Chapter 2- Literature Review

2.1   Introduction

Understanding the nature of neighbourhoods is understanding the nature of cities. It is thus worthwhile to review works on neighbourhoods and cities and examine the synergy which keeps the neighbourhoods and cities develop in unison. In the city of Kolkata, like all other major cities of the world, many of the neighbourhoods are heavy with important architectural artefacts, but are more importantly, consistently made up of 'structures of the ordinary'[29]. Every neighbourhood is unique and is part of personal and collective memories of its residents. It is thus necessary to understand the visual and physical realities which situate a neighbourhood in the territory of its urban myth. These realities are buildings and road networks, housing stock, incremental growth patterns, migration and (de)gentrification along with speculative development scenarios.

This chapter goes back and forth in addressing the spatial structure of neighbourhoods (or the absence of them) viv a vis the city structure, since it is the continuous spread of 'neighbourhood areas' (*Banerjee and Baer - Beyond the neighbourhood unit*[30]) that eventually give the entire city its identity and character. However, the chapter begins with the spatial nature of the 'neighbourhood unit' as proposed by Clarence Perry[31] in the 1920's and goes on to put forward the arguments which question the rigid structure of the neighbourhood unit model with the aid of *The Information Report no. 141, of the American Society of Planning officials*[32] of December, 1960 and subsequent literature. The report, in its critique situates the neighbourhood areas in the context of the city, a theme which the present thesis uses by citing holistic studies in residential neighbourhood areas, city form, image ability, meaning, etc. through the work of Ernest Sternberg[33] in his study of an integrative theory of urban design, where he sums up the key themes of urbanism associated with certain leading thinkers and writers by synthesising and extending the key content of classic works in urban thinking and argues that the ideas informing urban design usually coalesce around contending approaches, each associated with one or two leading writers. In this section, Kevin Lynch[34], Jane Jacobs[35], Schultz[36] and other major thinkers and urbanists have been featured to build up a considerable body of urban design and planning thinking in understanding residential neighbourhoods (or residential neighbourhood areas or residential areas or sanctuary areas according to nomenclatures used by different authors) and the city. Following this is the review of the monumental work of Banerjee and Baer - *Beyond the neighbourhood unit,* where the writers argue in favour of what they call the 'Residential Environment' against the rigid construct of Perry's neighbourhood unit model and build argument towards an inclusive approach in understanding neighbourhood areas in the context of the city. Use of cognitive maps form an important basis of the authors' findings which reinforce the 'perception school' approach initiated by Kevin Lynch in his seminal work *Image of the city*. This chapter subsequently examines the city core and periphery dynamics and cites the thoughts of Jonathan Barnett[37] and his critique of modernist city planning and ushering in of the concerted *New Urbanism* movement emphasising walkability, diversity and accessibility within neighbourhoods and understanding cities and sprawls as livable entities which celebrate local history, climate, ecology, and building practice. At the end of the chapter, a very recent work by researchers in urban morphology is cited titled *urban nuclei and the geometry of streets: The 'emergent neighbourhoods' model*[38] where the authors come up with an interesting model for neighbourhood and city study. In the end, the learning from the literature survey is summarised.

Chapter - 2

2.2   Neighbourhood Unit Concept

2.2.1   Origins of the Neighbourhood Unit Concept

One of the earliest works on the 'neighborhood unit' was by Clarence Perry. In the early 1900s, in a diagrammatic planning model for residential development in metropolitan areas, Perry designed a framework for urban planners attempting to design functional, self-contained and desirable neighbourhoods in the early 20th century in industrialising cities. It continues to be utilised as a means of ordering and organising new residential communities in a way which satisfies contemporary social, administrative and service requirements for satisfactory urban existence.

Clarence Perry's conceptualisation of the neighbourhood unit evolved out of an earlier idea of his, to provide a planning formula for the arrangement and distribution of playgrounds in the New York region. The necessity for a formula such as this was attributed to the rise of the automobile in the early 20th century. During a period where road sense had not yet amalgamated with the social conscious, and many of the urban tools we now use to manage the threat posed by vehicular traffic did not exist, or were not in abundance (such as pedestrian crossings, traffic lights and road signs), developing cities such as New York, which embraced the motor car, suffered street fatality rates in excess of one child a day.

Clarence Perry conceived of neighbourhoods in this time period as **islands** locked amidst a burgeoning sea of vehicular traffic, a dangerous obstacle which prevented children (and adults) from safely walking to nearby playgrounds and amenities. Perry's neighbourhood unit concept began as a means of combating this obstacle. Ultimately, however, it evolved to serve a much broader purpose, of providing a discernible identity for the concept of the 'neighborhood', and of offering to designers a framework for comprehending the city by defining the smaller subareas.

While there is evidence that the concept of the neighbourhood unit emerged as early as 1923, at a joint meeting of the National Community Center Association and the American Sociological Society in Washington, D.C., it was the publication of Clarence Perry's paper, in the 1929 Regional Plan of New York and Its Environs, which led to its promotion as a planning tool. Titled, *The Neighborhood Unit, a Scheme for Arrangement for the Family-Life Community*, Clarence Perry's monograph offered in concrete terms a diagrammatic model of the ideal layout for a neighborhood of a specified population size. This model provided specific guidelines for the spatial distribution of residences, community services, streets and businesses.

Fig.2.1 Clarence Perry's 'Neighbourhood unit'[39]

Chapter - 2

2.2.2   Developments on the Neighbourhood Unit Concept

The Information Report no. 141, of the American Society of Planning officials of December, 1960, deals with the concept of the Neighborhood unit in much detail. It deals with Perry's basic idea of the unit and Reginald Isaacs' critique. While crediting Perry as the 'single source' on neighborhood prototypes, it features the six basic principles of neighbourhood delineation. They are as follows:

1. Major arterial and through traffic routes should not pass through residential neighbourhoods. Instead, these streets should provide boundaries to these neighbourhoods.
2. Interior streets patterns should be designed and constructed through use of cul-de-sacs, curved layout and light duty surfacing so as to encourage a quiet, safe and low volume traffic movement and preservation of the residential atmosphere.
3. The population of the neighbourhood should be that which is necessary to support its elementary school.
4. The neighbourhood focal point should be the elementary school centrally located on a common or green along with institutions that have service areas coincident with the neighborhood boundaries.
5. The radius of the neighbourhood should be a maximum of one quarter mile, thus precluding a walk more than that distance for any elementary school child.
6. Shopping districts should be sited at the edge of the neighbourhood, preferably at major street intersections.

Reginald Isaacs, the then Director of planning for Michael Reese hospital in Chicago, voiced the strongest criticisms of the theories of residential neighbourhoods of Perry in his articles published in the 'Journal of Housing' and the 'Journal of the American Institute of Planners'. Apart from the fact that the neighbourhood units as delineated by Perry would behave as 'islands' and be 'restrictive' in the sense that they were limited to accommodating certain communities and ethnic groups, it was argued that social interactions were not best achieved through elementary schoolmates. This argument was further enhanced by Kevin Lynch in *Good City Form*[40], where Lynch argues against the 'cellular' nature of the neighborhoods in the entire city form and puts forward the idea of a *continuous fabric*, which, he argues, every good city should have.

But the idea of the neighbourhood unit remains dominant in understanding the city all across the world. The discreteness and broad homogeneity of the neighbourhoods give the city its uniqueness and essential character. In the conclusion of the previously mentioned report (The Information Report no. 141, of the American Society of Planning officials of December, 1960), it is written that that though the traditional neighbourhood is ideal to live in for the 'average' family, which is typically formed of the parents and 1.5 children, it may not be such an ideal condition for the families which are not average; for the childless couple, the single retired individual or the migratory worker, who might want to stay in relatively more anonymity.

The following section puts forward the 'Definition of the neighborhood Planning unit' from the 'Planning units of the Nashville Metropolitan area, Davidson County, Tennessee' of 1959 quoted in *Appendix B of the Information Report no. 141*. The criteria suggested for defining residential units are as follows:

1. Population with similar income range
2. Housing having similar values and/or state of repair
3. Similar ethnic groups
4. Natural physical features limiting communication
5. Man-made physical features limiting communication
6. Location of primary schools
7. Location of daily-needs household shopping facilities, e.g., daily grocery, druggist

Chapter - 2

8. Subjective local concepts used by people to identify themselves with an area known by a traditional name.
9. Areas of similar density of population
10. Areas of approximately same number of people
11. Areas in which the residential population is oriented toward institution
12. An area occupied predominantly by residential structures

2.2.3   Criteria of Neighbourhood Delineation

The above mentioned report elaborates upon already existing neighbourhoods which the present thesis also deals with and argues how the 'neighbourhood unit' concept cannot be applied to all neighbourhoods and adopted as a guiding rule universally. The following is quoted from the report: "There is a basic difference in applying 'neighborhood' concepts to newly developing areas and to established sections of the city. In working with the new areas, the planner and the developer have the advantage of shaping the neighbourhood to their desired end product with relatively few limitations. The function takes on the characteristics of a design problem. On the other hand, plotting a neighbourhood pattern over an existing layer of established urban improvements often can take on the proportions of trying to bailout a rowboat with a sieve. Fitting even, regular boundaries to an irregular, overlapping, ill-defined grouping of elements comprising total neighborhoods becomes a frustrating task more than a design problem, the task becomes a social problem, a political problem, and an economic problem.

………………….The widely accepted practice of using **major streets as neighborhood boundaries** is basically sound. An atmosphere of quiet and cohesiveness in the neighborhood will not be encouraged by the introduction of high volume, high speed traffic into the area. On the other hand, there will be times when both sides of a street are devoted to commercial uses that serve as a neighbourhood shopping center for residential areas extending back from both sides. In these cases, it becomes unrealistic to draw a boundary line down the center of the street.

The importance of major streets as neighborhood boundaries as viewed by individual neighborhood residents is pointed up in a Michigan State University study on spatial locations in the city. In answer to a question as to how far the neighborhood extended, 79 per cent of the study's 574 respondents mentioned a major street as at least one of the boundaries. Railroads, the second most frequently mentioned boundary, were given as a reply by only 18 per cent of the respondents."[41]

If one major element of demarcating neighbourhood boundary is the arterial road, the other is what the report calls the '**focal points**'.

"Often parts of the city are associated with their proximity to some physical element that is uniquely theirs. This element takes on the characteristics of a centrally located magnet that exerts its influence radically. In areas of strong concentrations of minority groups, institutions catering to or closely associated with the particular needs of the group will become neighborhood focal points. Some examples might include a Buddhist Church in an oriental neighborhood, a bocce ball court in an Italian area, or a settlement house. Religious institutions, Catholic churches in particular, often are the point around which neighborhood life revolves in some localities. Many attempts have been made to design this element into new residential neighborhoods, usually in the form of an elementary school-common greencommunity center complex. The degree of success of this conscious effort varies.

In older parts of the city the neighborhood focal point may take on a number of forms. In some cases it may be a school or a park as in the newer areas. Often it will be a shopping area. Frederick Gibberd in 'Town Design' (cited in the text) makes some relevant observations on this matter. 'The undisputed reason for making schools for young children an integral part of the neighborhood is that education is based on both family and school life. With the school building within easy reach of the home there is every chance for contact between the parent and the teacher; and of the school being accepted by

children as a natural part of their existence **--** the same children playing together out of school hours, and the buildings not being in a foreign place to be visited for certain set hours, only during the week. There is, too, the physical, as distinct from social reason, that the child can, when the school is within the neighborhood boundaries, walk to it with ease and safety.

These considerations are not so important with the older children, who generally strive, and are better for, a measure of independence from home ties, and who are old enough to cross main roads or go to school on bicycles. Since in England and Wales the children above twelve years of age are sent, according to their natural bent, to one of three types of school, and since all three types cannot be provided in every neighborhood, children will have to travel about the town, and so there seems little point in trying to make the schools a part of the neighbourhood plan. Probably the most effective method of generating community life is to use the shops as the basis, and place with them those buildings which serve the community needs, such as the hall, pub, library and health centre'. To illustrate this point, Mr. Gibberd quoted Judith Ledeboer (cited in the text):

'The shops and the shopping centre provide the most important elements in the design of the neighborhood. It is there thatyour communal relations really start. The school basis for the theory of the neighborhood unit has been built up round a children's community, and it affords an inadequate conception of a neighborhood unit in which adults are going to live.

A good shopping centre combined with other community buildings will, like the medieval market place, bring the inhabitants into social intercourse far more effectively than any number of community centres, however large and however well organized. People meet over the shopping basket in the local cafe, milk bar, pub or library. If all these activities can be concentrated at one point, then there will be the greatest possible chance that different social groups, with different interests, will be brought into contact with each other, and the least possible chance of individuals becoming isolated and 'lonely'.

Measurement of the attraction power of these focal points is not easy. Furthermore, as population makeup changes, so will the effect of these neighbourhood 'magnets'. Nevertheless, their influence should not be ignored in the formulation of neighborhood boundaries. Careful consideration of them in neighborhood planning can be the ingredient that will hold an area together and give it the individuality necessary to avoid the flat conformity and anonymity so often associated with American cities."[42]

The ideal size of the neighbourhood unit as we see here has been an area of inquiry and debate since the time it was proposed by Perry in 1929. In the Information Report no. 141, of the American Society of Planning officials of December, 1960, quoted above eventually terminates with a concept of 'neighborhood subdistrict'. In subsequent literature and with the emergence of the 'perception school' in urbanism, this question was reiterated in more critical detail. Let us see the 'neighborhood subdistrict' concept in the 1960 report. This can substantiate the use of 'representative patches' for the study of the neighborhood continuum as adopted in this thesis.

The concept of 'neighbourhood subdistrict' mentioned in the report suggests that while the neighbourhoods can be looked upon as unique physical spaces in the fabric of the city and maintain their identity, they can have the potential of merging with the rest of the city. It argues that beyond neighbourhood boundaries and other physical instruments the neighbourhood essence is rooted deeper in the community psyché. "A community is not just an aggregation of dwellings plus a few stores, nor is a neighborhood established by physical boundaries. A neighbourhood is an area within which a spirit of neighbourliness exists, and in which people do not feel strange. These feelings can be fostered by physical planning, but it alone cannot create them. If we are really going to rehabilitate our cities we must go deeper than planning for safe side streets and protective green-belts………………To foster community interaction the planning agency may identify subareas or housing groups within the neighborhood. These may consist of a block, or both sides of a street, or even a group of several multi-family buildings. This technique may be most useful where there are clusters of varied types of housing."[43] A Chicago neighbourhood is mentioned here which could be delineated with many of the criteria (the major streets, the focal points etc.) discussed in the report.

The report concludes with a city level understanding and situating neighbourhoods in the realm of the city holistically rather than looking at neighbourhoods as isolated 'cells' which can be physically and discretely identified in the city structure. This segment further reinforces a case for considering neighbourhoods as part of a larger continuum representing certain essential characters of the city.

"The concept of the neighborhood is well established as a basic unit for planning our cities. Further, it is a popular and accepted (though often vague) element of social and physical organization in the minds of most Americans. The neighborhood has become the symbol, through conscious design or nostalgic wishful thinking, of a means to preserve the real or imagined values of an earlier, semi-rural, less hurried way of life in our increasingly complex and fast moving urban centers. Unqualified criticism of it would be unfair and unwarranted; it also would be unwise, and in some ways like criticizing baseball or the 'Fourth of July.' Unqualified endorsement of neighborhood planning as it has been practiced would be equally unjustified. Such endorsement could be accounted for only by incomplete knowledge of the problems of neighborhoods, or by unwillingness to let the facts upset an otherwise tidy formula.

The nineteenth century conception of neighborhood and, for that matter, many of the more recent versions of the 'neighborhood unit' or 'cell' derive from the notion that neighborhoods will be composed of aggregations of 'average' families--husband, wife, about 1.5 children, and maybe a miscellaneous relative or two--all of them desiring the kind of neighborliness, stability, and respectability associated with grandma's time. Actually, families of this sort comprise less than half of the families occupying dwelling units in our cities.

Even for those families that conform to the 'average', the planned neighborhood does not necessarily provide the ideal living environment. This is not to say that many of the elements that are being incorporated into contemporary neighborhoods are not sound, i.e., who can argue against the advisability of diverting high speed and high volume traffic away from living areas, especially where children may be playing or walking to school. Yet there is a depressing sameness about a great many of our newer developments, a sameness that begins with individual structures and extends through the entire layout of the neighbourhood and the composition of its population, leaving the impression that perhaps the greatest virtue of these places is their newness.

While this report has been devoted primarily to a discussion of techniques for delimiting neighbourhoods, it unavoidably has dealt with certain subjective evaluations of the neighbourhood theory. Drawing the boundaries of a neighborhood, if these boundaries are to serve as a frame of reference for actual physical change, will affect significantly the kind of neighborhoods that result.

There seems to be a great need for integration in neighborhoods—integration of different kinds of people, different kinds of dwellings, and different kinds of ideas. Utilization of as many criteria of neighborhood identification as are available may provide the tools to build better, new neighborhoods and to recognize the strengths and weaknesses of existing ones. A willingness to go further than adopting a neat set of standards based upon a thirty-five year old concept as the guide for all residential development in the city is necessary, if we are to provide the variety of living areas suited to the variety of people who live in the city."[44]

2.2.4   Criticism of the Neighbourhood Unit Concept

It seems only natural, and probably desirable, that such a widely circulated and practiced theory of land development should eventually come under rather severe criticism. The greatest clamour arose in the late 1940's when analysts of urban patterns faced a new area and began to re-examine pre-war planning concepts. Perhaps the most vocal and withering criticisms came from Reginald Isaacs, then

Chapter - 2

Director of Planning for Michael Reese Hospital in Chicago. His articles in the Journal of Housing and the Journal of the American Institute of Planners are good examples of his position.

Isaacs rebelled at what he felt was an almost unanimous endorsement of the neighbourhood unit as the panacea for all urban ills. Perry's original claim had been only that the adoption of his principles would result in "a community in which the fundamental needs of family life will be met more completely …..than by the usual residential sections in cities and villages."[45] As Perry's theory evolved and was modified, many of its enthusiastic adherents began to ascribe rather "mystical" powers to it. These new powers largely reflected a nostalgia for rural living. The neighbourhood unit often was touted as the vehicle upon which the intimate social relationships and stability lacking in chaotic city life would return. Isaacs did not mince words in his reaction to these claims.

"Twenty-five years of persistent emphasis by planners and teachers have entrenched the neighborhood concept in the public mind. Only by experiencing its inadequacies through public education and participation in the planning process and by living in a planned neighborhood will there result realization of the fallacies inherent in the concept.
Generally disregarding the mass of contradictory evidence, planners have maintained that it is possible to achieve stable 'neighborhoods' and, in the last 20 or more years, have planned and built what purport to be 'neighborhoods'. Examples of neighbourhoods are few and occur only in some rural areas and suburbs, in some residual and by-passed city areas, and among some cultural groups."[46]

The other side of his two-pronged attack on the neighbourhood was his charge that often the neighbourhood concept was being used as an instrument for the segregation of racial, ethnic, religious, and economic groups. Supporting this stand, he pointed to examples of promotional material for neighbourhoods, excerpts from governmental planning reports, and statements from social scientists -- all advocating, or indicating the neighbourhood as a tight little island devoted as strongly to keeping out 'undesirable' people as to restricting through traffic.

In the following section of the document, we see a concern for the 'over standardisation' of the neighbourhood unit and its failure in appreciation of the diverse nature of city patches and subsequent problems of delineation of such neighbourhood units when it came to questions of rejuvenating ailing neighbourhoods and implementing larger urban renewal proposals. This section is included in the section called 'current interest' followed by 'delineation criteria' in the document. I quote a section of the segment below.

"From Atlantic to Pacific and from Canada to Mexico, the basic Perry neighborhood unit, with only minor modifications, has served as the development module. The formula is simple, and the result is tidy, perhaps too tidy. As too often happens through the use of a modular system, the end products are so standardized as to become almost undifferentiated. Thus, one might feel just as at home, or just as lost, on the curvilinear streets of a 'Desert Mesa' in Arizona, at the neighborhood super-shop in a 'Prairie Estates' in Illinois, or in the centrally located elementary school in a 'Rolling Meadows' in Pennsylvania."[47]……………………………….**the approach of understanding the city of Kolkata through its homogeneous residential neighbourhood continuum adopted in the present thesis is justified by the concerns of delineation of the older and newer parts of the cities in the quoted report.**

2.3   Integrative Principles of Urban Form

The preceding three sections were devoted to understanding the genesis and development of the neighbourhood area and the importance of such a delineation in the larger realm of the city. The health and decay of neighbourhoods are obviously part of the health and decay of the city and never

so vociferously was it laid down than in *The Death and Life of Great American Cities*. First published in 1961, Jane Jacobs, in this book comes down heavily on modernist planning approaches, which, she claimed had destroyed many existing inner city communities.

Reserving her most vitriolic criticism of the 'rationalist' planners of the 1950s and 1960s, Jacobs argued that modernist urban planning rejects the city, because it rejects human beings living in a community characterized by layered complexities and chaos. The modernist planners used deductive reasoning to find principles by which to plan cities. Urban renewal, Jacobs claims in its separation of uses (i.e. residential, industrial, commercial), destroys communities and innovative economies by creating isolated, unnatural urban spaces.

Jacobs advocated for "four generators of diversity"; in her language, "The necessity for these four conditions is the most important point this book has to make. In combination, these conditions create effective economic pools of use." These four generators of diversity, according to Jacobs are as follows:

- Mixed uses.
- Short blocks.
- Buildings of various ages & states of repair.
- Density.

Her aesthetic is considered opposite to that of the modernists, upholding redundancy and vibrancy, against order and efficiency. She frequently cites New York City's Greenwitch Village as an example of a vibrant urban community. The Village, like many similar communities, may well have been preserved, at least in part, by her writing and activism. The book also played a major role in the urban development of Toronto, Canada, where she has stayed the major part of her later life. Jacobs' writings were an important influence on New Urbanism, an architecture and planning movement which emerged in the 1980s.

Stitching the unique neighbourhoods in the overall fabric of the city and working out a holistic aesthetic of the city has been a collective effort of urbanists from the 60's onwards. The *Urban Design Reader*[48] edited by Mathew Carmona and Steve Tiesdell is a remarkable compilation of urban theories and writings. The two oldest pieces in the collection are from the classic works on urban form and perception by Gordon Cullen[49] and Jane Jacobs ('Townscape: introduction' by Gordon Cullen and 'The uses of sidewalks' by Jane Jacobs). In Chapter 4 of the collection, Ernest Sternberg's 'An integrative theory of urban design' is reprinted from the Journal of the American Planning Association (2000), sums up the key themes of urbanism associated with certain leading thinkers and writers. In the language of the editors, "Through a complex and sophisticated argument, Sternberg (also) provides an extremely valuable commentary on the classic urban design canon. By synthesising and extending the key content of those works, he argues that the ideas informing urban design usually coalesce around contending approaches, each associated with one or two leading writers. These principles include 'urban form' (Camillo Sitte)[50], 'legibility' (Kevin Lynch), 'vitality' (Jane Jacobs) and 'meaning' (Christian Norberg-Schulz)."[51] The next four sections present the work of Sternberg as an extension of the theme of the neighbourhood and the cores, the city and the mutual relationships.

2.3.1   Good form

"In Camillo Sitte's classic work *City Planning According to Artistic Principles* (1965, first published in Vienna in 1889) and much later in Edmund Bacon's *The Design of Cities* (1974), good urban design was to be based on artistic principles of *good form*. Responding to the 19th-century's new city building, which tried to maximize the saleability of properties through abstractly rationalized land subdivision, Camillo Sitte (1965) provided one of the first book length treatments of urban physical planning in market society. Anticipating the ideas of the next generation of planning theorists, he

advocated planning because the making of public spaces had become an impersonal, mechanistic project, one that was overtaking the formerly "organic" city.

"Should one be satisfied then," Sitte asks rhetorically, "to place this mechanically produced project, conceived to fit any situation, into the middle of an empty place without organic relation to its surroundings or to the dimensions of any particular building?" (p. 75, *cited in article*). Indeed, he was certain that one should not. Formalist ideas like Sitte's can be seen in the works of the recent generation of urban designers, such as Allan Jacobs' (1993) fine writing on street definition. Edmund Bacon (1974) adds a number of additional guides to good form, demanding that good design should interlock and interrelate buildings across space. Bacon stresses that the human experience of this articulated space happens along an axis of movement. To define this axis, the designer may strategically place small and large buildings to create scale linkages receding in space; or insert in the landscape an arch, gate, or pair of pylons that set the frame of reference for structures appearing on a recessed plane. The designer may also repeat similar forms in diminishing perspective, as an arch may be placed deep behind another arch, to create unifying form in space and foster the human experience of penetrating into depth. And the designer may use stairs, ramps, and other changes in gradient to engage the participant in the satisfaction of experiencing ascent and descent. Though such spatial relationships may be elementary to an architect working on a single property, they are problematic to the urban designer, who lacks the architect's comprehensive control over her medium. The urban designer's realm contains multiple properties owned by separate owners, with differing interests, who commission buildings from disparately motivated architects. Indeed it is this condition that sets up the urban designer's formal compositional challenge: to use proportion, enclosure, interlocking points, recession planes, penetration in depth, and ascent and descent, among other formal relationships, to sustain a satisfying experiential continuity across properties. As these interrelationships escape the confines of the individual property, the urban designer faces the further challenge that she must work in a politicized environment, so that despite the designer's partial dependence on an architectural heritage, her work belongs squarely in the planning discipline. Of these formal interrelationships across buildings, proportion may be the longest recognized, since it can be traced back to classical architecture, yet the least well understood. Writing in 1909, English town planner Raymond Unwin (1994), whose work drew heavily on Sitte, declared that we "need to establish relation and proportion between parts of our design" (p. 176, *cited in article*). But what proportions should we favour? We can infer from Sitte that principles of proportion—of relative dimension—need not arise from mystical Pythagorean formulas, but from insight into the beholder's experience of space. The operations of the land market do not reliably generate proportionate relationships across parcel boundaries. Whether any economic actor wants it or not, formal spatial relationships transcend— literally rise above and cross over formal property lines and use rights. Urban form is a non commodifiable resource. Relation and proportion at the urban scale cannot arise through the impersonal mechanism of the market; they must be willfully brought into existence through planning— through a design intelligence exercised on the collective behalf."

2.3.2   Legibility

"For Kevin Lynch, too, the city's designer had to deal with the experiential quality of the city, what he often called the "sensuous qualities" or simply "sense" of place (Banerjee & Southworth, 1991, p. 6, *cited in article*). Through a career spanning several decades, he was remarkably persistent in searching for the concepts that could inform and guide the design of cities. Of all the ideas he experimented with, the most distinctive and enduring was legibility. As explained in *The Image of the City* (Lynch, 1960), a legible city is one whose constituent parts "are easily identifiable and are easily grouped into an over-all pattern" (p. 3, *cited in article*). A distinctive and ordered environment helps the resident orient himself, place parts of the city into coherent categories, and acquire a sense of security that he can relate to the surrounding urban world. Hence, the city should be made 'imageable', both in the sense that it projects distinctions and relationships that the observer can comprehend and in the sense that it complies with the observer's 'mental picture' of the city (p. 6, *cited in article*). Compared to Sitte, who favors spatial effects (such as obliquely related streets entering a plaza) whose explanation escapes the naive viewer, Lynch suggests clearly comprehensible

interrelationships, even recommending perpendicular or other rectilinear relationships that users can remember and identify with.

As compared to Lynch's later works, which are theoretically more ambitious but less distinct in content, his early book firmly establishes legibility as one integrative principle underlying the urban inhabitant's experience of the city. Moreover, in this early work Lynch (1960) makes clear that nodes, edges, etc. are of little concern in themselves. Rather, they are design elements in achieving something that the haphazard work of developers, owners, and architects individually could not achieve. These elements are crucial in the "interrelation of parts into a whole" (p. 108, *cited in article*). The planner who uses the concepts properly "would deal with the interrelations of elements, with their perception in motion, and with the conception of the city as a total visible form" (p. 116, *cited in article*). As formal interrelationships are a city's collective asset to Sitte and Bacon, so legibility is in Lynch's early work. It crosses property boundaries, escaping market commodification, to constitute an integral whole, a whole that can be shaped through the exercise of design intelligence."

2.3.3   Vitality

"Whereas Sitte, Bacon, and Lynch conceive of urban design from the perspective of the solitary beholder, Jane Jacobs is preeminent among those who have a more gregarious concept of the urbanite who partakes of city life because of its vitality. In *The Death and Life of Great American Cities* (1961), one of the most lucid books in our field, Jacobs forcefully knocks down the vapid mid-century planning that artificially separates uses, creates dead vacant zones, and (as in American 'urban renewal' programs) tries to renew cities through urban clearances, thereby destroying the diversity on which urban health rests. At the heart of Jacob's argument is the idea that a bustling street life is essential to a good city, and vital streets need "a most intricate and close grained density of uses that give each other mutual support" (p. 14, *cited in article*). She holds, moreover, that certain conditions nourish these interrelationships among uses. Especially since her ideas are popular, it needs to be said that concepts for texturing streets to make them more vital do not by any means exhaust urban design ideas. A good city should offer not only bustling mixed use areas, but also residential areas purposefully designed for quiet streets and undisturbed home life. Density can be taken to excess, since it can produce congestion that actually hampers a street's vitality. And a streetscape can, after all, be engaging when one is alone to experience it; a formalist like Bacon (1974) appreciates the perspectival features of, say, Brasilia, especially when there is no one else there to distract him. Just as Sitte and Bacon focus on form and Lynch's writings of 1960 stress legibility, so Jacobs, too, should be understood to have focused on one integrative principle: vitality. We can best appreciate her ideas about vitality when we do not elevate them into an all-purpose, single-minded design goal. As do other prominent writers on urban design, Jacobs elaborates primarily on one facet of the neighbourhood or street as an experiential whole—in her case the urban texturing that generates vibrant activity. In keeping with all planning thought, she stresses that the conditions that generate a good place can be shaped through public or other nonmarket guidance. And like much contemporary planning, she retains the ambivalent relationship to private markets: She recognizes that free real estate markets are essential for urban diversity, but sees that these markets operating on their own cannot effectively create the textural conditions on which vital places depend. Unhampered markets can undermine or even destroy urban vitality, replacing diverse places with exclusive uses, so that, as she puts it, planners should actively plan for diversity (Jacobs, 1961). Indeed, though a property owner may make decisions that add to density, fine grain, and permeability, that owner is one of many owners interacting through an anonymous market mechanism, a mechanism that cannot in itself generate consistent density, grain, and permeability, and may just as well undermine them with box stores, parking lot entrances, empty lots, and blank walls. Working alongside the real estate market, the planner's task is to foster textured interrelationships among many disparate properties."

2.3.4 Meaning

"In reaction to modernism that focused on building forms that are pure and impersonal, streets that are little more than conduits for traffic, and urban patterns replicated around the world without regard to locality and context, a new generation of thinkers has stressed still another integral facet of the city: its capacity to exhibit history, tradition, nature, nationality, or other themes that heighten meaning and solidify identity. In professional design practice, *purposeful thematization* is now widespread, extending from shopping malls to festival market places to urban waterfronts (Gottdiener, 1997; Sternberg, 1999). But most writers on this topic disdain mere thematization and assert that design for meaning should be rooted in indigenous character, something the planner should come to comprehend through the study of local landforms, local history, and local culture. Of the writers who stress design for indigenous meaningfulness, possibly the most influential is Norbert-Schulz (1979). He writes that "nature forms a comprehensive totality, a 'place', which according to local circumstances has a particular identity" (p. 10, *cited in article*), an identity that he sometimes refers to as a 'spirit'. As dwellers in a place contend with living forces of nature, the place gives rise to mythologies through which it becomes meaningful. By studying the locality and making dwellings that, as it were, emerge from this natural folk-spirit, architects affirm and sustain local identity. Though Norbert- Schulz overtly addresses architects, it is clear throughout his work that he actually has in mind a special kind of designer, one who does not conceive of the built structure in isolation. Rather, this designer understands that buildings should express the indigenous spirit and that this spirit emanates from the whole place from its land, materials, myths, and traditions. Urban landscapes necessarily accrue multiple meanings, as they accumulate objects referencing varied cultural sources. Here there is a franchise restaurant, there a monumental stadium, and nearby there are an over-grown lot, a broken street lamp, half-covered cobble-stone, a busy highway ramp, and an abandoned art deco post office, all overshadowed by a newly rising office tower. Urban landscapes are jumbled, inchoate, repetitive, and stereotyped. Urban designers must constantly work with these cultural bits and pieces, rough assemblages, and haphazard juxtapositions, since individual property owners, when they site and design their buildings, cannot through the atomized market process alone—shape the meanings of the urban whole. However, in trying to reconstitute cohesive meaning, the urban designer need not impute to the place an organically indigenous spirit. The multifarious origins of environmental meaning point up one of the limits of organicism: The phenomenology of dwelling and the organicist tradition might lead us in search of a *volk*-spirit, a putative cultural and historical unity. We need not do so. As urban designers, we can seek integrity of meaning across properties, without imposing indigenous correctness. In one place, the local identity we wish to articulate may well derive from strands of local history, but in another that identity might best evolve from today's living culture. Things made new or imported from afar may better express the aspirations of the place than trivial legends dressed up as history (see Sternberg, 1999). And the result should not be a homogenization of meaning. Working with boundaries, transitions, reflections, gradations, contrasts, complements, and interruptions, planners can set out to create coherent interrelationships among urban objects, without requiring that they conform to supposed indigenous origins. In shaping the urban cultural experience, planners should indeed respond to the market's tendency toward the fragmentation of meaning, but need not do so just through appeals for cultural unity; they can instead design to make diversity cohere."[52]

2.4 The Identity of Place

In his 'on the identity of places'[53], Edward Relph extensively cites segments from an essay from *The myth of Sisyphus*[54] by Albert Camus and summarizes the essay on the account of Oran in the three components of identity as he interprets the piece. Relph says that the three components of place that are so apparent in Camus' writing are – the static physical setting, the activities and the meanings – constitute the three basic identities of places. Satyajit Ray, in one of his mystery adventure novels (*Joy Baba Felunath*[55]) talks about the smell of flowers around the Lake Market area during the evenings which he recalls as a major element of identity of the area. Incidentally, this area is on the edge of one of one of the study areas of the present thesis (the area around the Kalighat Park). The spirit of a place or the 'sense of a place' or the *genius loci* is one of the very fundamental and intrinsic

Chapter - 2

aspect of James Joyce's writings. It is often said that if the whole city of Ireland were to have been destroyed it can, entirely, to its minutest detail be recreated from his writings. The same applies to great art which have been based in any city all over the world. At the end of his essay, Relph continues to write in the segment he calls, "types of identity of places" – "…………..There is an infinite range of content within each of these (components of identity – physical features of appearance, observable activities and functions and meanings or symbols) and numberless ways in which they can combine. Hence there is no discernible limit to the diversity of identities of places, and every identifiable place has unique content and patterns of relationship that are expressed and endure in the spirit of the place. …………..While each place is unique and has a persistent sameness within itself, at the same time it shares various characteristics with other places. In terms of our experiences this sharing does display certain consistencies that make it possible to distinguish a number of types of identities of places.

- From the individual perspective or sociality in communion of existential insideness places are lived and dynamic, full with meanings for us that are known and experienced without reflection.
- For empathetic insiders, knowing places through sociality in community, places are records and expressions of the cultural values and experiences of those who create and live in them.
- From the point of view of behavioral insidedness place is ambient environment, possessing qualities of landscape or townscape that constitute a primary basis for public or consensus knowledge of that place.
- In terms of incidental outsisdedness it is usually selected functions of a place that are important and the identity of that place is little more than that of a background for those functions.
- The attitude of the objective outsider effectively reduces places either to the single dimension of location or to a space of located objects and activities.
  …………………………………………………these various types identity are not discrete, nor mutually exclusive nor unchanging……………**the identity of place is not a simple tag that can be summarized and presented in a brief factual description**……………….it is neither constant or absolute, nor is it constantly changing and variable."[56]

2.5   Beyond the Neighbourhood Unit

In their seminal work, *Beyond the neighborhood unit* the authors Tridib Banerjee and William C. Baer question the validity of the neighbourhood unit as a physical construct in the city. Situating the original work of Clarence Perry in its historical urban condition, the book builds up a case through a structural study of city development in the fifty years between Perry's work and the publication of their book, and substantiates the argument with numerous works of scholars who have worked on related urban issues. A major contribution of the book is developing the assessment technique of the various qualitative attributes of neighbourhoods through innovative interview methodology adopted and use of the cognitive mapping, largely in continuation of the 'perception school' developed by Kevin Lynch two decades back.

At the outset, the authors signal their departure from the Clarence Perry model of the neighbourhood unit by "making it clear" that the "focus of this work" is not the neighbourhood unit as understood by Perry's formulation. They assert that they would rather work with the term "residential area". It was felt by this research initiative that the term 'neighbourhood' has been used in the original literature in a restrictive manner which does not represent the entire gamut of neighbourhoods that need to be discussed. From the late 1940's, the authors say, that the concept of neighbourhood has been under strong attack. It was argued, that while the neighbourhood unit concept was perhaps helpful in providing a sense of place to the inhabitants when it was formulated, with increasing complexity in urban living the term became obsolete and spatially too static a construct to address present societal complexities. The book is structured and written as a document which "would be scientifically valid and at the same time professionally useful". It studies professional and institutional acceptance of neighbourhood delineation and reviews empirical research that provides some test of its validity. It

also studies key conceptual issues in neighbourhood and environmental research to set the backdrop against which the findings could be considered.

In chapters 3 and 4 of the book, verbal and visual representations of the respondents of the varied neighbourhoods under study are represented. "By use of maps drawn by the respondents, we can understand the locational aspects of the *form* of the residential area: the boundaries the residents perceive, the paths they use, the scale and size of the area they experience.........."[57]. From the maps produced by the respondents composites maps are prepared and presented (twenty two such locations are studied in the research). The book eventually seeks to "integrate environmental design practices with social science research and public policy issues"[58].

The critique of Banerjee and Baer focuses initially on the concept of the neighbourhood school as a primary condition for the unit. They argue that people who purchase residences in planned communities do not actually like the planners' insistence on locating the shopping and community facilities at the focal point of the neighbourhood area. Most residents, it was observed, preferred to have such facilities, including the schools on the periphery of the residential area. Another study cited to reinforce the argument further "suggested that the neighbouhood concept is financially inefficient. The currently prescribed size and density of the neighborhood unit does not always provide the critical mass necessary to support some of the local services and facilities. Furthermore, the economic viability of such local services and facilities are often undermined by a duplication of services at the town centre level"[59]. This point has relevance in the Kolkata and other cities of India where a residential school cannot be provided as part of the governmental social infrastructure in every neighbourhood for reasons of economy. Apart from the question of the 'critical mass', the older neighbourhoods studied in the present thesis would avail city level schools rather than the neighbourhood school which as Banerjee and Baer says, makes the neighbourhood unit model an "inflexible planning scheme". **Neighborhoods, the authors write, have been defined in several ways by researchers over the years. They are: "by the characteristics of the people residing in proximity; by boundaries (social, physical, symbolic or demographic) that people use to distinguish between areas; by the activities within an area; by the function an area serves; or by the combination of these. All of these approaches have shed light on the concept and have simultaneously defied efforts to come to an agreement on a single definition. The lack of definition also makes it difficult to test the appropriateness of the neighborhood unit concept"**[60]. The quest for an appropriate and contemporary definition urges the authors to reorient the conceptual basis of the neighbourhood unit and provide a more holistic and spatial/configuration neutral neighbourhood definition. They quote *Solow et al* (1969), in search of a new paradigm by adopting a new focus: **the residential environment.** It can be defined by the authors mentioned as follows:
"The land, facilities, services, and social structure which supplement the home in providing for satisfaction of individual and family needs, social interaction, personal development, and political participation and which delimit the territory appropriately included in the design of a residential environment"[61].

2.6   City Core and Periphery Dynamics

The phenomenon of the urban sprawl in Kolkata and other Indian cities is a direct result of depletion and absence of land within the city limits and prohibitive prices one has to pay for the same (though it is debatable where the city ends and the sprawl starts, which can be ascertained by administrative boundaries). It is also linked with aspirational aspects of living within gated communities and access to recreational facilities within the community and living in more natural environments. But urban sprawls have a host of adverse effects on the overall growth scenarios around the city.

Shrinkage of the green belt at an alarming rate disturbs the natural gradient and eventually affects overall drainage patterns and disposal systems. Since the urban sprawl fosters automobile driving communities, it majorly increases the dependence on fossil fuel for transportation needs.

Chapter - 2

Urban sprawl may be partly responsible for the decline in the social capital. Compact neighborhoods can foster casual social interactions among neighbours, while the sprawl creates barriers. Public spaces are replaced by stand alone malls and detached housing communities. Increased expenditure on infrastructure and increased drawing of water from the ground depletes the natural aquifer of the city region and increased automobile dependency resulting in high carbon emissions.

Critics of sprawl maintain that quality of life is eroded by lifestyles promoted by the sprawl. Duany and Plater-Zyberk, the most celebrated advocates of 'New urbanism' believe that in traditional neighbourhoods the nearness of the workplace to retail and restaurant space that provides cafes and groceries with daytime customers is an essential component to the successful balance of urban life. Furthermore, they state that the closeness of the workplace to homes also gives people the option of walking or riding a bicycle to work or school and that without this kind of interaction between the different components of life the urban pattern quickly falls apart. It has been argued that poor aesthetics in suburban environments make them "places not worth caring about", and that they lack a sense of history and identity.

2.7   A Critique of modernist city planning principles and New Urbanism

In *Redesigning* cities[62]**,** Jonathan Barnett talks about city livability, neighbourhood configurations and restructuring and urban design goals in an overall whole. He does a brief survey of the early modernist movement and city design ideas of Corbusier. He writes, "In the 1920's Le Corbusier became well known for his prophetic drawings of massive apartments and office towers composed of simple geometric masses. Vast parks and plazas separated these austere structures; high speed highways were to be the means of organization and communication."[63] Barnett continues to show that these sketches were prophetic documents for urbanization all over the world in the decades to follow. He says how it became almost a norm to have massive developments on pre-existing fabric and how the towers and parking decks connected to highways became a ubiquitous feature of 'modern' development. Barnett talks about a film 'The city' produced by the American Institute of Planners, where Lewis Mumford narrates how workers would leave their ramshackle slums for garden apartments or small row houses with open interiors and plenty of windows. Barnett says that 'the unspoken assumption of this film, and behind the housing project and the greenbelt suburb, was that the great majority of people would always be working class; the men would labour in factories or service businesses; women would either hold low-level jobs or do housework for their families. Most people would be tenants and not homeowners; they would not own cars, and would be content with the simple pleasures of life to be found in the parks and green spaces near their homes".[64] **Barnett writes that the entire agenda of modernism in city design and urban renewal projects were authoritarian and was about buildings individually without its city level contexts and larger historical connections. Sense of place and livability and the social function of community living was replaced by a conceptual living in large towers and travelling on high speed express ways to pre-designated work place or shopping district. As an 'antidote' to modernism, Barnett writes,** "contemporary practice of urban design began in the 1960's as a reaction against the failure of modernism to produce a liveable environment......................the urban plazas so important to the modernist image were also often deserted and unsafe, and broke up the continuity of the retail frontages along streets. ....The separation of cities and new suburban development into single use 'cells', as Corbusier had advocated, increased traffic and turned daily life into a complicated logistics problem, where trips to lunch, to school, to sports, to entertainment and all had to be carefully scheduled".[65] The 'modernist romanticism' as Barnett puts it, evoked through the drawings of the futuristic city models had a tendency to start from the scratch all over again which were not only impractical but a battleground for future debates and actions on the ground. Urban designers have combated these theoretical and subsequent large scale urban renewal programmes which in many instances considered old buildings and neighbourhoods as mere anachronisms through integrated agenda of protecting old buildings and neighbourhoods, making the street as the primary element of urban space, and by using zoning and other development regulations creatively to put new buildings into context and preserve a mix of different activities. Barnett is a supporter and also serves on the board of the *Congress of New Urbanism* which grew as an organized movement in the 1970's

and 80's and owes its roots to the writings of Jacobs and the urban visions and theoretical models for the reconstruction of the 'European' city proposed by architect Rob Krier[66], and the *Pattern language*[67] theories of Christopher Alexander et al.

Historically, cities were generally organized into and developed around mixed-use walkable neighbourhoods. For most of human history this meant a city that was entirely walkable, although with the development of mass transit the reach of the city extended outward along transit lines, allowing for the growth of new pedestrian communities such as street car suburbs. But with the advent of cheap automobiles and favorable government policies, attention began to shift away from cities and towards ways of growth more focused on the needs of the car. Specifically, after World War II urban planning largely centered around the use of municipal zoning ordinances to segregate residential from commercial and industrial development, and focused on the construction of low density single family detached houses as the preferred housing option for the growing middle class. The physical separation of where people lived from where they worked, shopped and frequently spend their recreational time, together with low housing density, which often drastically reduced population density relative to historical norms, made automobiles indispensable for efficient transportation and contributed to the emergence of a culture of automobile dependence. The so called Great American dream dependent on the automobile culture has largely become a worldwide reality. The urban sprawl has dominated new developments all over the country and while the inner city and the traditional areas of the cities lie in decay the outer ring is supplemented by a further outer ring and so on to provide the decongested and idyllic living options for the emerging middle and upper middle classes who need not depend on the city level transit systems.

The founding of the **Congress of New Urbanism** in 1993 was an important step to produce successful urban centres and residential neighbourhoods. In 1996, the charter adopted by the C.N.U advocated city design to start from the regional context to the neighbourhood, district and corridor and then the block, street and building. The charter is quoted below:

"Charter of the New Urbanism

The Congress for the New Urbanism views disinvestment in central cities, the spread of placeless sprawl, increasing separation by race and income, environmental deterioration, loss of agricultural lands and wilderness, and the erosion of society's built heritage as one interrelated community-building challenge.

We stand for the restoration of existing urban centers and towns within coherent metropolitan regions, the reconfiguration of sprawling suburbs into communities of real neighborhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy.

We advocate the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.

We recognize that physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework.

We represent a broad-based citizenry, composed of public and private sector leaders, community activists, and multidisciplinary professionals. We are committed to reestablishing the relationship between the art of building and the making of community, through citizen-based participatory planning and design.

Chapter - 2

We dedicate ourselves to reclaiming our homes, blocks, streets, parks, neighborhoods, districts, towns, cities, regions, and environment."[68]

An introduction to the Congress of New Urbanism from the website (http://www.cnu.org) is quoted below:

"The Congress for the New Urbanism is the leading organization promoting walkable, mixed-use neighborhood development, sustainable communities and healthier living conditions.

For nearly twenty years, CNU members have used the principles in CNU's Charter to promote the hallmarks of New Urbanism, including:

- Livable streets arranged in compact, walkable blocks.
- A range of housing choices to serve people of diverse ages and income levels.
- Schools, stores and other nearby destinations reachable by walking, bicycling or transit service.
- An affirming, human-scaled public realm where appropriately designed buildings define and enliven streets and other public spaces.

Established by co-founders Andres Duany, Peter Calthorpe, Elizabeth Moule, Elizabeth Plater-Zyberk, Stefanos Polyzoides and Dan Solomon and supported today by distinguished board members and other thought-leaders from the worlds of urban design, development, academia, citizen activism, and government policy, CNU works to deliver these hallmarks to communities across North America and overseas on multiple scales. Whether it be in brownfields, emerging growth areas, established cities, or small town suburbs, New Urbanism reinforces the character of existing areas in making them walkable, sustainable, and vibrant, revitalizing and energizing communities to their true potential. The principles of New Urbanism are also central to making whole regions more livable, coherent and sustainable.

With a history of forming productive alliances, CNU has been at the forefront of efforts to reform how we design and build communities and their infrastructure."[69]

An antithesis to all discussions and concerns of New Urbanism is represented in the writings and lectures of Rem Koolhaas who "believes that the idea that cities can be designed at all is based on unexamined philosophical assumptions, and that modern transportation and communication, particularly the internet, have made traditional urban spaces obsolete".[70] Barnett, after having put forward the avant-garde architect's hypothesis quotes William J. Mitchell, an expert on computer technology, from the book titled 'Urban Life, Jim – But Not as We Know It' authored by the latter, and remarks that the "power of the place will still prevail, people will still gravitate to settings that offer particular cultural, scenic and climatic attractions – those unique qualities that cannot be pumped through a wire – and will continue to care about meeting face-to-face".[71]

2.8   The 'Emergent Neighbourhoods' Model

As discussed earlier, the co-founders of the Congress for new Urbanism, Andres Duany and Elizabeth Plater-Zyberk have proposed a development of the neighborhood size/ configuration on the basis of the original model of Clarence Perry but recent scholarship relooks at the aspect of neighborhood definition within a complex biomorphic framework which is discussed below.

In an article titled *Urban nuclei and the geometry of streets: The 'emergent neighbourhoods' model*[72] in the Urban Design International Vol. 15, 1, 22–46, 2010, authors Michael Mehaffy, Sergio

Chapter - 2

Portab, Yodan Rofe` and Nikos Salingaros discuss the city and neighbourhoods with the elements of the **'nucleus'**, **'pedestrian sheds'**, **'neighborhoods'** and the **'thoroughfares'**. It tries to resolve how best the urban nucleus can be located with relation to the other urban entities mentioned above. The **urban nucleus** "contains the highest density of each function (residential, commercial and so on) as well as the densest mixture of all distinct functions."[73] This nucleus, by definition is at the geographic centre of the 'pedestrian shed' which implies that at an urban scale the nucleus is at a 5 minutes walkable distance from the furthest point of the 'pedestrian shed'. Hence, a circle of radius, the furthest point of which is at a 5 minute walkable distance from the nucleus is its pedestrian shed. It is a finite entity in the morphology the city. When it comes to 'neighbourhoods' the authors, quite expectedly, have not been able to come to a finite definition. They write, "At the local scale, the interplay and overlapping between countless personal and collective forms of social and cultural relationships (which we call 'community') finds temporary spatial configuration. This process occurs at every step of the urban evolution into emerging aggregations. Neighborhoods are layered (fractal) formations of overlapping sub-formations, each of which is still layered in itself: they should not be conceived as fixed and delimited geographical entities. A 'neighborhood' is not identical with the geographic and socio-cultural extension of an urban community. Spatial configurations influence evolving and borderless neighborhoods specific to site, social groups and individuals. Places and communities interact precisely because they are inherently different in nature."[74] The authors subsequently talk about neighbourhoods as spaces with 'variable geographies' depending on who uses the structure. That is why, they say, "we distinguish very clearly the neighborhood as a social, cultural and historical entity (complex of entities, to be sure) from the pedestrian shed. A pedestrian shed is basically spatial proximity characterized by some sort of distance to be covered by citizens towards their daily destinations to satisfy ordinary needs." The positions and connectivity of the elements are shown in a figure with four different options as shown below.
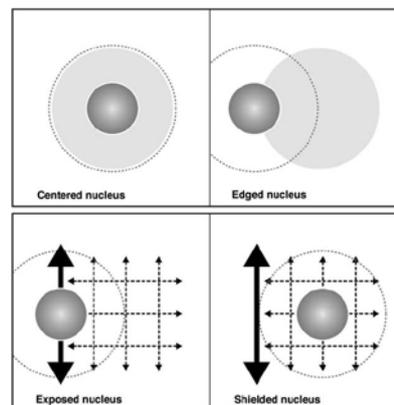

Fig.2.2 Urban nucleus and edge conditions (Source: cited Article)

Various kinds of relationships between the thoroughfare, neighbourhood roads, pedestrian sheds and neighbourhood area shown subsequently through diagrams as 'edged/exposed' or 'centre/shielded' etc. One such relationship diagram is as follows which shows the 'edged/exposed' condition.
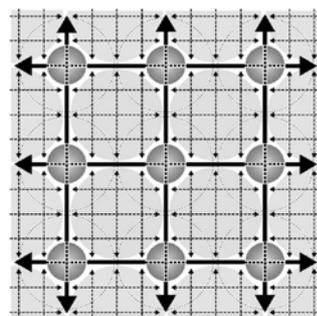

Fig.2.3 Edged/Exposed relationship of pedestrian shed, neighborhood nucleus and movement network. (Source: cited Article)

In the Indian condition this model looks quite an applicable model since major transport corridors in this model are shown to be grazing the neighbourhood and not passing through it. This, in fact is a model which is most commonly seen in the country. But there are various layers to the neighbourhood configuration which do not conform to this model which is more complex than this model. The authors call this the 'emergent residential model'.
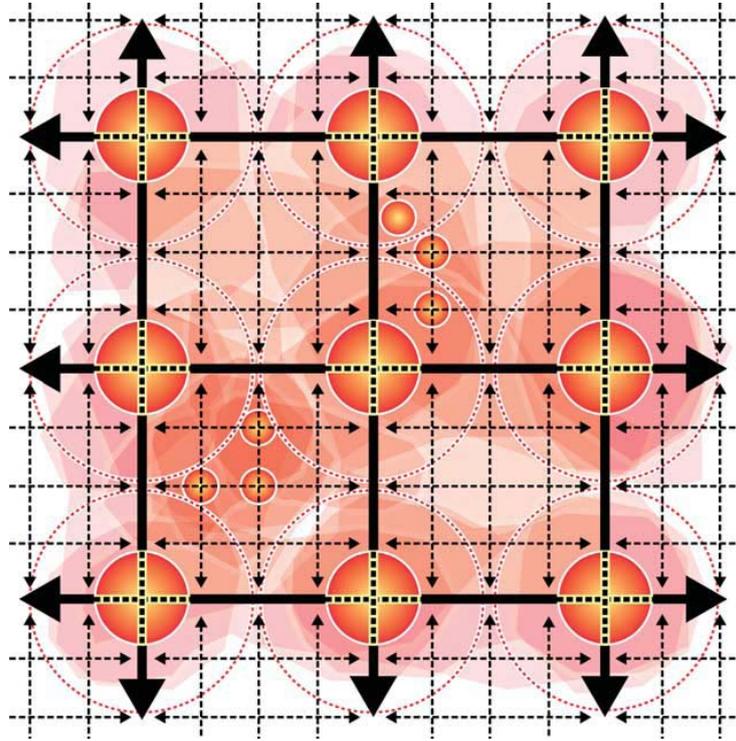

Fig.2.4 The emergent residential model (Source: cited Article)

In this diagram, neighbourhoods are no longer constrained into a fixed geography, but are represented as the outcome of the dynamic overlapping of many layers that vary in space and time through processes of self-organization. While a pedestrian shed has a definite area, the emergent model of the neighbourhood is a complex structure in itself. The authors have worked out the morphology of the new Emergent Neighbourhood Model "which addresses a complex relationship around two interrelated urban notions: 'main streets' and 'sanctuary areas'. This approach leads to an understanding of urbanization as a timeless process based on the '400-meter rule'; it also provides a conceptual framework for interpreting the greater part of urban fabrics, which are neither dense/active places (that is urban nuclei), nor appendages of thoroughfares. With neighbourhoods seen as flowing, evolving behavioral and socio-cultural formations rather than spatial entities, we use the term 'sanctuary area' to define those quieter urban areas, mostly residential, here and there punctuated by services or local retail, where most of us live. 'Sanctuary area' refers to Donald Appleyard's distinction between busy streets full of people and activities from calm, local, mostly residential realms that he termed 'sanctuary streets' (Appleyard, 1981[75]). He conceived these two distinct domains as being essential elements constituting the good city."[76] Hereafter the 400 metre rule is claimed to be a valid structure on the city fabric across cultures and space-time. Two graphics from Bologna, Italy and al Hofuf, Saudi Arabia are shown to validate the universality of the concept. The graphic is shown in the next page below:
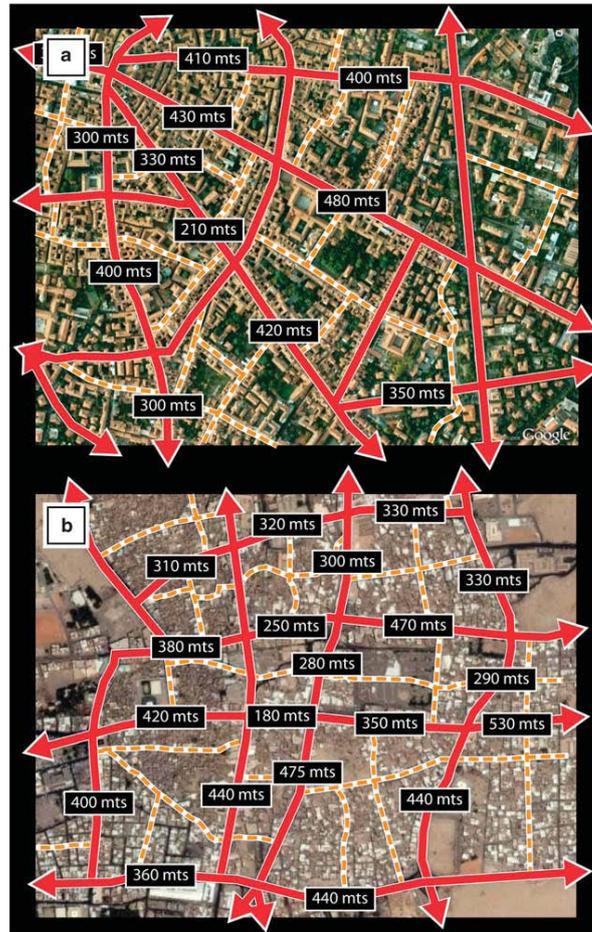
Fig.2.5 Street hierarchy validating the 400 m rule (Source: cited Article)

"The timeless pattern of main streets (thick solid red) and sanctuary areas (on the background, defined by main streets) here at work in the cities of Bologna, Italy (plate a), and Al Hofuf, Saudi Arabia (plate b). Local main streets (dashed orange) emerge regularly within sanctuary areas as denser shortcuts connecting the higher network of main streets."[77]

The authors claim that "The 400m rule establishes a diffuse, connected street structure containing the minimum spacing for continuous walkability, which ensures a close relationship between the sanctuary areas and the urban nuclei: close enough that you can actually walk to four different urban places from anywhere within the sanctuary areas."[78] They also claim that the modernist automobile oriented grids have proved to be 'abysmal failures' including the 800m X 1200m grid by Corbusier in Chandigarh.

2.9   Application of Theories in Present Research Framework

In the preceding literature on neighbourhoods and cities we find the persistent background theme of interrelationship of the two. In all the reactions to Perry's model of the 'neighbourhood unit' it has been maintained that the city consists of a flowing and uninterrupted assimilation of neighbourhoods, which are distinct and yet represent the essential nature of the city.

In the context of Indian cities, where residential neighbourhoods in the urban core make up a large part of the city's fabric and often are more dominant than the peripheral residential urban fringes, correlation to the western theories documented in the preceding sections can form the basis of assessment of these core neighbourhood areas. The present research on Kolkata thus correlates the physical phenomena of existing development and transformation of neighbourhoods to relevant

Chapter - 2

theories which could form a basis of analysis of the phenomena and then extend it further. The selected case study areas in North and South Kolkata form an essential part of the city structure and as the contemporary theories maintain, are distinct yet represent the essential nature of the old Kolkata neighbourhood. The research applies the theories discussed and investigates the specific issues in the local context, drawing on local findings and generalising them in a broader framework which may find application in other Indian cities as well.