fabric as an object which has manifested and which reveals the permanent structure of a place.

Both theories seek to observe the built environment, but, at the same time, they are different in their approaches, the scope of their study, and the aspect of the built environment they address. Lynch's theory, among its objectives of building a cross-cultural theory, not only sets out to evaluate the physical environment, but also suggests ideas for the future and possibilities for improvement of the built environment. Lynch draws connections between human values and the spatial setting, while Habraken specifically and consciously stays away from meanings, values and the aspirations of people, and wishes to explore things the way they are. Lynch looks at the people and environment together, while Habraken prefers to look solely at the environment. The

differing emphasis and outlooks of the two theories have led together to a more comprehensive understanding of the city than each would have done individually.

The theories together have been helpful and relevant in observing the built environment. They are very useful tools for such a study, but, since both have abstracted and formalized their methods, they required interpretation and accounting for the cultural dimension of the society, while applying them to the city of Ahmedabad.

The observations made with the aid of the methodological tools of the two theories shed light on both positive and negative characteristics of the built environment of Ahmedabad. Some aspects of the built environment (like the neighborhoods as seen in the formation of co-operative housing in the suburbs) have proved their durability and have been adopted in new developments. There are others, too, which have been successful, and can be adapted in future to enrich the city and provide clues to develop ideas for intervention in the city.

***Mixed Use:** In the past there was no segregation of functions, of commercial areas from residential, and place of work from home in the layout of the city. This aspect had ensured access, and variation of functions for the residents. In Lynch's term the city had a *fine grain* in the distribution of its functions.

*** Mix of class:** In the formation of the pols there was no distinction in the class structure; both the rich and the poor resided in the pols. The size of the houses was the only expression of status. There was grouping in the city, but it was not by the criteria of economic status. In the suburbs, the pattern of the fabric reflects the status of the residents, with a clear separation of the affluent suburbs from the rest, i.e. the grain is

coarse with regard to the character.

*** Public participation:** The decentralized control pattern that existed formerly in the city provided a base for participation by the inhabitants at different levels in the city. The prevalence of user control maintained a cohesiveness between the pols and the state. The centralized control in the city today does not facilitate active participation by the citizens.

*** Hierarchical organization:** The hierarchy of the streets was expressive of territorial depth in the city, and the prevalence of deeper territories from the centre of the city to the pols, from the houses in the pols to the further sub-division of the houses. This permitted the simultaneity of public and private areas to co-exist, as well as a the presence of a variety of functions in different streets, which became identifiable according to the street location. The organizational pattern provided for a clear identity and structure in the city.

*** The idea of a neighborhood:** The constant reinforcing of the idea of a neighborhood (the pols) in Ahmedabad as an area of habitation, as observed through the theories, can also be seen in some of the new housing development in the suburbs. The pol exemplifies the cohesiveness of the society and its need for grouping, which has been carried forward in the co-operative housing in the suburbs.

The above stated observations about the walled city of Ahmedabad are a conglomeration of ideas, derived from the application of the two theories. These observations have not culminated in specific ideas for urban design, but have fostered viewpoints about the nature of cities, and ideas of making Ahmedabad a better city: A city which is comprised of an agglomeration of neighborhoods where there are occupants from a varied class, where there is a mix of functions, in Lynch's words- a place which has a fine grain of

character and use; where there is a closer integration of home, work and leisure which would therefore permit a comfortable degree of access to people, places, services and information; this closer integration could facilitate active public participation at varying levels in the city; the city should have an identifiable core, a centre. In physical terms the scale of a metropolis should be broken down to constitute numerous self-sufficient neighborhoods which relate to major central functions located at the city centre. These ideas are only at the conceptual level and can be further developed into a set of concrete solutions.

Having unravelled the concepts that made the walled city function cohesively for a number of years, these observations can be stepping stones to move forward, and be used as a basis to formulate an approach to urban design intervention in the city, to make our contribution, a part of the dynamic change and maintain a continuity in the urban fabric of Ahmedabad.

NOTES

1. Lynch, Kevin. *Theory of Good City Form*. p.37
2. *ibid.* p.108
3. *ibid.* p.108
4. *ibid.* p.230
5. Habraken, N.J. *Transformations of the Site*. p.3
6. *ibid.* p.3

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- 3, 4, 12, 24, 25,
27, 29, 53 Photographs courtesy Rahul.
- 5, 8, 10, 23, 37,
47, 48, 52, 54 Based on plans /maps from Ahmedabad Municipal Corporation. (courtesy Prof. K.B.Jain)
- 6 Gillion, Kenneth. *Ahmedabad.*
- 7, 15, 16, 19, 35,
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- 11, 49. Hamesse, J. *Sectoral and Spatial Interrelations in*

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18. Drawing courtesy Abhimanyu.
- 28, 30. Dalal, Abhimanyu. *An Inquiry into Architectural Activity under Transformation; An Articulation of Issues and Methods.*
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