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RELATIONSHIP BETWEEN NEIGHBORHOOD SOCIAL CAPITAL AND BUILT FORM-EXPLORED THROUGH THE CHAWLS OF MUMBAI.

A Thesis in
Architecture
by
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Abstract

Rediscovering the fragile thread that links the physical order [architecture] to human behavior will be the main task of this urban age: a world where 75% lives in cities.¹

- Georg Simmel.

This thesis sets out to explore the relationship between spatial design and neighborhood social capital, through the comparative study of the chawls of Mumbai: an industrial housing typology built in the mid-19th century, and the mid-rises replacing them. The chawls are 3-4 story blocks with one-room tenements and common toilets for its residents. These tenements are often strung together by a common verandah overlooking the central courtyard.

Social capital at a broader level refers to cognitive and structural benefits based on trust, reciprocity and shared norms embedded in social networks. At the neighborhood level, this could mean cost-reducing and time-saving exchanges between residents such as baby-sitting, job acquisition, information exchange and microfinance. Most importantly, given the increase in crimes against vulnerable populations like the women and the aged in Mumbai, neighborhood social capital, helps harness large-scale collective benefits like visual-policing, crime-prevention, and conflict resolution between residents.

Studies show that for residents to capitalize on pertinent large-scale collective benefits like visual-policing and crime-prevention, they require prior knowledge of each other.²


² John Field, Social Capital (New York: Routledge, 2008), 70
However, sociologists cite contemporary city conditions like long working and/or commuting hours and the advent of technology like the television, internet, and mobile phones, among the many impediments, that leave people with little time to interact or meet their neighbors. As a result, large-scale benefits of neighborhood social capital often go unrealized by the residents. In such a social climate, I believe that spatial design of neighborhoods can be valuable contributors towards orchestrating these social relationships between residents.

Through the on-site interviews conducted of residents living in both chawls and mid-rises, I learnt that in spite of the above-mentioned impediments to neighborhood social capital, the residents of the chawls knew their neighbors and looked out for each other, in case of emergencies. However, most residents of the mid-rises, earlier residents of the chawls, did not know each other. Interestingly, they depended not on their immediate new neighbors but on their old chawl neighbors living in the same apartment complex, in case of emergencies. For this purpose, I chose to study the spatial design of the chawls and how they contribute towards increased exchanges between the neighbors and thus by that logic, increased social capital.

Spatial elements like the exposed verandahs, the central courtyard and spacious stairways of the chawls allow for increased social contact between chawl residents. This increased social contact induced by spatial design then fosters social exchanges between the neighbors. The spatial arena for interaction gets reduced in size when these exposed verandahs and staircases of the chawls get replaced by inward-looking corridors and enclosed elevators, as the only social spaces in the mid-rises, thus reducing social networks. Provision of these spatial elements as arenas for social contact is the first step
towards fostering social contact between residents, but what motivates people to use these common spaces in the first place? In other words, how do the chawls through their spatial design and arrangement, orchestrate movement of people within its common spaces?

In 2011, 16000 chawls in Mumbai were speculated to eventually be replaced by mid-rises.\(^3\) It thus becomes important to analyze how spatial design contributes towards strengthening social networks; one of the main benefits being a potentially safer neighborhood. This research intends to provide design lessons and thus inform the city-administration on how to improve design and policy decisions regarding chawl redevelopment, which is currently focused not on communal design, but on space optimization for economic benefits.

Key-words: Chawls, mid- rises, spatial design, neighborhood social capital and visual policing.

**Research question.**

How can spatial design of neighborhoods orchestrate social capital? Analyzed through the spatial design of the fast-disappearing chawls: a mid- 19th century industrial housing typology in Mumbai.

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Social relationships, networks, and groups have amazed, intrigued and perplexed me as I went through college, architecture school and working in professional offices. What motivates people to co-operate in certain situations? Is it a personal choice, or is it by virtue of belonging to a common group? In this study, I use architectural design as a lens to understand a small facet of these social relationships, narrowed down to the neighborhood level. Why do neighbors co-operate? More importantly, why is it important they co-operate? And, how does architectural design orchestrate this co-operation?

This study would not have been possible without the generous financial support from the Department of Architecture, the Stuckeman School of Architecture and Landscape Architecture and the College of Arts & Architecture. In particular, the University Graduate Fellowship (UGF), and the Institute of Arts and Humanities at the Pennsylvania State University were pivotal for conducting the fieldwork for this thesis.

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*Even after all this time, the sun never says to the earth,*

“You owe me.” *Look what happens with a love like that, it lights the Whole Sky.*

- *The Gift World*
I take the stand that buildings are not primarily art, technical or investment objects but social objects.

- Tom Markus, Buildings and Power.
Introduction

First we shape the buildings, then the buildings shape us.
-Winston Churchill

This thesis explores the relationship between spatial design and social capital through an analysis of social networks in the chawls of Mumbai and the mid-rises that have, to a great extent, replaced them. The social networks that are part and parcel of living in the chawls decline when the residents move to the mid-rises. According to some scientific studies, people who live in communities defined by strong social networks have a positive influence on health, economy, education, and civic engagement. Overall therefore, it is important to investigate this decline of social networks of the chawl residents after the shift from the chawls to the mid-rises.

The chawls were originally built mainly for male migrant mill-workers in Mumbai around the mid-19th century, until families of these workers eventually moved into them from their villages in the 1940's. Though often criticized for cramped and unsanitary living conditions, the chawls act as a societal microcosm, wherein community interactions take place at various scales within the built form and play a role in overcoming barriers of caste, class, and religion.

Much has been said about the social cohesiveness of chawl life in architect Neera Adarkar’s anthology on chawls: The Chawls of Mumbai: Galleries of Life. This social cohesiveness often results in cost-reducing and time-saving exchanges between the residents. A resident of the chawls recalls how she would save the expense of hiring a

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baby-sitter by leaving her children in the care of her neighbors, so that she could go to her job. Similarly, given the low economic status of chawl residents in some cases, chawl women are unable to obtain bank loans. To compensate for this, some of them decided to begin a chit fund. This form of microfinance relies on each woman to make a monthly investment. Then, on a rotating basis, one of the women can take the whole amount and is thereby able to make a large purchase or discharge a debt, for example. Thus, these exchanges become even more significant in low-income groups. Tangible benefits of social capital such as obtaining a job, receiving academic help such as tutoring and engaging in microfinance, in addition to the cognitive benefits of social capital such as emotional support were seen in the chawls.

Often these social connections get lost when mid-rises replace the chawls. Occupying prime real estate, these dilapidated low-rise chawls with their open courtyards and spacious verandahs are becoming important sites of redevelopment by the private builders. Redevelopment implies that the horizontal sprawl of the chawl buildings is compressed into vertical towers, thus freeing up land to house apartments intended for sale in the free market (Fig. 4).

The spatial elements of chawls, whether the verandah, the courtyard (Fig.1-3), or the open staircase, increase the visual and auditory links and thus social contact between residents (Fig. 5 - 6) as compared to the mid-rises, where inward-looking corridors, enclosed elevators, and narrow elevator lobbies reduce the spatial arena available for social contact between the residents. Though the importance of these spatial elements in the chawls may seem obvious in their existence as spatial arenas for increasing social contact, it is their connection with other spatial elements that is important. By this I mean, each spatial element like the verandah, courtyard and staircases does not exist in
isolation in the *chawls*, but overlook each other. This interconnectedness brings to light the spatial arrangement of the *chawls*. I see two distinct facets of the *chawl* design 1) Spatial elements like the verandah, courtyard, connecting window and staircases and common toilets and more importantly 2) the arrangement of these spatial elements, which I hypothesize play a significant role in the influence on social networks in the *chawls*.

By finding a possible co-relation between spatial design and social capital, I mainly intend for this study to become a part of the broad, yet nascent field of social capital literature. Further, these findings from the present study are offered with the purpose of presenting to the city-administration two things 1) to help them understand the importance of spatial arrangement of the *chawls*: like the verandahs and the central courts as being vital choreographers of social interaction, a precursor to neighborhood social capital. 2) Through the design lessons distilled at the end of this study, it finally aims to encourage them to reimagine a new building typology and thus design policies, to replace the mid-rises: presently the only architectural response to the *chawls*.

This research begins with a broad conversation about architecture in the city, currently driven mainly by economic capital. The city’s politicians and the elite aspire to make Mumbai a world-class city in a bid to attract maximum global capital. Architecture is conceived as an agency for achieving this status by emulating the physical landscapes of cities with powerful economies such as Shanghai. In fact, it is fair to say that Shanghai is

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5 John Field, *Social Capital* (New York: Routledge, 2008), 70

Mumbai’s muse. Architectural constructs such as malls, call centers and hotels, which are proliferating, attract global capital; however, they also become agencies of division and exclusion with their restrictive class-based access.

Thus, these physical constructs exacerbate already existing socio-economic polarities in the city and dramatically posit the city’s poor to members of the more economically thriving classes. A reaction to this perceived threat is seen in the form of tall gates, armed security guards, and surveillance cameras monitoring the entryways to gated communities. Though these amenities increase the perception of security among residents of the apartment blocks, they do not necessarily do much to prevent crime, as seen later in chapter 2 of this research.

Oscar Newman responds to this lack of safety in neighborhoods in his book, *Defensible Spaces*, where he identifies two key contributing factors towards their “defensibility,” i.e. the security of a space: (1) *visual porosity*: the spatial arrangement of the built form such that the residents can watch over each other’s properties and family members, and (2) *co-operation*: the extent to which residents co-operate in efforts to look out for each other’s well-being.

The *chawls* provide vital lessons on both these aspects of neighborhood social capital. To begin with, the visual porosity owing to the spatial design allows a resident to view every corner of the *chawl*, which thus contributes towards an increased perception of safety among residents, seen in the interviews I conducted on-site. Specifically, they relate to how spatial design can be used to foster contact and co-operation (a form of social capital) among residents. As mentioned earlier, the long working and commuting hours in the cities, in addition to the advent of different forms technology such as the television
and internet, often leaves people with little time to engage in knowing their neighbors. Thus, the role of spatial design of the *chawls* in choreographing social interaction becomes increasingly relevant in city-neighborhoods.

This study is divided into 5 chapters. Chapter 1 begins with describing of the role of architecture in Mumbai after adoption of the neo-liberal economic policy in 1991. Neo-liberalization of the economy and the focus on acquiring global capital altered the way the architecture of the city was imagined, conceived and practiced. The focus of this section is to bring to light the role of architecture in the city, as a physical construct, mainly as an agency to acquire global capital, with little or no alignment with the city’s social problems. In the bargain these physical constructs like the malls, the call centers, five star hotels etc. become physical reminders of the socio-economic divide within the city. Further, they often result in large-scale urban restructuring, thus exacerbating this divide. Chapter 1 is divided into three sections. Section 1 begins with a description of Shanghai as Mumbai’s “Muse” for architectural inspiration and then proceeds to Section 2, which describe the “Script” or design proposals by the city-administration to make Mumbai a world-class city, with the help of global consulting firms like McKinsey and the Singapore based Suburbana Corporation. Section 3 addresses why this divisive, exclusionary role of architecture by which it obviates the city’s social networks does not align with the city’s daily dependence on them and why is it important that it does.

This chapter provides a lead to understand how architecture through the *chawls* as a case study, instead of fulfilling its current divisive, exclusionary, and image-driven role, can be used instead as an agency to create building typologies that initiate and maintain social connections between the residents.
Chapter 2 provides a background for this study by listing the importance of neighborhood social capital and chawl description. It is divided into two main sections: Section 1 addresses the increasing significance of neighborhood social capital in cities, and the social and technological impediments it faces. Further, it becomes vital for the reader to become familiar with the chawl morphology before understanding its influence on neighborhood social capital. Thus, section 2 moves on to give an in-depth description of the chawls.

Chapter 3 presents the methodology, in this case using an ethnographic study to list examples of social exchanges between neighbors as evidence of social capital currently existing in the chawls. It becomes imperative to furnish evidence that social capital currently exists in the chawls, before establishing chawls as an arena to study the influence of spatial design on social capital. To list these exchanges, this study uses a set of semi-structured interviews of residents conducted in two sites of the city: a 100-year-old chawl and nearby mid-rises that have replaced a different chawl.

Chapter 4 then goes on to list the findings and analyze them by asking some questions: Are all exchanges the same? Do some occur more frequently than the others? What role does spatial design play in these exchanges? These questions and the subsequent patterns and themes that emerge from them are addressed in this section.

Chapter 5 then employs a spatial apparatus to understand how the spatial morphology of the chawls contributes towards these exchanges. This section lists both the desirable and undesirable aspects of spatial design on social capital. The conclusion then distills desirable broad design lessons taken from the chawls towards increasing social capital in
neighborhoods, and specific design suggestions for the new building typology replacing the *chawls*, to be used by the city - administration.

Figure 1. Photograph showing the central courtyard. Source: Author, 2012.

Figure 2. Photograph of the central courtyard used for the Diwali celebration in the *Kotachiwadi chawl* in 2008. Source: Khotachiwadi blog.

Figure 3. Photograph showing the resident using the verandah for newspaper reading. Source: Author, 2012.

Figure 4. Photograph of the *chawls* in the foreground fast being replaced by the high rises in the background. Source: Author, 2012.
Figure 5. Diagram showing increased visual links between residents in the *chawls*. Source: Priyanka Karandikar.

Figure 6. Diagram showing decreased visual links between residents of the mid-rises as compared to the *chawls* seen in Fig. 5. Source: Priyanka Karandikar.
Chapter 1: Background

Section 1: (a) muse -“Made in China”: Tracing Mumbai’s inspiration for urban reforms.

Section 2: “THE SCRIPT”: The Spatial Imagination in a Neo-liberal Mumbai.

Section 3: The SCRIPT based on G.D.P. increases G.ross D.omestic P.roduct and results in G.avelly D.angerous P.olarizations.
That economics constitutes a key influence on urban restructuring is by no means a new phenomenon. The role of economics as a driver for urban spatial restructuring, however, is becoming amplified, as cities in developing countries, for example Mumbai in India, Sao Paulo in Brazil, and Istanbul in Turkey strive to acquire the coveted “world-class city” status. In working toward the world-class city status, cities’ primary goal is to attract maximum global investment and so boost the country’s Gross Domestic Product (G.D.P.). In this effort to grow, cities are, therefore, making far-reaching changes in terms of infrastructure by, for example, building business centers, hotels, and malls. Thus, architecture is featuring as a tangible manifestation of the city’s economic aspirations.

Cities with already proved successful economies have, thus, become inspirations for developing cities. With technology facilitating the easy flow of capital and people, together with images, it has become easy to see what successful economies look like, with towering skylines and infrastructure conducive to foreign investment. It is on this basis that cities pursuing world-class status are importing architectural forms and programs from economies that function as “muses.”

At present, China’s unprecedented economic growth in the last few decades means that India now looks to China as an exemplar for economic and spatial reforms explained later in the chapter. That India is looking to China as a guide in regard to spatial reform can be seen in reference to India’s commercial capital, Mumbai, which can be understood as parallel to China’s commercial capital, Shanghai.

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This chapter is divided into three sections. In section 1, I will explore in detail the reasons that India regards China as its muse. Further, in Section 2, I shall see the “script” or the spatial narratives designed for the city as a result of this adulation of China and the subsequent implications arisen from this relationship. In section 3, I see how the “script” based on the G.D.P. while resulting in an increase in the Gross Domestic Product for the city also results in Gravely Dangerous Polarizations within its socio-economic fabric. This section addresses how urbanists credits informal social networks of the city with Mumbai’s successful daily functioning, which are ironically left out from the city’s “script” or master narrative and why is it increasingly important to include them.
1.1) (a)muse : “Made in China”

Tracing Mumbai’s inspiration for urban reforms.

The rise of Asia’s giants is the most important story of our age. It heralds the end in the not too distant future of as much as five centuries of domination by the Europeans and their colonial offshoots.

–Martin Wolf (Financial Times 2005)

With a notable increase in G.D.P after integrating into the global economy, India and China were both considered Asia’s economic super powers in the early 1990’s. However, nearly a decade after adopting neo-liberal policies in 1991, India could not achieve its desired economic growth because of the pursuit of ineffective economic policies. On the other hand, thanks to its strong economic policies, China had “unambiguously tak [en] the lead” in the global economic arena leaving India behind at an “appreciable time-lag.” Tremendous media attention and scholarly discourse and speculation prompted India’s politicians and decision makers to address this gap.

As Dilip Das noted, “Both countries have ancient cultures, have large populations and had been deemed as ‘economic weaklings,’ before their foray into the global economic arena.” And, Indian politicians saw these similarities together with the urgency to catch

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8 Dilip Das, China and India: A tale of two economies (New York: Routledge, 2007), 3

*9 Refer Appendix for impact of the neo-liberal economy on the socio economic divide.

10 Dilip Das, China and India: A tale of two economies (New York: Routledge, 2007), xi

11 Dilip Das, China and India: A tale of two economies (New York: Routledge, 2007), xi
up in the economic race as furnishing appropriate conditions for importing China’s physical landscape into India.

This urgency resulted in the then chief minister to announce in 2003, “Mumbai would become the next Shanghai,” also exemplifying the state government’s intention on making Mumbai a “hospitable investment environment,” and a “consumption center.” Commissioning financial consultants such as CRISIL to design Mumbai’s urban landscapes and to create urban infrastructure like business districts, hotels, malls etc. in Mumbai reveal the seriousness of the state government’s intent to support this goal of making Mumbai a world-class city. Thus, economic logic became a metric to make urban design decisions.

Spatial manifestations to support this goal soon started dotting the city’s skyline. India’s burgeoning information technology sector, cheap labor and significant foreign investment, resulted in the emergence of call centers in Mumbai’s urban environment by the early 2000’s. In addition to the call centers, new consumption opportunities such as high-end shopping malls selling international brands took over defunct mill lands in the city. The connection between architecture as an agency of desired economic change is exemplified in Mumbai’s urban redevelopment plan designed by a Singapore-based

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planning firm in May 2011, according to which “By increasing the F.S.I. from 3 to 20, we shall allow for 60-80 stories to help achieve the status of a world class city.”\footnote{Hussain Indorewala, “Theme Park Mumbai,” Kafila, June 13, 2013, \url{http://kafila.org/2013/06/12/theme-park-mumbai-hussain-indorewala/}}

Saskia Sassen in her essay “Economies of Cities” warns against the trend of emulating the physical landscapes of other countries:

> The visual convergence and homogenizing state-of-the-art built environment of today’s global cities easily tricks us into assuming that their economies are also becoming similar. Similar looking landscapes might have very different types of economic operations...

> Overlooking these differences leads to a number of spurious conclusions of possible policies, which can all cause damage to the socio political health of the city.\footnote{Saskia Sassen, "The Economics of Cities," in Living in an endless city, ed. Ricky Burdett et al, 56-65 (Great Britain: Phaidon Press, 2011), 64.}

An example of emulating physical landscapes of other cities while overlooking the differences between them is seen in Mumbai’s decision to emulate Shanghai’s physical landscape based on its economic success while failing to account for the socio-political differences between India and China.\footnote{Refer appendix for explanation of the political differences between India and China.}

> And, the results are far from positive.

> Euphemisms such as “world-class city” are used to legitimize radical spatial reforms, thus resulting in large-scale displacements of certain populations and extreme economic polarizations, thus increasing urban crime.\footnote{I. Kawachi, B. P. Kennedy, "Health and social cohesion: why care about income inequality?,” BMJ 314, no. 7086 (April 5, 1997), 1037, \url{http://www.ncbi.nlm.nih.gov/pubmed/9112854}} An example of this large-scale
restructuring is seen when the financial company, CRISIL, employed by the state
government to plan spatial reforms for the city ominously stated that “a comprehensive
overhaul of the existing social and physical infrastructure”¹⁹ is necessary,
notwithstanding that 50% of the city’s population lives in slums.²⁰

Basing decisions on an economic metric in pursuit of world-class city status, exacerbates
social divides, therefore, is highly problematic and can have irreversible negative
consequences. It thus becomes important to understand the architectural “script” of the
city and its ongoing impact which is explored in the next section.

¹⁹ CRISIL, “Mumbai as an International Financial Center: A Roadmap.” Bombay First and Credit Rating
Information Services of India Ltd. (India:2000).

(Great Britain: Phaidon Press, 2011), 98.
1.2) THE SCRIPT

The Spatial Imagination in a Neo-liberal Mumbai.

Narratives go ahead of social practices to make way for them.

—Michel de Certeau

In the previous chapter, we considered architecture’s function as an agency through which cities attempt to fulfill their economic desires. Mumbai’s spatial imagination by the city-administration is thus both economic and image-driven via its desire to acquire the status of a world-class city. As economics capitalizes on the physical construct of architecture these constructs become 1) physical reminders of the socio-economic divide between the different populations that occupy the city in addition to 2) inevitably exacerbating this divide, often via large-scale spatial displacements of the urban poor that they trigger.

The first mall in Mumbai, known as “Crossroads” is a case in point. Situated in the southern, wealthy sea-facing area of city, “Crossroads” is exclusive. In order to prevent vast crowds from descending on it over weekends, the mall had entrance requirements for a couple of months: only those with a credit card, a cell phone21 and a fee of Rs. 60 (~$1 refundable on purchases) may enter. It should be noted that Rs. 60 was then enough money to buy vegetables for a week for an average family of 4—therefore; the barrier to entry is a significant one. While the entrance requirements were lifted after a drop in the number of customers, a distinct binary was clearly created and expressed then: consumers and non-consumers. Through this expression of the economic divide,

the mall became a daily physical reminder of it. Thus, architecture played a role in spatializing [or representing] social differences.

Further, this social divide is exacerbated as these physical constructs often result in mass displacement of “undesired landscapes”— most of which are slums —to make way for physical constructs like airports, transportation infrastructure, malls, call centers or business centers. For example, the new airport in Mumbai is being constructed amidst a massive sum clearance for security reasons, requiring 88000 families to be rehoused. This has found a resistance, since these rehabilitation schemes are often away from their community and jobs.\footnote{Nishika Patel, "Battle over Mumbai’s slums," The Guardian, March 11, 2011, http://www.theguardian.com/global-development/poverty-matters/2011/mar/11/mumbai-slums-developers-profits-residents.}

This displacement finds a clear voice again in the development plan’s suggestion. In order to help Mumbai attain a global image it suggests that “Slum and other low value activities need to be pushed out from the ‘preferred sites’,” since slums are often considered to be an eye sore to the city’s global image. The plan then chooses to selectively retain parts of the city’s 23 fishing provided they are “revitalized” to align with the recreational activities planned for the city: “respectable fishing may be appreciated in the city,” but only as part of “public recreation” in “nature parks,” along with other ‘reputable’ (author) activities like jogging, cycling, bird watching, socializing and nature appreciation.\footnote{Surbana, “Concept Plan for Mumbai Metropolitan Region, India”, Mumbai Transformation Support Unit and All India Institute for Local Self Government. (Mumbai : 2011)} Drying fish and randomly strewn boats however are not acceptable. Ironic to the plan’s treatment of fishing villages, Mumbai, being along the coast was first occupied by the fishing community. Fishing is not pursued as a
recreational activity but as a livelihood. Hence, its restriction to a ‘passive public recreation’ is indicative of the city’s exclusion of certain economies and populations.

As seen in section 1 of this chapter, I spoke about architecture’s current divisive, exclusionary role in developing countries by virtue of them making radical changes to emulate what successful economies look like. In the next section we shall see why this divisive exclusionary role of architecture does not align with the city’s daily functioning and why is it increasingly important that it does so.
1.3) The SCRIPT based on

G.ross D.omestic P.roduct results in G.ravely D.angerous P.olarizations.

The physical constructs resulting in large-scale displacements of the urban poor, as seen in the earlier section, are legitimized by their substantial contribution to the city’s G.D.P.\textsuperscript{24} Ironically, urbanists credit the ability of Mumbai to run successfully on a daily basis not because of its G.D.P., but because its ordinary people and their social networks, currently seen to be excluded from the city’s imagination. These networks exist at varying scales. At a larger scale, they help informal economies like Mumbai’s \textit{dabbawalas} (people who deliver lunch boxes) or the informal leather and pottery industry in Dharavi to function, all of which currently constitute 60% of the city’s economy.\textsuperscript{25} At the neighborhood level, as seen later in Chapter 3, they exist in the form of informal fiscal and emotional support systems between neighbors in the \textit{chawls}, where they look out for each other’s properties and help each other during emergencies, when the city’s formal institutions like the police force may take time to intervene. (Refer to the appendix for detailed explanation of these networks). The urbanists reinforce this idea,


Mumbai has a unique distinction of possessing 0.03 acres per thousand people while the norm is 4 acres. It must be the lowest in the world. The fact that Mumbai hasn’t imploded is a testament to the innate humanity of its ordinary people.²⁶

Architect Rahul Mehrotra says the city runs on a vast array of invisible networks, informal economies, and clever negotiations between the ordinary people and the city’s inadequate infrastructure.²⁷ But such networks and such negotiations are nowhere to be found in the city’s master narrative, perhaps primarily because they cannot be captured in the city’s G.D.P.

Sociologists argue that although a high G.D.P. might indicate robust economic health, it is by no means an indicator of social health that is, “inequality, discrimination, health, mortality, and malnourishment [can still exist] in the society.”²⁸ On one hand as Mumbai’s economic policies and subsequent architectural constructs increase in socioeconomic polarities, contemporary economics on the other hand have begun to understand the importance of robust social health, not as a trade-off to economic success but as an important contributor to it. At least, some economists today recognize that a

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*Refer to appendix for examples of how Mumbai functions daily, not only because of its formal institutions but mainly because of the informal economies run by informal networks between common people and their clever negotiations with the city’s inadequate infrastructure.
healthy society constitutes health care, education, welfare, community justice and
democracy, which traditional entrepreneurship cannot deliver by itself.\textsuperscript{29}

Traditional economics are focused only on “part of the map”; they ignore the 1/3
that economists think are unimportant: “the one that you go home to every
night, it’s called home, family, community; it probably doesn’t do anything
important from the point of G.D.P. It just raises children, makes neighborhoods
safe and vibrant, raises strong families, takes care of the elderly, gets involved in
things like elections, tries to make democracy work, tries to make officials
accountable, fights for social justice, tries to keep the planet sustainable, but
nothing of economic importance you understand...There is a core economy
(family, neighborhood, community, civil society, networks and informal support
systems) that is analogous to a computer’s operating system; many powerful
specific programs (like the monetary system) don’t work if the core economy
goes down.\textsuperscript{30}

Given the problems faced by the city some of which are: large population \textsuperscript{*31}; widening socio-economic divide often resulting in increased crimes against the aged and other vulnerable populations; ethnic diversity resulting in communal rife to name a few, the above mentioned trust and social networks becomes increasingly important to create safer communities.


\textsuperscript{*}It is estimated that Mumbai’s population will reach 28.5 million by 2020, with Tokyo trailing behind at 27 million.
The thesis thus introduces the idea of social capital, not at a substitute to the current economic capital, driving the city’s decisions but supplementary to it.32

To give an example, can social connections such as knowing your neighbors qualify as social capital if they keep an eye on your house and car? These social networks and the subsequent visual-policing can thus be a cost-effective substitute to surveillance cameras, formal security guards, which do not always prevent crimes like burglary or rape in the city (seen later in Chapter 2). Based on trust, these social networks are increasingly being researched by sociologists to study how they can be created and then capitalized to create safer, tolerant and socially cohesive communities.

In the next section, I list the benefits of neighborhood social capital in detail and why is it increasingly important for Mumbai to revive its neighborhood social networks.

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32 Economists are researching this supplementary relationship of social capital within economics, i.e., as a lubricant to facilitate faster, cost-effective transactions.
Architecture organizes and structures the space for us, bringing us together at certain points and separating us at others. Space has a language of its own and is fundamental to human communication. Because this language cannot be seen or heard directly, and certainly not written down, it gets little attention in a formal sense.33

Figure 7. Mumbai chawls. Source: Rajesh Vora.

Chapter 2: Social capital and the chawls

Section 1: Social capital
Section 2: Understanding the chawls.

In chapter 1 we looked at how architecture of the city was seen by the city-administration as a medium to achieve the status of a world-class city. In addition, it was seen as an agency for attracting global economic capital, often resulting in radical displacements of the low-income groups and thus exacerbating social divides. Displacement of these low-income groups often resulted in the breakdown of communities and their social networks. However, contemporary economics sees these social networks as important to a country's social conditions, which in turn are seen to positively influence its economic growth. By rotating diametrically from its current divisive, exclusionary, and image-driven role, architecture bears potential to foster and preserve these social networks provided, as seen earlier in Chapter 1, when it is not making radical changes.

In its exploration of the idea of architecture fostering social networks at the neighborhood level through the spatial language of the chawls, this chapter is divided into two sections. I begin by considering why social capital is important in Section 1, and then move on to consider the morphology of the chawls and the current trends affecting them in Section 2.
Chapter 2. Section 1

Social capital.

a) Why is social capital important?

a) How does social capital play out in contemporary cities?

b) Intended benefits

d) Why is neighborhood social capital important?
2.1.a) Why is social capital important?

*Society is not composed of atomized individuals. People are connected with one another through intermediate social structures—webs of association and shared understandings of how to behave.*


Social capital is generically discussed as the “glue that holds societies together.” For the purpose of this research, I use a slightly detailed definition by American political scientist, Robert Putnam. He defines it as “connections between individuals, social networks, and the norms of reciprocity and trustworthiness that arise from them.” These norms of trustworthiness and reciprocity “enable participants to act more effectively to pursue shared objectives.”

These social networks, based on trust, reciprocity and shared norms often furnish cost-reducing and time-saving benefits, making them promising solutions and/or alternatives to issues, which if otherwise given over to the bureaucracy would take longer and be more expensive to resolve. An example of this is seen when Jewish diamond traders in New York City exchange diamonds worth millions of dollars, based solely on trust, without any external contract or monitoring agency. *Refer appendix for detailed explanation on non-monetized transactions.*


*38 Refer appendix for detailed explanation on non-monetized transactions.*
These social networks between people based on co-operation and trust are increasingly being studied by international organizations such as the World Bank to manage resources and resolve conflicts within villages in countries such as Albania and Sierra Leone.\textsuperscript{39} Strong positive links have been shown to exist between a high level of social capital and a high level of educational achievement, economic success, mental and physical health, and freedom from crime.\textsuperscript{40}


\textsuperscript{40} John Field, \textit{Social Capital} (New York: Routledge, 2008), 69.
2.1.b) How does social capital play out in contemporary cities?

Now that we have a basic introduction to the cost-reducing and time-saving collective benefits embedded in social relations, I will list some of the contemporary issues relating to cities that discourage people from investing in social networks. According to veteran social theorist Zygmunt Bauman, we live in a “liquid modern world,” where economic, technological, and social conditions change quickly such that we might imagine social relations to be fleeting. Given their temporal nature, they might not yield long-term benefits and thus may discourage people from investing in them. Sociologists often attribute the lack of interaction between residents to the rise of the working-couple who spend long hours at work and very little time at home. Further, easily accessible forms of entertainment like the television, alternative forms of social contact like the Internet and mobile phone are also speculated to reduce social interaction between neighbors.

Robert Putnam, in his book Bowling Alone, cites the television as one of the four main reasons for America’s declining social capital since the 1940’s. I find the television an important reason for reduced interaction between neighbors. The hegemony of the television in the lives of the middle-class Indian women is clearly seen when the majority of women I interviewed spent large amount of their free time watching television serials.

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41 Z. Bauman, Liquid Life (Cambridge: Polity Press, 2005), 1


43 David Halpern, Social Capital (Cambridge: Polity Press, 2005), 256

* 44 Refer appendix to understand how the television became an integral part of Indian households.
Further, the advent of technology such as the Internet provides a virtual space: an alternative arrangement whereby people can fulfill the primal need to belong to a group. However, the effects of the Internet and social-networking sites are ambivalent on social capital. Some people, like American political scientist Francis Fukuyama argue that such technology has reduced face-to-face interaction and thus erosion of social networks.

However, multiple studies across nations have found more positive effects of the internet: where high levels of internet use resulted in greater community participation, and civic engagement, thus strengthening community ties. For example, based on a study of the effects of digital technologies on human collaboration, researcher Rachel Botsman states that compared with people who do not access popular social-networking sites such as Facebook and Twitter, those who do are six times more likely to trust strangers and participate in community activities.

The advent of the internet, however, did not seem to have much of an effect on social relations in the chawls. Anusha, a 22-year-old resident of the chawls, talked about how she would gather with her friends from the chawls every night after work, often around the mid-landings of the chawl staircases. The friends used the mid-landings because

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these furnished a wide enough space for them to sit and discuss the day’s events or to plan group outings for the weekends.

Exploring other impediments to neighborhood social capital, we saw in Chapter 1, how changes in economic policy had a social impact. We looked at how proliferation of neo-liberal constructs like malls such as Crossroads imposed a fee, the requirement of a mobile phone and/or a credit card as criteria to enter the malls, thus reinforcing the already existing class divide. The neo-liberal economy often comprises of a corrupt form of free market capitalism ⁴⁹ based on the fundamentals of competition and individualism. People are left to rely on their own individual resources and skills, with little support from the government in regard to obtaining health care, education, or any form of financial and social security, which was earlier, the responsibility of the state. Thus, this individual mind-set and increased competition might discourage people to invest in social relations.

Secondly, the neo-liberalization of the economy also saw a proliferation of small-scale businesses and paid services. Where earlier the working parents would leave their children with their neighbors, these paid services like baby-sitting for example, often provide the residents with convenient options. These paid services eventually result in the decline of social capital in city neighborhoods.

I move from the impact of economic policies on social capital, to Mumbai’s volatile social conditions, often disrupting social trust between citizens and breeding the fear of the “other.” This distrust can be attributed to the repeated terrorist attacks, resistance to

migrant- workers from other states by right-wing political parties in the city and most importantly severe communal strife. Of these, the Hindu–Muslim riots in 1992-1993 were the most significant, during which even the socially cohesive chawls became arenas for brutality and carnage, such that the social relationships between these two communities in the chawls changed forever.\textsuperscript{50}

All these reasons could potentially contribute to the recent findings of the Legatum Institute’s Prosperity Index in 2012, which reveals that India has the weakest social capital, were least likely to trust strangers and it could be affecting the country’s overall prosperity. Though the study acknowledges the diversity and socio-economic, cultural and political differences within each state of the country, the director of the study Nathan Gamester still voices his concern. He says,

\begin{quote}
Social Capital is a reflection of the strength and cohesion of a society. When societies are well connected and highly trusting, the benefits spill over into many other parts of life, including the economy. India’s low ranking on this measure is a worrying sign for India’s future development.\textsuperscript{51}
\end{quote}

Given the above-mentioned technological, economic impediments in today’s times, in addition to long working hours, and the proliferation of paid services, why would people invest in social networks in the first place? This finds its answer in John Field’s


These were measured by multiple indices like charity, volunteering, levels of trust in society, and the willingness to help strangers.
assurance that people are investing in social networks, mainly out of self-interest. This idea of maintaining social contact for reasons of self-interest finds resonance in American sociologist James Coleman’s Rational Choice Theory, or as German sociologist Ulrich Beck states “altruistic individualism.” The Rational Choice Theory aligns itself to the economic model based on a high level of individualism, where people co-operate and invest in social networks to serve their own individual interests, such that every interaction must be seen as an exchange.

We shall see further in Section 2d how such exchanges are important contributors towards neighborhood social capital. These exchanges, motivated by self-interest, incrementally breed trust and social contact, which can then be mobilized for collective action like visual policing of neighborhoods. However, before that I specify what kind of benefits from neighborhood social capital I intend to focus on in this research.

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52 John Field, Social Capital (New York: Routledge, 2008), 24


54 John Field, Social Capital (New York: Routledge, 2008), 24
2.1.c) Intended benefits.

Aligning myself with James Coleman’s “Rational Choice Theory,” where residents engage in social networks out of self-interest, I position the present study as concerned primarily with the non-monetized, tangible benefits of social capital, as motivations for people to invest in neighborhood social relations. Social capital at the neighborhood level yields both tangible, cost-reducing, time-saving benefits as well as intangible cognitive benefits such as improvements in regard to emotional well-being and mental health. For example, a person who can leave his/her children in the care of neighbors reaps a tangible, cost-saving benefit whereby the cost of hiring a nanny is obviated. On the other hand, a person who can count on receiving emotional support from neighbors during a crisis such as the death of a loved one may experience a reduction in mental stress and, thus, realize an intangible, cognitive benefit. However, practical help offered by neighbors at such a time in regard to say making funeral arrangements would be a tangible benefit.

In Chapter 4, with the exception of one case where a resident talks about the emotional support she got from her chawl neighbors when her husband passed away, I mainly list tangible benefits because these are generally relatively easy to quantify, and during interviews with the residents, most of them found it easier to speak about the tangible benefits as compared to the intangible ones. In either case, exchanges of this kind suggest a bond between neighbors, which I hypothesize can be mobilized to give rise to large-scale benefits like increased visual-policing within neighborhoods, all of which formal institutions like local municipality and police guards cannot always provide.
2.1.d) Why is neighborhood social capital important?

Did I live in a true neighborhood or just on a street surrounded by people whose lives were entirely separate from my own? What would it take to get to know the people on my street beyond a casual wave while walking the dog or a passing conversation about newly planted roses? 55

At the end of the earlier section 2b, we addressed that social exchanges, rooted in self-interest, can be potent harbingers of collective action like visual-policing. In this section, we shall list the collective benefits at the neighborhood level and as a result establish the importance of neighborhood social capital.

To begin with neighborhood connections play an important role in crime prevention, says David Halpern.56 The importance of social networks at the neighborhood level is exemplified in the recent rescue of 3 women held captive for 10 years by their neighbors in Cleveland Ohio. In the article, “How well do you know your neighbors?” the author of book, In the Neighborhood: The Search for Community on an American Street, One Sleepover at a Time, asks “Would they have been rescued earlier had there been a culture of knowing ones neighbors?” This question finds an answer in the findings of Harvard’s Kennedy School’s research on neighborhood social capital. The findings state, “If you had to choose between 10 percent more cops on the beat or 10 percent more


citizens knowing their neighbors’ first names, the latter is a better crime prevention strategy.”

Articulating the relationships of neighborhood social connections and crime, David Halpern acknowledges that the nature of strong social cohesion in reduction of crime was more preventive than that of direct intervention. This social cohesion more likely to discourage gatherings for drug taking or alcohol consumption, which could be potential precursors to crime. David Halpern attributes this informal social control amongst neighborhood residents with crime prevention and sometimes with crime reduction, citing formal organizations and local services as insufficient to do so. This role of neighborhood social networks is called as “collective efficacy” and “neighborhood watch schemes.” But how are does collective efficacy manifest?

This happens when neighbors are likely to know and thus trust one another. Would they intervene if a fight broke out in the street, would they reprimand children of their neighbors skipping school or hanging out at street corners? When a group of neighbors watch out for each other’s children or homes is social capital at work.

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*David Halpern has studied impacts of social capital in countries like Japan, Germany, Sweden, Netherlands, Australia, Britain, and USA and hence his findings can be generalized and applied to varied contexts including India.


Thus, the concept of neighborhood “collective efficacy” requires neighbors to know each other enough to formally or informally decide on shared expectations that are mutually beneficial such as keeping an eye on each other’s homes and cars.61

Such agreements are applicable to the context of Mumbai in regard to the increasing rate of crimes against the aged and women over the past decade. In 2012 alone, Mumbai ranked first in the state of Maharashtra, in cases of murder, theft, burglary and assault. 62 According to records kept by the Mumbai police, crime against the aged has increased such that 40 senior citizens were murdered between since 2007 of which 28 cases were registered between 2011- 2012.63 With a large number of senior citizens living alone, low physical mobility and little or no social support from the government have left the aged to fend for themselves. They often become targets of criminal activities such as burglary perpetrated by people they know such as home help and family members.64

Women are also vulnerable. Mumbai is often credited with being one of the safest metropolitan areas in the country; however, increased crime against women both outside and within their homes have been a cause of concern, Mumbai police records in 2013


indicates crime against women to have doubled. Till mid-2013 alone, the city witnessed a 100% increase in the rape cases and 300% increase in molestation cases in the city.\textsuperscript{65} The use of technology is on the rise in terms of security such as surveillance cameras, automated barricades, and alarms in residential units in addition to formal security guards, although these are often restricted to exclusive gated communities. Yet, the building’s security guard murdered a young single lawyer in a plush high-rise in Mumbai even as she attempted to knock on a neighbor’s door for help.\textsuperscript{66} Though such measures restrict access to buildings, this restriction does not always help since people known to the victims often commit crimes. Thus, by virtue of being known to the residents, their access is not restricted by the guards. In June 2013, a rape attempt was made by a juvenile pizza delivery boy, who was given access to the apartments on the strength of his uniform belonging to the pizza company.\textsuperscript{67} How much protection against crime do these systems really offer?

In addition to the ability of neighborhoods to play a role in preventing crime, perceptions of safety in this context also play an important role in people’s mental health. Informal ties with neighbors can reduce fear and mistrust, such that a feeling of safety can arise that is capable of contributing significantly to the mental health of the residents.\textsuperscript{68}


\textsuperscript{68} David Halpern, \textit{Social Capital} (Cambridge: Polity Press, 2005), 85.}
The presence of social support at the neighborhood level is known to reduce the consequences of stress: “At the simplest level, support can buffer individuals against a particular loss or threat by offering a supplemental or instrumental support.”\textsuperscript{69} This statement is further supported by “cross-cultural studies suggest[ing] that the tighter and more cohesive social networks of more traditional communities may help explain the lower rates of mental illness reported from them.”\textsuperscript{70} Durkheim’s work on suicide is repeatedly quoted as a telling example of the power of social networks and integration to protect people from this act of self-destruction. He illustrates the positive effects of social capital against the risk of suicide.\textsuperscript{71}

In addition to crime, an increased concern amongst geriatricians for the elderly population in Mumbai is a growing sense of loneliness indicated by the increase in the number of suicides in the city. For every senior citizen murdered in Mumbai, 6 have committed suicide bringing the total number of senior citizens who died in these ways to 79 in 2011 alone.\textsuperscript{72} Neighborhood support has the potential to reduce stress and loneliness and thereby reduce the suicide rate and perhaps the murder rate also. \textsuperscript{73}


That also depends on other factors like one’s own self-esteem and the quality of supportive relationships since childhood.


\textsuperscript{71} E.Durkheim, \textit{Suicide}, translated by J.A.Spalding (Toronto: Free Press, (1897) 1951), 229


I use David Halpern’s benefits of interpersonal relationships at the neighborhood level to summarize my general ideas of the importance of knowing one’s neighbors (while acknowledging the varying parameters of culture, individual willingness to interact etc.) He says,

Considerable work has been done to explore the bio-psychological pathways that explain how personal relationships generally protect health. These include instrumental buffering (e.g., financial help in times of hardship), cognitive effects (changing perceptions and responses to stress) and physiological effects (confiding in friends improves functioning of immune system). 74

Till now, I listed the idea of collective efficacy as a collective benefit from neighborhood social networks. However, procuring benefits from collective action at the neighborhood level requires co-operation among the residents. This co-operation, in turn, requires prior knowledge of each other.75 In addition to this prior knowledge, further sociologists say it is necessary for the neighbors to trust that a favor rendered now will be returned should the need arise.76

Thus, in order to engage in cost-reducing, time-saving, collective benefits of neighborhood social capital, the residents need to trust and co-operate with each other. 

But, how is co-operation and trust forged? On what basis can we estimate the extent of the trust required to exchange or co-operate? How can they trust and co-operate in a new residential complex, if they don’t know each other in the first place given the little

75 John Field, Social Capital (New York: Routledge, 2008), 70
76 John Field, Social Capital (New York: Routledge, 2008), 69
time to interact and little need to invest in social networks among the other social and technological impediments seen earlier in this chapter?

While there might be a little need to engage in these cost–reducing and time-saving exchanges, given the proliferation of paid services, this fact does not take away from collective benefits like visual-policing, which still require that neighbors know each other.

In such a condition, can the spatial design of the neighborhood play a role in orchestrating these social relationships, as residents go about their daily life? For example, a window connecting the residential unit to the common verandah in the chawls, could prompt neighbors to exchanges greetings as they got back from work. This question prompted me to look at the spatial designs of buildings where strong social networks were in evidence, where neighbors knew each other and looked out for each other. The inquiry found resonance in Mumbai-based architect Neera Adarkar’s anthology on the Mumbai chawls, where contributing authors describe the chawls as “havens of community space,” and acknowledge the “warmth” and “bonhomie” among the residents. This description implied to me a complex relationship between an architectural typology and the existence of social relationships between neighbors, such that I decided on the chawls as the focus for my research. The next section considers the morphology of the chawls before understanding the social relationships and exchanges between the residents.

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Chapter 2. Section 2

**Chawls.**

a) Description of *chawl* morphology.

b) Current trends affecting the *chawl*
2.2.a) **Description of the chawl morphology.**

The *chawls* constitute an architectural response to the need for mass housing for the migrants working in textile mills set up in the city during the mid-19th century. They remain the city’s major housing stock with 75% of the city’s population housed in the *chawls* until as late as 1989. Currently, *chawls* house nearly 20% of Mumbai’s population and provide the bulk of the affordable housing in the city.  

The morphology of the *chawls* has remained consistent, i.e., one- or two-room tenements separated internally into living/sleeping and washing/bathing spaces, with a common verandah or gallery shared between floors, providing access to common toilets and water taps (Fig. 8-10). These corridors, in some *chawls* (not seen in plan below), exist on either side of the dwelling units. The *chawls* are usually 3 to 5 stories high. Common stairways are a means of vertical circulation between floors.

![Figure 8. Plan of a typical chawl. Source: Priyanka Karandikar.](image-url)

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Figure 9 (left). Plan and Section of the chawl. Source: Housing Typologies in Mumbai. CRIT.

Figure 10 (bottom). Photograph showing the external view of the chawl as taken from the street. Source: Housing Typologies in Mumbai. CRIT.

Figure 11. Drawing showing the top view of chawl rooms. Drawing showing site plan with chawl buildings and the central courtyard. (Left to right). Source: Rupali Gupte.
The *chawls* are owned by both government and by private individuals, which give rise to two different designs. The basic room and verandah arrangement are the same for each design; however, the common spaces vary between the two. The private *chawls* are arranged in a U-shape, in which a courtyard is enclosed. Only the residents use this courtyard (Fig. 12). However, the government-owned *chawls* comprise a series of linear structures. The corridors in this case are sandwiched between the units and do not overlook a common courtyard. Between adjacent *chawls*, public space is used for markets, etc., and is thus open to the non-residents of the *chawl* (Fig. 12). Today, *chawls* facing the streets generally have shops at street level with residences above.\(^8\) I will study the privately owned *chawls* for this research because I think the arrangement of common spaces give greater access to light and ventilation, prompting residents to use them as seen later in chapter 4. This greater usage results in possibly increased social contact between residents and possibly greater social capital. Thus, this typology is comparatively a better design exemplar for social capital, than the government *chawls.*

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Studies show the community life in the *chawls* in much celebrated. Says retired social worker Mr. Manohar Samant,

It is one big family here. Nobody ever feels lonely. Our doors are always open for neighbors even late at night, if there is an emergency. Women and children feel secure when the man is out of town. Parents leave their children with us if needed and we celebrate all our festivals, pujas (religious ceremonies) and other cultural activities together. In apartments, people don’t even know who their neighbors are. However, some residents do feel the need to upgrade to a self-contained flat.

The spatial morphology of the *chawl* allow for social interactions to happen at various scales. The verandah while acting as a climatic buffer to the sun’s glare and heavy rains is also used as an extension to the small living quarters for a variety of activities, including socializing, sitting, sleeping, and drying laundry, among others (Fig.13-17). It allows for the spillover of activities like newspaper-reading (Fig. 14), and for men to discuss politics over drinks (Fig.16), recalls Mumbai-based architect, Prasad Shetty. The youngsters engage in a game of *carrom* as the women chop vegetables outside (Fig.17). Whereas the corridors serve as a place for informal daily activities, the larger courtyard allows for large formal gatherings during festivals (Fig.21). The large airy staircases overlook the courtyards and open up into spacious mid-landings and then onto verandahs on every floor (Fig.19). The visual porosity of the architectural form where each common or public space such as the stairway, the verandah, and the courtyard afford views of each other, allow for visual and audio connections and in turn many

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opportunities for residents to participate in increased verbal communication as they go about their daily activities.

Figure 13. Film clips showing usage of corridor spaces in chawls. (left to right). Source: *Katha.*

Figure 14. (Left). Photograph showing a *chawl* resident reading the newspaper in the verandah. Source: Priyanka Karandikar.

Figure 15. (Right) Photograph showing the verandahs in the *chawl.* Source: Priyanka Karandikar.

Figure 16. Film clip showing residents using the verandahs. Source: *Shikshanachya aaicha gho.*

Figure 17. Video clip showing women Chopping vegetables for daily meals. Source: Documentary on *chawls.*

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Figure 18. Photograph showing the verandahs of the Urankar Wadi Chawl, Girgaon. Source: Rajesh Vora.

Figure 19. Photograph showing stairways in the chawl. Source: Rupali Gupte.

Figure 20. Photograph of the central courtyard of the chawls. Source: www.outlookindia.com.

Figure 21. Photograph of the central courtyard showing the Diwali celebration in the Kotachiwadi chawl in 2008. Source: Khotachiwadi blog.

Figure 22. Photograph of the central Courtyard used as parking space. Source: Priyanka Karandikar.

Figure 23. Photograph of children playing football in the courtyard of the chawls. Source: The Times of India.
2.2.b) Current trends affecting the chawls.

The chawls are fast being replaced by mid-rises. Amongst many reasons for this redevelopment, one of the main motivations for residents to move into the mid-rises is a private self-contained toilet. Unique features of the chawls are the common toilets. The common toilet located at the end of the verandah of the chawl distinguishes this kind of housing from apartments, a form of massing housing that came into being in Mumbai by the 1930s. Chawl residents regard the common toilet blocks as both unhygienic and inconvenient and often cite this as one of the reasons to move into the mid-rises. In addition to the convenience of having a private toilet unit, these self-contained blocks became synonymous with the middle-class identity, a factor that motivated some chawl residents to move into the mid-rises.83 Says historian Shekhar Krishnan,

There have been physical modifications over time where the initial common toilets were interiorized and modified for washing or bathing by the family. In some chawls, further enclosures of corridors and balconies made for attached bathrooms (and in some cases, bedrooms), rendering chawl life almost as “self-contained” as upmarket “flats” in apartment buildings.84

In addition to a private toilet, there are several other motivations for chawl residents to move. The chawls occupy prime real estate, which becomes a driver for private builders to develop them into high-rises (Fig.24). Redevelopment means the horizontal sprawl of

83 Nikhil Rao, House, but No Garden: Apartment Living in Bombay’s Suburbs, 1898-1964 (Minneapolis: University of Minnesota Press, 2013), 98

the three-story *chawls* is compressed into buildings as high as, and sometimes even higher than, 7 stories, thus making land available for sale in the free market — a huge profit-making venture for the builders (Fig.24-26).

(Before we move further, I would like to make a distinction between the terms mid-rises and high- rises I have been using till now, made solely for the purpose of this research. I use the term mid- rises for apartment blocks up to seven stories in height and the term high- rises for buildings higher than seven stories. In addition to building height being a point of distinction between the two terminologies, its ownership also plays a role for this distinction. By this I mean that mid-rises in (addition to being seven stories or lesser) are apartment blocks replacing existing *chawls*. The high- rises, on the other hand, (in addition to being taller than seven stories) are privately owned by the builders to be sold in the free market. This nomenclature will be especially helpful in understanding the site conditions and its description in Chapter 4 )

In return for agreeing to the replacement of the *chawls* by mid- rises, the *chawl* residents acquire “self-contained flats” and thus a middle-class identity, that in turn frees them from the working-class stigma associated with the *chawls*. This stigma is further exacerbated because the *chawls* are often confused with slums. Mrs. Lakshmy, a 50-year-old resident of the *chawls*, is happy enough to be a resident of the *chawls* for her own sake, but saw living there as an impediment to obtaining a good marriage proposal for her 22-year-old daughter, Anusha. Though most of the residents

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86 As per the author’s preference, residents interviewed under the age of 30 are addressed by the first names while a prefix of Mr./Mrs. is otherwise used for residents above the age of 30.
are receptive to the relatively large and structurally sound housing offered by the high-rises, some lamented the loss of community, as the high-rises did not accommodate any community space in which the residents could gather. Card and carrom sessions, cricket matches in the courtyard with many spectators hanging around the common passage, is a common sight when you enter these chawls on a holiday. One chawl woman who moved into such a flat soon moved back to the chawls because she found the flat systems “claustrophobic and alienating.”

Architect Neera Adarkar in her essay on the chawls, voiced her apprehension about the new development by speculating that the new models of the mid-rises would “probably not” be better than the chawls. This was surprising to me because eminent Indian architect Charles Correa described the chawls with their modest 150 to 200 sq. feet housing units and common toilets as “brutal and elemental living spaces.” Further, journalist Smruti Koppikar criticizes the chawls as male-dominated spaces where the women brought from the villages to take on their new role as wives had to put up with unlivable, even extreme conditions, especially because of the common toilets. With such descriptions of the chawls, one would then imagine the “self-contained flats” to be a welcome respite.

However, in my conversation with architect Neera Adarkar on my visit to Mumbai, she revealed that often the chawl residents, while lured with a free apartment block, are not


allocated the space promised by the builders. The minimum area of 225 sq. ft. as
prescribed by the housing board of the city includes the toilet, such that their actual
living space is only slightly larger compared to the earlier chawls. In addition, they lose
out on the common verandahs and courtyards, which functioned as extensions of their
living spaces. For chawl residents, moving into high-rise apartments might ensure better
services, but it does not guarantee a better quality of life or better living conditions. On
the contrary, the drastic rearrangement of life in a vertical high-rise has great potential
to lead to social isolation and the breakdown of community and economic networks.90

Mr. Manikbhai Shah, a resident of Bhuleswar (an area located in the southern side of the
city), who in spite of getting more space in the shape of a standard 225 sq. ft. room after
his chawl was demolished, voicing a similar sentiment:

In our chawl, at least my wife and I could have our evening tea with a verandah outside
and chat with our neighbors. Here, when we look out of the window, the wall of the
building opposite stares at us. It’s claustrophobic.91

We shall see later in Chapter 5, that these existing social networks of the chawls once lost
after redevelopment, do not get re-established in the mid-rises, and most residents do
not know their neighbors. In the next chapter, I furnish evidence of the existence of
social capital in the chawls, after which I move on to understand how the spatial design
of chawls plays a role in fostering these social networks.

90 Manish Chalana, “Slum dogs vs. Millionaires, Balancing urban informality and Global Modernity in

Figure 24. *Chawls* (not related to the case study) seen in the foreground being replaced by high-rises, in this case, as seen in the background. Source: www.atlantic.com.

Figure 25. Typical plan of high-rise apartments. Source: Skyview

Figure 26. Original plan of *chawl* tenement (in red) enclosing a central courtyard before redevelopment on the left. *Chawl* residents accommodated in high rises indicated in pink accommodate a tower to be sold in the free market (left to right) Source: Author.
Chapter 3: Methodology

Section 1: What to measure? Non-monetized exchanges as a metric for social capital.
Section 2: Methodology.
3.1) What to measure?

Non-monetized exchanges as a metric for social capital.

*I have never found a man so generous and so liberal in feeding his guests... that to receive in return was disagreeable to him.*

-Scandinavian Edda. (Translated by Maurice Cahen in the “The Gift”)

As discussed in previous chapters, the purpose of this research is to establish a causal link between spatial design and social capital at the neighborhood level. Though the chawls and the mid and/or high-rises replacing them furnish areas in which to establish this causality of space, the next question pertains to measuring social capital. To this point, I emphasized how relationships are mobilized by neighbors in the interest of receiving collective benefits like visual-policing, cost-reducing exchanges such as child care, instrumental buffering (financial assistance in times of hardship), cognitive effects (changes in perception and responses to stress), and physiological effects (immune system function improved by confiding in friends).92

Along similar lines, non-monetized exchanges between neighbors appear an obvious choice as a social capital indicator. Exchanges, as an indicator of social capital act as a “proxy”93 for social capital; i.e. they are not exact measurements of social capital but good indicators of it. The idea of “social capital proxy” came to light amid debates on the validity of a range of indicators making measurement complex94. Since the purpose of the research is to get a broad understanding of social capital in the built forms, account of exchanges between residents would serve the purpose.

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93 John Field, *Social Capital* (New York: Routledge, 2008), 144

94 John Field, *Social Capital* (New York: Routledge, 2008), 144
3.2) Methodology

The exchanges in the chawls and mid-rises were identified by means of on-site semi-structured interviews conducted during a visit to Mumbai. I began the interview with specific survey questions (refer appendix), followed by a casual conversation with the residents of both the chawls and the mid-rises. The residents narrated more experiences when allowed to break away from the specific questions of the interview. The sampling group for the interviews consisted mostly of women, men and young college students, both in chawls and mid-rises. In the chawls, 4 women and 2 males were interviewed, while in the mid-rises 6 women and 1 male was interviewed (Refer Table 1). These interviews conducted by me are supplemented by Neera Adarkar’s anthology, The Chawls of Mumbai: Galleries of Life, recently published in 2011. The book consists of essays comprising verbal accounts of the experiences of chawls residents, in addition to their personal experiences, as former chawl residents, compiled by Mumbai-based journalists, literati, and architecture and film critics.

Proceeding to the interview process, I had a distant relative staying in the chawls. After interviewing her, she introduced me to the other neighbors on the floor she lived on and requested them to talk to me about their experiences of living in the chawls. However, in the case of the mid-rises there was no pre-established contact. I knocked onto the doors of the residents and interviewed whoever was willing to talk to me.
Table 1. Details of interviewees. Source: Author, 2013.

<table>
<thead>
<tr>
<th>Interviewees (Name changed)</th>
<th>Gender</th>
<th>Age</th>
<th>Housing typology (earlier chawls)</th>
<th>Occupation</th>
<th>No. of years</th>
<th>Do they know their neighbors?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Avinash Thorat</td>
<td>M</td>
<td>38</td>
<td>Mid-rises</td>
<td>Clerk</td>
<td>11</td>
<td>N</td>
</tr>
<tr>
<td>Mrs. Priyanka</td>
<td>F</td>
<td>45</td>
<td>Mid-rises</td>
<td>Retired</td>
<td>11</td>
<td>Y</td>
</tr>
<tr>
<td>Mrs. Desai</td>
<td>F</td>
<td>56</td>
<td>Mid-rises</td>
<td>House-help</td>
<td>11</td>
<td>N</td>
</tr>
<tr>
<td>Mrs. Bhagwat (Sr.)</td>
<td>F</td>
<td>60</td>
<td>Mid-rises</td>
<td>House-wife</td>
<td>11</td>
<td>N</td>
</tr>
<tr>
<td>Mrs. Bhagwat (Jr.)</td>
<td>F</td>
<td>35</td>
<td>Mid-rises</td>
<td>Beautician</td>
<td>11</td>
<td>Y</td>
</tr>
<tr>
<td>Mrs. Jagdish</td>
<td>F</td>
<td>36</td>
<td>Mid-rises</td>
<td>House-wife</td>
<td>11</td>
<td>N</td>
</tr>
<tr>
<td>Mrs. Kshalap.</td>
<td>F</td>
<td>36</td>
<td>Mid-rises</td>
<td>Flower vendor.   Husband is a chauffer for an ambulance service.</td>
<td>11</td>
<td>N</td>
</tr>
</tbody>
</table>

| Mrs. Lashmy                 | F      | 50  | Chawls                           | House-wife | 25          | Y                            |
| Mrs. Shah                   | F      | 37  | Chawls                           | School teacher | 11    | Y                            |
| Mrs. Jhansad                | F      | 40  | Chawls                           | House-wife | 34          | Y                            |
| Anusha                      | F      | 22  | Chawls                           | Interior designer | 22    | Y                            |
| Ramesh                      | M      | 24  | Chawls                           | Graduate student at I.I.T. | 24    | Y                            |
| Nimesh                      | M      | 27  | Earlier chawl resident Moved to mid-rises in sub. | Graduate student engineering | 17 | Y |

Table 2. Summary of exchanges in chawls. Source: Author, 2013.

<table>
<thead>
<tr>
<th>Exchanges</th>
<th>Classification</th>
<th>People commonly involved in initiation</th>
<th>Role of space.</th>
<th>Exchange prompter.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual-policing</td>
<td>Large-scale</td>
<td>M &amp; W</td>
<td>Spatial porosity of chawls because of courtyard, verandah, staircases</td>
<td>Familiarity.</td>
</tr>
<tr>
<td>Caring for the aged</td>
<td>Large-scale</td>
<td>Women</td>
<td>Connecting window.</td>
<td>Familiarity + need of working couple.</td>
</tr>
<tr>
<td>Microfinance</td>
<td>Large-scale</td>
<td>Women</td>
<td>Familiarity prompted by spatial design.</td>
<td>Familiarity + economic need.</td>
</tr>
<tr>
<td>Money-lending</td>
<td>Large-scale</td>
<td>M &amp; W</td>
<td>Familiarity prompted by spatial design.</td>
<td>Familiarity + economic need.</td>
</tr>
<tr>
<td>Baby-sitting</td>
<td>Small-scale</td>
<td>Women</td>
<td>Familiarity prompted by spatial design.</td>
<td>Familiarity + need of working couple.</td>
</tr>
<tr>
<td>Info. Exchange</td>
<td>Small-scale</td>
<td>M &amp; W</td>
<td>Courtyard, verandah, staircases, queue outside common toilets.</td>
<td>Familiarity + academic need.</td>
</tr>
<tr>
<td>Food-exchange</td>
<td>Small-scale</td>
<td>Women</td>
<td>Connecting window.</td>
<td>Familiarity</td>
</tr>
</tbody>
</table>
I began the interviews in both the chawls and the mid-rises by asking the residents whether they knew their immediate neighbors and their other neighbors in the building. If they answered in the affirmative, I then moved on to understanding the nature of this relationship. Is the relationship restricted to polite acknowledgements as they go about their day or do they depend on their neighbors for favors or help during emergencies? This is understood by means of exchanges, verbal and in kind (favors), between the neighbors. As the residents spoke about their lives in the chawls, I asked them about how they use the space around them on a daily basis while making a note of any direct mention of space in their exchanges.

Figure 27: Photograph showing the corridors in mid-rises. Author, 2012.

Figure 28. Photograph showing the verandahs in the Chikalwadi chawl. Author, 2012.
Chapter 4: Findings

Section 1 : From site impressions.
Section 2 : From resident interviews
4.1) From site impressions.

The site chosen for the interviews was the “Chikhal wadi ” chawl, 110- year old chawl in the southern side of the city (Fig. 29). I passed it during my daily commute to the nearby railway station as a student in the city. As I approached the chawls, I noticed the activity on the streets as people huddled around the tea stalls sipping their morning cup.

They moved in and out of the numerous shops lining the ground floor of the chawls. I entered freely without anyone questioning my entry, indicating the openness of the access. Yet, in spite of the absence of a security guard, we shall see later that the perceptions of safety were higher among chawl residents, than those residing in mid-rises. This increased perception of safety, as the findings suggest, was because the residents relied on their neighbors to help them in case of an intrusion or attack. In addition to relying on their neighbors for help, the spatial proximity of the built form allowed for potential calls for help to be heard. Thus, one could say that the built form, in addition to the interpersonal relations between neighbors, allowed for this high perception of safety.

Figure 29. Photograph showing the external view, internal view of Chikalwadi chawl (left to right). Author, 2012.
As I trudged up the stairway, I noticed that the ratio of the riser to the tread was high and I found it uncomfortable to climb up. This later revealed itself as inconvenient for some of the elderly who lived on higher floors that required them to use the staircase, often prompting them to move out from the chawls into apartment buildings because of the added facility of the elevator. The stairway opened into a large landing (Fig.30) as compared to the mid- rises (Fig. 34 extreme right). Around 200 sq. ft.in area, it had locked cupboards, a bed, a closet a clock, clothes hanging on a rope and some religious photographs. I later learned that this stair landing converts into living quarters for the house-help who worked for some families in the chawls, in return for a free living space at night, thus saving him rent (Fig.30). I saw this appropriation of the stair landing as living spaces by the house help, important towards the visual- policing of the chawls at night. This was the first example of a non-monetized exchange I came across in the chawls.

Figure 30. Photograph showing the staircase landing in the chawl appropriated as living space by the house helps thus saving them rent. Source : Author, 2012.
The corridor overlooked the street. As I made my way, I noticed a storage unit, which Mrs. Jhanzad, a resident of the chawl, revealed doubled up as place to sit as she sipped her evening tea in the corridor, the plant creepers along the railing, giving her the feeling of her own private garden (Fig. 32).

The mid-rises were the second site. It was a redevelopment project having replaced a hundred year old chawl in 1997. They were earlier chawls compressed vertically to release space for another high-rise to be sold in the free market: key revenue for the builders. These mid-rises stood, 7 floors high, stood in contrast to the 20 floor high-rise with its curvilinear design, large balconies, plants lining the edges, and wrought iron railings (Fig. 33 to the right).
While the entry into the high-rises was monitored closely (Fig. 25), the security guard at the mid-rises was not at the gate. The setback of these mid-rises, at one edge of the site, doubled up as the open space and a parking space for vehicles (Fig. 33). Being at one edge of the site meant, this common space was visible to a few residents, unlike the common central courtyard, visible by all residents of the chawl.

I noticed some older women sat around the temple near the entrance gate, as I made my way to the mid-rises, but again no one questioned me as I freely entered. Many residents in the mid-rises upon questioning attributed their perception of safety to the presence of the security guard. My uninterrupted entry and the absence of the guard at the gate challenged the claims of the residents. As I moved further, I noticed, the mid-landing of the stairway were much smaller than what I had seen in the chawls with the only openings being heavy concrete lattice work overlooking the open space (Fig. 34, extreme
right). These stairways were rarely used since a majority of the residents used the elevators to move through the building. Thus, while the staircase landings were broader and often appropriated by the residents of the chawls, the elevators were a popular option in the mid-rises, given the height of the building. The use of the elevators reduced chances of bumping into neighbors, thus reducing social contact between them.

Figure 34. Security guard and barricaded parking entry, setback of mid-rises appropriated as a parking space, staircase landing of the mid-rises (left to right). Source: Author, 2012.

Figure 35. Map indicating sites with the chawls to the right and the mid-rises to the left. Source: www.googlemaps.com
The two sites are within 700 ft. of each other or about 10 minutes walking distance. (Fig.35). This proximity helped control for public amenities, in case these would influence the opinions of the residents about the quality of the facilities around the living space. In terms of composition, the chawls and mid-rises were predominantly Hindu. This controlled for ethnic heterogeneity as an influence on social capital: the more ethnically heterogeneous an area, the less the social capital. After having controlled for ethnic heterogeneity I had to control for time and economic class: a key influence on social capital.

Based on my preliminary investigation, I found that the chawl residents knew their neighbors, whereas this was not the case for most of the mid-rise residents. One might think that given the age of the chawls, in most cases about a 100- years old, housing three or four generations, they would have the benefit of time in regard to neighbors establishing connections with each other. Interestingly, the newest residents of the chawls had moved in 11 years previously, i.e., at the time the mid-rises were built. However, unlike the residents of the mid-rises, Mrs. Shah, a chawl resident, knew her neighbors, at least on the floor where she lived. Further, Ramesh recalls how established members of the chawls would include new residents in their activities:

There was a newly married couple in the chawls [belonging to the Tamil speaking community from South India, which is different from the current predominantly Marathi-speaking community in the chawl]. Both of them were working, and we would not see them very often. Every year, we have a pooja [a group offering to the Gods where in this case all the chawl members participated] in the chawls, which was presided [over] by one couple selected from the chawls. The couple being new residents, we asked them

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to preside [over] it. While they are friendly, we do not get to see them very often because both of them work long hours and it was our way of involving them.

Further, after seeing that formation of social networks in the *chawls* are not solely dependent on time, one could argue the low economic class of some of the *chawl* residents as a reason for increased neighborhood social capital in the *chawls*. According to some studies, members of low economic groups are more dependent on their neighbors and hence have greater social capital.\(^96\) Often they do not have the resources to meet their daily needs and often seek help from their neighbors to fulfill their daily needs. \(^97\) However, my research produced results that disagreed with this observation. Compared with their *chawl* contemporaries in this particular case study, the residents of the mid-rises belonged to a lower economic class. \(^98\)*

The mid-rise residents, in this case study, worked as flower-vendors, chauffeurs, or low-ranked personnel in government offices, whereas the *chawls* residents were shop-vendors and teachers, and many were pursuing courses in order to become engineers, doctors, or interior designers. By the logic of belonging to a lower economic class, the residents of the mid-rises should be more dependent on their neighbors. Overall,


\(^98\)* Moving into mid-rises free of cost, thanks to the private builders, could buy the former *chawl* residents a middle-class identity by virtue of staying in apartment blocks with private toilets but it did not change their economic status. Thus, it is quite possible for people to be staying in the apartment blocks and yet be of a low-income status as compared to *chawl* members.
although the residents of the mid-rises were of a lower economic class than were the residents of the *chawls*, there was no evidence that members of the former knew their neighbors. Nor was there any evidence that the mid-rise residents had any social capital. As seen in the introduction, interestingly in the current context, some of the residents of the mid-rises relied not on their immediate neighbors, but on their old *chawl* neighbors, now residing in adjacent apartment blocks.

This negation of economic class and time, considered as potent influences on social networks in social capital literature, allowed for a larger room for spatial design to be an influence on social networks in the *chawls*. The next section considers the morphology of the *chawls* and describes the exchanges that occur within them. After having considered factors influencing social capital other than spatial design, I articulate the findings from the interviews with the *chawl* members in the next section. These findings would then eventually lead us to understand the role of space on social interactions in the *chawls* in Chapter 5.
4.2) From resident interviews.

This section lists the tangible exchanges between the neighbors as evidence of social capital still existing in the chawls. Further, it answers questions I had asked earlier in the introduction on the patterns emerging from the exchanges: Are all exchanges the same? Do some occur more frequently than the others? What role does spatial design play in these exchanges? It then concludes with identifying that it is familiarity, and not trust which plays a key role in initiating social exchanges. This distinction between familiarity and trust answers some vital questions asked in chapter 2.

To begin with the first question, the findings suggest, not all tangible exchanges are the same and vary depending on the scale of exchanges and how often do they occur. For example, small-scale everyday exchanges, like food or tutoring may occur frequently than large-scale exchanges like watching over one’s neighbor’s properties, an important aspect helping in crime prevention. Small-scale exchanges, for example, like sending a new dish over to the neighbors occurs more frequently than some large scale exchanges like health emergencies for example, and often puts the receiver in a binding obligation to reciprocate. This obligation to return the favor results in increased exchanges. These increased exchanges over time, forge greater social contact, trust, and cooperation between the exchanging neighbors. This increased social contact and trust, stemming from these small-scale exchanges, can be viewed as a facilitator of social contact and cooperation, required for yielding larger collective benefits such as visual policing or obtaining help during times of emergency from social networks. Thus, smaller everyday exchanges incrementally increase trust and by that virtue act as stepping-stones to yield larger collective benefits.
Different aspects of spatial design influenced these exchanges. By this I mean while visual porosity owing to the spatial design of the *chawls* facilitated large-scale exchanges like visual-policing, the connecting window allowed for food smells to waft into the verandahs sometimes prompting neighbors to stop and enquire about the menu, thus prompting social interaction. I thus make this distinction between the exchanges to better understand spatial design, in its ability to allow everyday social contact.

I begin by arranging the exchanges, beginning with larger collective benefits like visual-policing and security, emergency help, and microfinance. This is followed by comparatively nominal exchanges like information exchange, tutoring, food, and guest accommodations.

I began my main interview by asking questions about perceptions of safety and instances of collective efficacy at work in the respective built forms. I do so, because the theme of safety perception is one of the primary benefits of neighborhood social capital, in that it helps in crime-prevention, as discussed in Chapter 2. Whereas most residents in the mid-rises had mixed feelings about safety, those who did feel safe attributed the feelings of safety to the presence of a formal security guard. On the other hand, *chawl* residents felt safer in spite of the absence of a formal security guard. They felt safer for two reasons: 1) that their screams for help in the case of an intrusion which would be heard throughout the *chawls* and more importantly 2) someone on hearing those screams would intervene to help. Anusaha, a 22-year-old interior designer and *chawl* resident voiced this feeling,
In the chawls, everybody knows everybody. In addition to that chawl residents keep their doors open through the day, except if not at home. I’m sure if I screamed; someone will hear it and come to help.

Mrs. Shah, a school- teacher and mother of a 12-year-old girl reinforced this belief:

I am a school- teacher and sometimes cannot make it in time till my daughter comes from school. I am worried, but I know in case of an emergency she can just bang on the wall between ours and the neighbor’s house, I’m sure someone would come to help. Also, there are people hanging out in the courtyard till about 3 am and the milk -men start coming in by 5 am so there is always a buzz.

By that logic, feelings of safety can be attributed to the spatial design of the chawls. The spatial design consisted of three things 1) visual porosity owing to the arrangement of spatial elements of the chawls, i.e. the ability to see the entire chawl by standing anywhere in the common verandah, 2) the proximity of the residential units allowing residents to pick up slightest commotion or screams for help, 3) the open-door policy: a behavioral setting unique to the chawls as mentioned by Anusha. More importantly, in addition to Anusha’s belief that her screams would be heard; the belief that neighbors would intervene exemplifies the idea of collective efficacy at work. An example of collective efficacy in crime prevention in the chawl is seen as Ramesh, a 24-year-old student and a chawl resident, recalls an incident in which his mother’s timely intervention prevented a car robbery. He says,

Past midnight, an unusual sound in the courtyard where cars are parked woke my mother up. As she switched on the light and drew the curtain aside, she saw two young men fiddling with my neighbor’s car. Upon hearing the noise and seeing the light, the two
young men fled. My father then informed the owner of the car and upon inspection they saw a hole drilled in the car window, which I assume was made to steal the car stereo.

Another such example of crime prevention came up in the instance of an attack against an 82-year-old lady living by herself in the *chawls*. This finds even more relevance given the increase in the spate of crimes against the elderly in the city. Recalls Mrs. Shanta Tai:

> There was a burglary attempt in my house very late at night. However, I raised an alarm and my neighbors, who after beating him handed him to the police. I do not get scared though, and I keep the internal door open in case I need anything.

The internal door she refers to connects her unit to that of her neighbors, an architectural feature of many *chawls* (Fig. 36).

Figure 36. Photograph showing internal connecting door, to the right of the image, which is a typical feature of the *chawls*. It is currently sealed. Source: Author, 2012.
Further, theater actress Mrs. Rima Bhadbhade, now in her mid – 50’s recalls her life as a theatre actress while living in the *chawls*, reinforces the existence collective efficacy in the *chawls*:

The *chawl* boys were protective towards us girls: I would often get dropped off at the main road after a later night show, our *chawl* boys would be hanging around a street corner and without a word a couple of them would walk me home by the by lane.99

Interestingly, the idea of safety in high -rises was related to the presence of a security guard, who as mentioned earlier in this chapter, was absent when I entered the mid -rises for interviews. However, Mr. Avinash Thorat, currently residing in the mid -rises and a former resident of the *chawls*, voiced skepticism about this dependency on the security guard:

Though I feel safe, I find it risky too. Sometimes the security guard is not at his place. In the *chawls*, people are always there, even without a security guard, an intruder would not enter.

Anusha supplemented this skepticism by recounting the increase in the robberies at her aunt’s apartment, who moved out of the *chawls* into a gated apartment complex.

Reinforcing Anusha’s ideas, Mrs. Jhanzad, a 50-year-old *chawl* resident, claimed “My *chawls* are definitely safer than my mother’s apartment block–nobody would even realize or hear screams in that system.”

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Though there are no crime records for the mid-rises or the chawls to use as a basis for establishing which of the two built forms is safer, perceptions of safety existed in both the chawls and the mid-rises. The chawls, however, seemed to be more successful on account of collective efficacy on account of two reasons. In addition to believing their screams would be heard owing to the visual and auditory porosity of the spatial design of chawls, the chawl residents had faith someone would come to their rescue after hearing them. Both these reasons align with Oscar Newman’s requirement for safe neighborhoods in his book “Defensible Spaces”, as seen earlier in the introduction.

Collective efficacy was not restricted to visual-policing. Building on the idea of neighbors looking out for each other, it also manifested as help during emergencies. Mrs. Shah recalls the stomach cramps she felt during the later months of her pregnancy. Her husband was traveling and her parents-in-law were too old to help her down the stairs and get her to a hospital. As it was very late at night, finding a taxi would be difficult. All the commotion woke up Anusha’s father, who, with his wife’s help, took Mrs. Shah to the hospital in his van. In addition, Mrs. Shah says that her neighbors have often helped take her ailing father-in-law. Given the spatial proximity of the residential units, residents reported that they were often awakened by noise or commotion in nearby houses. In a similar instance of collective efficacy during an emergency, Ramesh recalls how his neighbors, awakened by the commotion, rushed to help his mother who had fainted after an epileptic attack:

My father used to work in the mills and came home late one night after his shift. I was around 10 years old and was asleep. My father kept knocking but my mother who usually wakes up to open the door did not do so. The knocking grew louder which awakened my neighbors. Awakened by the noise I opened the door. It was then I realized my mother
had got fits and fainted soon after. Before I knew it, my neighbors who witnessed this, one of them ran to get water, one of them an onion for her to smell and regain consciousness and the other called the doctor. We did not even have to ask.

These instances show that role of spatial design in emergency help, in that spatial proximity, and visual and auditory porosity of the built -form mean that neighbors become aware of incidents, in most cases the residents knew their neighbors enough for them to look out for each other and intervene. Interestingly, in the case of the mid -rises while some residents knew their neighbors, they depended on their old chawl neighbors for help in an emergency.

The collective efficacy in the chawls extended to caring for the aged and children: concerns for many working couples. One working -woman from the chawls says that she made a habit of leaving her aged mother-in-law inside their house. She would lock the door and leave the keys with her neighbors. Every couple of minutes her neighbor would peep through the window (overlooking the corridor) and check on the mother-in-law (Fig. 37). This reduced the working - woman’s worries such that she did not feel it necessary to pay a stay at home nurse. It is evident that the architecture of the space, in this case the open window allowed the cooperative situation to arise.

Many working women in the chawls, whose stories are reported in the anthology, *The Chawls of Mumbai: Galleries of Life*, said that they did not have to depend on a maid (or their mother-in-law) to look after their children, since other women who did not go to work would look after them. An actress, while living in the chawls in the early stage of her career, would depend on her neighbors to take care of her children as her husband worked late and she rushed to rehearsals: “In case I did not make it in time for serving dinner, I knew that a neighboring kaku or maushi (native for aunt) would take care of the kids and serve them.”

Another common benefit of collective efficacy is the presence of emotional support at the neighborhood level which is known to have positive effects of mental health. Says David Halpern, “At the simplest level, support can buffer individuals against a particular loss or

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threat by offering a supplemental or instrumental support.” Mrs. Ranjan says that emotional and financial support from her neighbors meant that she could look after her children after her husband’s death. “I could not wait till my relatives arrived, my neighbors stepped in to help. I never feel unsafe in spite of the absence of a male member in the house.”

Social relations in the chawls were often mobilized for financial purposes like money lending or small entrepreneurship ventures like catering businesses. Recalls Mrs. Doshi, now a resident of the mid-rises, “I used to borrow money from my neighbors when required, as we did not have enough and had growing children.” Upon being asked about her interactions with her neighbors in the mid-rises she said,

I keep my front door open ajar here as well, just like the chawls. However, I do not know my immediate neighbor whose door is 3 feet from mine. Not knowing them, it seems odd to borrow onions or dal from them, forget money. They did not even offer condolences when my husband passed away.

After the mills shut down in the late 1980s, many mill workers were rendered unemployed. This common difficulty often brought the women of the chawls together to start small businesses. In one such instance, a young widow and a mother to three children aged 7, 9, and 11, Suman Chandwarkar, capitalized on the collective cooking skills of the chawl women to start a catering business called Udyog literally translated as “work.” While making daily snack items, she employed twenty-five women from the

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chawls. Udyog ran for thirty years until competition from nearby cheap restaurants forced it to shut. Says Nanki Tai,

_Udyog was an example of what women could come together and achieve. We made all the gharelu (household) items. We women did everything. Udyog was our sustenance, and we sustained it too._

Although many chawls women, e.g., Anusha, now engage in white-collar occupations, many still come together in small business ventures. Says Ramesh,

_After my father lost his job, my mother started a catering business of only making puranpolis (flat bread with jaggery filling). As the business grew, she employed women from the chawls to help her make the stuffing. The business still helps run our house._

Microfinance was another fiscal collective benefit by virtue of knowing one’s neighbors. Chit Funds were a popular form of microfinance, which allowed the women of the chawls to invest their earnings or savings on a monthly basis, with the collected amount given to one member of the group every month. This arrangement based on co-operation and trust allowed the women to gain access to large sums of money. This lump sum often facilitated large purchases like washing machines or televisions by the women. This system was a good substitute for bank loans that would be a reduced possibility for the chawl women to acquire, given the low socio-economic conditions of certain chawls.

Nimesh Mehta, a 27 year old, former resident of the chawls says,

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106 Jaggery is unprocessed sugar where the molasses in retained, and can vary from golden brown to dark brown in color.
In our *chawls*, the socio-economic class was very low. Often the male members did not earn enough or spent their money on alcohol. The women of the *chawls* got together and would be given machines by *bindi* [small red stickers worn between the eyebrows by married women] companies. After finishing their morning cooking, they would make *bindis* and bangles and earn some money. This money was then invested in chit funds, a microfinance system amongst the *chawl* women.

Thus pre-existing social contacts between women in the *chawls* were mobilized for collective economic benefits like microfinance or small-scale business ventures, helping them to run their households. Moving from large-scale exchanges like visual-policing, emergency help, caring for the aged and children, and microfinance I know go onto list the small-scale exchanges in the *chawls*, alluding to the role of spatial design in fostering them, from time to time.

Common spaces like the verandahs, central courtyards, staircase landings, and even toilet lines became a means of continual social contact and information exchange. The common spaces allow for greater information exchange through storytelling, anecdotes, comments and opinions\(^{107}\) in the *chawls* than in the mid-rises. This verbal exchange allows people to obtain information about potential contacts and individual skills like carpentry or plumbing, to use to advance their own self-interest. An example can be found in architect Prasad Shetty’s essay on the *chawls*, where he mentions Anil, a young college dropout, is described as mobilizing his social contacts, for “connecting buyers

with sellers, helping people to obtain a ration card, getting railway reservations, or even helping families looking for grooms for their daughters.”

In another example of the benefits of information exchange, Ramesh recounts how given that he is in graduate school at the coveted Indian Institute of Technology (I.I.T) in Mumbai, his opinion is often sought for academic decisions by parents.

Parents often come to me for seeking advice about schools and colleges for the children. Having been educated in the vernacular language, most of them desire their children to study in English schools, but have limited knowledge about it.

Often by virtue of knowing the neighbors, external tutoring and academic help is sought by younger children from the older ones. Though external tutoring through institutions is a big market in Mumbai, however, they are available at certain times of the day. And, Ramesh added that “My neighbor tutored me for free when I was in grade 8,” while Lakshmy (Anusha’s mother) said that when her son was studying for engineering entrance exams, he would often seek help from Mrs. Jhanzad’s son, now a chemical engineer.

Advice from peers often had a greater influence on children’s choices than that given by parents. In one instance, a resident of the chawls asked Ramesh to advise his son against buying a computer. Children often ask for high-tech gadgets like video games and mobile phones in response to peer pressure at school. In addition to being expensive, they might not necessarily be beneficial for the children. Recalls Ramesh,

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The father was concerned that the computer would distract him from academics as he anticipated much time being spent on the computer playing video games. I playfully suggested him against it since it would hamper his performance. He doesn’t seem to have insisted on it after that.

One can see the how spatial design fostered social connections, in that common space like the courtyard often become arenas where children of different age groups bond over sports. Says Ramesh,

You just need to spend some time with them [younger children] to bond. I play cricket with them in our common courtyard when I am at home over weekends. Soon the children would show me their artwork expecting an acknowledgement or applause. That is how you bond with them over these common activities.

The spatial constraints of the chawl units could make accommodating large parties such as guests at a wedding difficult. Mrs. Lakshmy recalls living in what she calls “a joint family,” and she notes, “During my niece’s wedding, our neighbors accommodated some guests who had come from the village, without us asking, thus helping us save some hotel costs.” Thus, the architecture of the chawls, given the small rooms, though also a constraint also became an opportunity for exchanges.

Food exchanges were the most common in the chawls, whether in regard to parents or other guests making a visit. Says Shanta Tai,
Guests were often fed from another’s kitchen: kitchen borrowing and lending was a regular feature. I remember when suddenly there were three extra people for dinner, I would quietly go to my neighbor and her mother-in-law and ask for some polis to supplement my own. Sometimes they would even make the extra lot for me and I would for others.  

Shiv reveals how he never had to spend money on ordering food from outside. He says, “When my parents are not there, my neighbors send in food, much more than what we usually eat.” Recalls Rima Bhadbhade, now a resident of the mid rises,

Neighbors would give amti (curry) one-day [and] take in our guests another day. When I moved into an apartment block, I had to think ten times before knocking on a neighbor’s door.

The above findings suggest that the numerous exchanges take place in the chawls. Even though some exchanges like micro-finance are motivated from an economic need, they too, like other exchanges like baby-sitting, require residents to know their neighbors. It seems obvious that one cannot entrust their child or money with people they do not know. Furthermore, Robert Putnam recognizes trust as a vital constituent or maintaining and benefitting from social capital.


However, there is a slight distinction between what the exchanges reveal from the above sentence. The exchanges do not require high-levels of trust to begin the everyday exchanges, however, they just require prior knowledge of each other: revealing an important requirement of familiarity. It is thus, familiarity and not trust that is required to initiate social exchanges at the neighborhood level. Familiarity is not to be conflated with trust, but instead should be seen as a pre-cursor to trust.

This idea of familiarity answers the question asked in chapter 2: In order to engage in cost-reducing, time-saving, collective benefits of neighborhood social capital, the residents need to trust and cooperate with each other. How is co-operation and trust forged? On what basis can we estimate the extent of the trust required to exchange or co-operate? How can they trust and cooperate in a new residential complex, if they don’t know each other in the first place given the little time to interact and need to invest in social networks, among the other social and technological impediments?

The pattern emerging from the exchanges in the above listed findings reinforce that trust was not absolute but in fact incremental. Thus, familiarity can provide a basis for [increased] collaborations or exchanges and lead to a higher level of trust. Familiarity entails face-to-face contact between residents and is considered to play a pivotal role in increasing social capital in communities in general.

Face-to-face contact reveals the motivations between residents. Studies show that these motivations help people to distinguish between good and bad partners, thus helping them to gauge trustworthiness of the residents: an important deciding factor to facilitate co-operation and exchanges. It does so in two ways: 1) Verbal communication and 2) Non-verbal communication. Increased verbal communication helped in information exchange and estimating resources and skill sets of the neighbors which one could use for their self-interest in seen in Ramesh and Anil’s account. I now move on from verbal to non-verbal communication. Non-verbal communication such as glances and nods, also a result of face-to-face contact, are often underestimated in terms of their ability to convey emotions like bias, disapproval or acknowledgment, which also play a role in fostering social relations. Non-verbal communication includes kinesics or the study of body language. Studies show that it constitutes 75% of communication and state that body language might actually contradict verbal communications revealing true emotions and motivations of people. People read body language through a range of behavioral metrics like posture, movement, odor and touch, to assess trustworthiness. Studies show that people privilege this kind of non-verbal language over verbal language, taking the former as a more authentic signifier of character and intentions. Non-verbal communication also plays an important role in developing supportive relationships, by

114 R. Thomas Boone and Ross Buck, "Emotional expressivity and trustworthiness: the role of nonverbal behavior in the evolution of cooperation," *Journal of Nonverbal Behavior* 27, no. 3 (Fall 2003): 174


117 R. Thomas Boone and Ross Buck, "Emotional expressivity and trustworthiness: the role of nonverbal behavior in the evolution of cooperation," *Journal of Nonverbal Behavior* 27, no. 3 (Fall 2003): 174
providing a way to convey feelings that are not always easy to verbally articulate such as support and empathy. For example, Mrs. Ranjan (as quoted in Chapter 3) stated that the strong “emotional support”¹¹⁸ she received from her chawl neighbors had helped her cope with her husband’s death.

Thus, familiarity is a precursor to trust and by that logic to social capital. By articulating that familiarity entails increased face- to- face contact and after understanding its importance, I found a niche in which spatial design can contribute towards social capital: by increasing face- to- face contact. Thus in the next section, I employ a spatial apparatus to understand how the spatial design of the chawls orchestrates familiarity or in other words, increases face- to- face interaction.

Chapter 5: Discussion.

Employing the Spatial Apparatus

Section 1. Verandah

a) Verandah as a carrier
b) Verandah as a container
c) Behavioral setting: open –door and open-window.
d) Verandah as a defender of space and a defensible space

Section 2. Courtyard as a display
In chapter 4, I established the evidence of social capital in the *chawls* by listing the non-
monetized, cost-reducing, time-saving benefits between residents. These exchanges revealed that, in addition to these benefits as motivations, these exchanges required prior knowledge of their neighbors or in other words familiarity. Studies show familiarity as a precursor to trust and entail face-to-face social contact.119 This finding about familiarity helps nuance the research question. At the beginning of the research I asked; *how can spatial design orchestrate social capital?* With the above findings, I modify the question slightly, to ask: *how can spatial design orchestrate face-to face contact?*

In this spatial orchestration of social capital I see two aspects 1) Provision of common spaces where residents can gather and more importantly 2) Provide motivations for residents to use this space. That the *chawls* provided common spaces for increased face-to-face interactions was established through multiple examples seen earlier in Chapter 2 and 3. The verandahs provided a gathering space for Mrs. Doshi and other women in the *chawl* to collectively stitch quilts from old sarees. Further, the spacious landings of the staircases provided space for Anusha and her friends to gather at night after work. The common central courtyards allow large groups of people to gather; either for a game of cricket or to perform religious rituals during festivals, thus increasing chances of face-to-face contact.

Though provision of these spatial elements as arenas for social contact is the first step towards orchestrating social contact between residents, how does spatial design motivate people to use these common spaces in the first place? The decision of residents to use the common spaces and thus inevitably engage in a face-to-face contact is voluntary, as seen

in Mrs. Doshi’s use of the verandah or in Anusha’s use of the stair landings. Additionally, these voluntary decisions are supplemented by external motivations like religious rituals or festivals. But, that is not the same as spatial design of the chawls choreographing this face-to-face contact.

Given impediments to neighborhood social capital in cities like lack of time or lack of need to exchange, depending on voluntary or external motivations like festivals for fostering face-to-face contact would be futile, as these motivations are subjective to individual will. Spatial design of the chawls via its spatial elements like the verandahs and courtyards, and more importantly by their arrangement, inevitably orchestrate face-to-face contact, independent of individual will, thus making it a dependable initiator of social contact. In other words, I investigate how the chawls through their spatial elements do and more importantly by their arrangement, inevitably orchestrate face-to-face contact between people within them.

This investigation is carried out by employing a spatial apparatus. This spatial apparatus works on two levels 1) it first identifies spatial elements, like the verandah for example, as the prime spatial element responsible for orchestrating face-to-face interaction in the chawls. The verandah is supplemented by other spatial elements like the courtyard, the common toilets, the common staircases and the connecting window. 2) It then identifies two themes as choreographers of social contact: first the spatial arrangement of the above mentioned elements and second being spatial difficulties of the chawls like cramped living spaces, lack of direct natural light and ventilation, lack of privacy and common toilets, prompting residents to use the common spaces, thus prompting social contact.
These broad themes help distill design lessons one can learn from *chawls* to orchestrate face-to-face interactions. By that I mean, if for example, the spatial arrangement of the verandah by virtue of its connection to the central courtyard and thus to natural light and ventilation, prompted residents to use it, then I would consider it a valuable lesson to inform future neighborhood designs in the city. Alternatively, if spatial difficulties like lack of light and ventilation within individual residential units prompted the residents to use the verandah, then in spite of their contribution to increased face-to-face contact, I would reconsider or negate their application to neighborhood design. Thus, this spatial apparatus helps distill valuable and avoidable design lessons to inform future neighborhood design, either in Mumbai or different parts of the world.
5.1) The Verandah.

Call it a gallery, balcony, outer space or simply a long corridor that connects homes and lives. It is nobody’s space, yet it belongs to every home on the floor. It is a nowhere space, neither in the home nor strictly outside, yet this in between space turns out to be more useful than the kitchen corner. It is sometimes a friend, at other times a place most unfriendly.120

The term chawls derives its name from the native term “chaal” or anklet, alluding to the verandahs, which are considered to be analogous to viewing galleries.121. The verandahs thrive as communal corridors and orchestrate everyday visual contact and accidental encounters with each other, i.e., face-to face interactions, as residents go about their daily chores. We shall see further in this chapter, how both of the earlier identified themes i.e. spatial difficulties and spatial arrangements of the chawls prompt the verandah to play three distinct roles to increase face- to – face interaction: that of a carrier of people, a container of people, and a defender of the chawls. The analysis of the verandah in this section is thus three-fold in that considerations of the verandah’s ability to firstly carry, secondly contain people, and thirdly in its function as a defender of the chawls.


5.1.a) Verandah as a carrier.

In this section, spatial arrangement of the *chawls* is the main theme. I try to understand how the spatial arrangement of the *chawls* motivates people to inevitably traverse through the verandah or in other words prompts the verandah to act as a carrier of residents. To begin with, none of the architectural elements of the *chawl* such as the courtyard, the stairwell, the window, or the verandah exist in isolation, in that each supports the other in creating a social space. By that logic, the verandah is firmly fixed to four specific places: the toilets and the stairway as terminals on each of its two short sides, the communal courtyard and the private units on each of its two long sides. This spatial arrangement, such that the verandah connects to places designated for important utilitarian functions, motivates constant movement.

The verandah in the *chawl* works purely because of the functions and spaces it connects. Unlike the corridors of Park Hill described below, the *chawl* verandah has two important terminal points on its shorter ends: a spacious stairway at one end and a toilet at the other. Though the residents were inconvenienced and criticized the common toilets as unhygienic and lacking in privacy, the common toilets as terminal points played an important role in ensuring social interactions, as people had no choice but to traverse the corridors.

Often in design of neighborhoods, the corridors are conceived as social spaces. However in some cases, the conception of corridors as social spaces for residents differs from its real use. An example of this can be seen in the large open-air decks or corridors known as “streets in the air” in the Park Hill area of Sheffield in the UK. But, in the case of Park
Hill, the spatial promotion of the corridors as “streets” failed on two accounts. Firstly, for a corridor to transcend its primal role as a circulation space to become a street in the air, people must traverse it. Though, these corridors did serve as entry points for individual residences, unlike the verandahs in the *chawls*, the corridors did not connect with any important utilitarian functions for the community.\(^{122}\)

Secondly, the corridors were seen in isolation with no living or kitchen spaces overlooking them, unlike the *chawls* where there was a window and the “open door policy” (described later), which allowed for living spaces to overlook the verandahs. In regard to the mid-rises in Mumbai, though both these reasons are apparent, yet there was one more reason for its lack of use. Unlike in Park Hill or the *chawls*, these corridors in the mid-rises were inward-looking with no access to outside light or ventilation, such that they were not welcoming spaces. In fact, I found these places to be intimidating when I conducted the interviews.

I use the example of Park Hill to enunciate difference between its spatial arrangements of corridors with that of the *chawls*, a significant lesson to be learnt from the design of communal corridors in the *chawls*. The idea of the corridor terminating in common functions may not seem important. However, accessing terminal functions is an important motivation for people to use the common corridors and to engage in face-to-face interactions as they do so.

\(^{122}\) Bryan Lawson, *The Language of Space* (Oxford: Architectural Press, 2001), 185
After looking at the importance of verandahs terminating in common functions, I dissect the role of common functions further. I begin doing so by understanding the exclusivity of the common function as an important one. By this I mean, just connecting the verandah to important shared facilities such as stairways and toilets is not enough. How exclusive is the facility? For example, if a chawl stairway on end were to be supplemented by an enclosed elevator at the other end of the same chawl, both as vertical circulation space through the building, how could one capitalize on the spacious stairway space to foster social contact? After all, the spacious stairway of the chawl was no longer the exclusive form of circulation, with competition from the elevator: an enclosed, spatially constricted yet convenient form of vertical circulation. In spite of the potential of the spacious stairways to increase face-to-face contact, would not its lack of exclusivity reduce its usage, thus reduce the chances for conversations and face-to-face contact and by that logic reduce familiarity? Thus the exclusivity of the common function at the termination of the verandah is an important lesson to take away till this point.

Next, in the process of dissection of common functions, I consider the importance of the common terminating function to play a vital role. By this I mean how frequently do residents need to access this function? I ask this question, because as mentioned earlier, familiarity, an important precursor of social exchange, is not a one-time affair nourished by an occasional social encounter. It gets stronger with repeated visual and verbal encounters paving the way for greater chances of small-scale exchanges and trust. Thus, the greater the frequency with which people pass through the verandahs, the greater the chances of fostering familiarity.
The idea of considering motivations in order to ensure the use of communal spaces like verandahs is not new. However, these designed motivations are not always successful as architects imagine them to be. An example of this can be taken again from Park Hill. The architects extended their image of the decks as streets in the air by installing common refuse chutes as modern equivalents to the communal water pumps of villages: often seen as gathering space for villagers. The architects imagined the chutes as places where casual conversations would occur, as the residents came to empty their trash bins. 

Though the communal chute can be a simplistic replacement for the village pump, how frequently do people actually empty their trash? Once a day? Every two days? What are the chances of any given resident emptying trash at exactly the same time as the other? Thus, though some interactions almost certainly do take place at communal chutes, they may be few. Would such chutes increase the frequency with which people traverse the corridors?

Thus, we see how the verandah terminating into daily used common like the staircase and toilets mean that people move through the verandahs and more frequently, thus increasing changes of face – to – face interaction (Fig.38 and 39). In addition to acting as a carrier of people to terminating common functions, the verandah thus also plays the role of a container of people. This role as a container augments the potential of the verandah in regard to fostering face- to face interaction, as seen in the next section.

Figure 38. Video clip showing the verandah as a carrier of people. Source: Roots-Documentaries on Mumbai for Sahara Mumbai- Part 1

Figure 39. Film clip showing residents using the verandahs. Source: Film Shikshanachya aaicha gho.
5.1.b) Verandah as a container

In this section, I see how the verandah is used as a container of people mainly because of the spatial difficulties inherent to the chawls. The spatial difficulties allow for the verandah to act as a container by prompting 1) daily activities like newspaper reading and vegetable chopping to spill into the verandah. 2) Residents to personalize and take possession of the common verandah by appropriating it as a storage space. Oscar Newman, in his book “Defensible Spaces,” identifies taking possession of common spaces as vital to prevent their neglect and thus prevent crime.

Built in an era when air-conditioning was unheard off, the verandah functions as the residents’ only access to light and ventilation. Further, the residential units were modestly sized at 100-150 sq. feet to house families of between 4 to 11 members on an average. Owing to spatial difficulties like cramped living conditions without direct natural light or ventilation, the verandahs provided a breezy place for everyday functions. Again, like in the role of the verandah as a carrier, we see how the spatial arrangement of the verandah, this time by its connection to the courtyard, served as the residents’ primary access to natural light and ventilation. From this example of the verandah’s use, we thus see its spatial arrangements by its connection to the courtyard compensated for their spatial difficulties, prompting the residents to use the common space like the verandah for their everyday activities.

Thus, verandahs acted as a container of people by providing seating space or activity areas either on a daily basis or intermittently. Mrs. Shah recalls how her father-in-law would read his newspaper while basking in the morning rays of the sun, occasionally
asking passing teenage boys to fetch him his tea, which they did because his mobility was limited. In some chawls, women used the corridor on a daily basis to clean grains and chop vegetables for daily meals while discussing the plot of a television series (Fig. 40 and 42). On the other hand, as seen earlier in chapter 3, Mrs. Doshi, now a resident of the mid-rises, recalls how once in a while with other chawl women she would stitch large quilts out of old worn-out sarees.

This ability of the verandahs to contain people, firstly by being wide enough to provide seating and storage space and secondly a solution to spatial difficulties, helped increase chances of face-to-face contact. Given the modest size of the living spaces and the lack of storage they afforded, the verandahs were often appropriated to store personal possessions. At about 1.5 m wide, the verandah was also used for potted plants planted in front of houses, as bicycles leaning against the wall and clothes hanging from nylon ropes were also common sights (Fig. 42). In some cases, mattresses were seen vertically rolled up. The spatial constraints and need for privacy by newly married couples found a solution in the ventilated verandahs, which prompted guests and sometimes family members to use the verandah to sleep at night. Once again, we see how spatial difficulties like lack of space either for living or storage, prompted use of the common spaces like the verandahs.

Often, storage units occupied the verandahs doubled up as seating space for the residents. As mentioned earlier, Mrs. Jhanzad would often sit in the verandah sipping her evening cup of tea. She would enjoy the view of the creepers and plants in front of her house and feel as if she were in her “own private garden”—a seldom-found luxury in the space-starved city. This ability of the verandah to carry and contain people allowed many opportunities for residents to talk with each other. Says architect Rahul Mehrotra,
Their (the *chawls*) urbanism is completely devoid of the “spectacle” of architecture that professional designers often place great emphasis on; instead they are developed for the practice of everyday life. As a result, residents tend to have greater control on the production and/or appropriation of space and architecture, which reflects their needs and aspirations.124

Interestingly, this appropriation was not seen to a very large extent in the mid-rises. The *chawls* in which the interviews were conducted had an additional attic space, such that they afforded more occupiable area than did the mid-rises. In spite of less area and thus less storage space, however, the corridors in the mid-rises were empty with just a few bicycles parked outside. Either, the people in the mid-rises had fewer possessions than did the people in the *chawls*, or perhaps those in the mid-rises had a greater fear of theft or, they wished to behave in accord with a middle-class identity associated with a self-contained apartment (i.e. with a private toilet) such that they may have felt leaving possessions in public view to be inappropriate.

The ability to carve out an identity in an architectural space gives a sense of ownership125 and is seen to be a valuable contributor to caring for the place and thus contributing to its defensibility. This sense of ownership often allows residents to take possession of the spaces and thus behave in ways that prevent the spaces from deteriorating.

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124 Rahul Mehrotra, "Constructing Cultural Significance: Looking at Bombay’s Historic Fort Area," *Future Anterior* 1, no. 2 (August, 2004), 25

We saw how ownership of the verandahs contributed towards the defensibility of the space in this section. Thus, we see that the role of verandah as a container yielded positive results by increasing the defensibility of the verandah and increasing face-to-face interaction between residents. However, in spite of these positive results, it does not alter the fact that these results stemmed from spatial difficulties. In spite of this, the chawls give important lessons on the dimensions of the verandah. While we saw the verandah was wide enough to accommodate storage and daily passage of people. Additional to the width, the length of the verandah also plays an important role in fostering familiarity. For example, if 10 chawl units are bound by a common verandah as compared to four apartments being linked by an inward looking corridor in the mid-rises, given the greater length in the chawl, chances of bumping into a larger number of residents may be greater in the chawls that the mid-rises. Thus, we can take lessons of the verandah dimensions to inform neighborhood design. We shall continue with the same theme of defensibility of the verandahs in the next section by seeing how the “open door policy” and the connecting windows contribute towards it.
Figure 40. Video clips showing residents using the verandah to dry clothes, chop vegetables, exchange ingredients and offering morning prayers to the sun. (clockwise from top left). Source: Documentary on chawls.

Figure 41. Photograph showing children using staircase mid-landing as play spaces. Source: Rajesh Vora.

Figure 42. Photograph women chatting in the chawls. Source: Rajesh Vora.
5.1.c) Behavioral setting: “Open-door and open-window.”

So far, we have looked at how the verandah, by virtue of its spatial arrangement, terminates in important functions, the staircase and the common toilet, prompting a high level of use of the verandah and hence a high level of face-to-face contact. Furthermore, spatial difficulties inherent to the chawls—lack of light, lack of ventilation, and lack of storage space in their residential units—prompted the residents to appropriate the verandahs as extensions of their daily chores. Thus, the verandah acting as a carrier and a container of people ensured constant human presence in the chawls and increases social contact between neighbors.

In this section we see a different repercussion of spatial difficulties in the chawl, in that this difficulty prompted the open door and open-window trend, a behavioral setting exclusive to the chawls. This behavioral setting did three things 1) The open doors and windows broke physical and mental constructs of privacy of the chawl residents by allowing other residents to peep into their homes and have a quick conversation, as they traversed the verandahs, leading to increase social contact. 2) Keeping the doors and windows open allowed the chawl residents to police the common verandah seen in the next section. Thus, they could keep an eye on any unwanted visitors, contributing towards increased perceptions of safety in the chawls as seen in Chapter 3, 3) Additionally open windows, contributed towards small-scale food exchanges by allowing food smells to waft from the kitchen into the verandah. This food smell often prompted curious neighbors to stop by and review each other’s food menu for the day.

This behavioral setting of keeping main doors and connecting windows open, albeit rooted in spatial difficulty, differed from the earlier one seen in the use of verandah as a container, in that it involved different architectural elements than the verandah i.e.
entrance doors and connecting windows in fostering familiarity.

Owing to the spatial difficulties inhering in poor light and ventilation, the chawl residents tended to keep their front doors open most of the time. Says late architect Arvind Adarkar and a former resident of the chawl,

The chawl doors would shut only at night. I would often go to my friend’s place, to read the morning paper and no one would take notice of me. But, because of that it was difficult to hide even the most personal aspects of life and relationships in each other’s house - holds.126

This gesture of keeping the front doors open, though stemming from a spatial difficulty, went beyond its utilitarian reason of comfort and dissolved the mental construct of privacy by allowing the fluidity of human movement. By keeping the doors open, the residents symbolically allowed for other chawl members to become a part of their personal lives allowing for increased conversation. Says Ramesh, “In case of any new relative, my mother would introduce him as her brother-in-law to the rest of the chawl members, allowing greater engagement of the neighbors with the extended family.” Says Smruti Koppikar in her essay on the chawls, “Inner Spaces, Women’s Voices,”

“Children breezily zoomed in and out of houses, women walked into each other’s kitchens and asked for ingredients they had run out.” Painter Atul Dodiya, a former resident of the chawl recounts how his neighbors would quickly stop by and critique his paintings (for) “having too much yellow” in it.

Recalls Rima, resident of the *Ambewadi Chawl*,

Quite often my mother would not be around but I rarely felt her absence, I would simply run into Joshi Akka’s (native for aunt) house to get my hair plaited because she was an expert anyways. There was unmistakable warmth and a deep sense of belonging that I sorely missed after I moved out. When I moved to the apartment block, I had to think ten times before knocking on a neighbor’s doors 127

Like the main doors, the lack of light and ventilation also prompted the residents to keep the connecting windows open. This behavioral setting allowed for a narrative of non-verbal conversations to occur than those in verandahs. These non-verbal narratives included sounds and smells of cooking from the houses to float into the public verandahs providing an occasion for the women to engage with the passers-by. Anusha recalls how her neighbor upon smelling her evening cooking would occasionally peep through the door and enquire about the new recipe she was trying. She says,

My neighbor, being from a different village makes fish curry very different from ours. She would stop by, upon me calling out to her and supervise my cooking. With Indian cooking having strong smell would often prompt my neighbor in the evening to stop and enquire what was there on the menu, as she came back from work

*Chawls* were predominantly arranged by common religion but might vary by origin and language. 128 For example, a *chawl* would be Hindu by religion but have migrant

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residents from the southern state of Tamil Nadu or Gujarathi speaking residents from the western state of Gujarat. Thus, membership in the same religion but varying regions or states meant that people shared different cooking styles. Variations in methods and ingredients resulted in numerous information exchanges taking place in the chawls. Cuisines were much discussed and older women often passed on cooking traditions to the younger women in the chawls. Sejal Ben, now 66 years old, says,

> Our rotis (Indian flat bread) are also different. Elders used to say the very act of preparing rotis makes the difference; every detail was passed from one generation to another. None of this is written. You don't find it in books. It's something you see as a 20-year-old and do it for the rest of your life.\(^\text{129}\)

The exchange of food, recipes, and cooking methods qualified as the small-scale everyday exchanges, spoken about earlier in chapter 3, allowing women to share and test different recipes. Says Mrs. Ranjan, “I always send some of the new recipe over to my neighbors and likewise. We have devan - ghevan (give and take) in the chawls.”\(^\text{130}\) Adds Ramesh, “My neighbor knew of this one particular curry I liked. Every time she made it, it was sent to my house.”

After observing air-conditioning units projecting over their main doors for mechanical ventilation, I speculated that residents may have reduced or stopped their practice of leaving the doors open. Says Mrs. Jhanzad; “We turn on the air conditioner only in the summers when it gets really hot. Our doors our open the rest of the times. The only time


it is shut is when there is no one at home.” Mrs. Lakshmy (Anusha’s mother) reinforced this idea, where she says,

I leave my house doors open except when I take my afternoon nap. I am apprehensive of the possibility of small gadgets like cell phones being robbed in case my attention is diverted by household chores.

It is important to note that this behavioral setting was not necessarily governed by choice but initiated by spatial difficulties. Whereas spatial discomfort like a lack of light and ventilation is not a desirable design lesson for fostering communities, a significant lesson was taught by this spatial arrangement is that having living spaces overlook the verandah (in this case through a window) prompted social interaction between passers-by and residents inside their houses and also helped police the common verandah.
5.1.d) Verandah as a defender of space and as a defensible space.

Till now we looked at how the spatial motivations for the verandah to carry and contain the residents, thus increasing chances face-to-face interaction. Assurance to the residents of any neighborhood that the frequently used spaces, like the verandahs and courtyards in case of the chawls are safe, also influence motivate their usage. Thus, the defensibility or security of a space plays a less obvious yet significant role in ensuring usage of common spaces.

Most of these motivations for verandah’s use by the residents stemmed from the spatial difficulties in the chawls. An example of spatial difficulty as a motivator was seen in the role of the verandah, as a container or the above-mentioned behavioral setting of open-door and open-windows. In this section, we focus on spatial arrangement of the verandah, as a defender of the chawls.

As mentioned earlier, while discussing the role of the verandah as a carrier, the spatial elements in the chawls do not exist in isolation and vary in hierarchy from small connectors to private space like doors and connecting windows opening onto semi-public spaces such as the verandah, which, in turn, overlooks the central courtyard. As the verandahs made the courtyard defensible, they themselves were afforded defenses on the basis of the open-door policy and the windows from the units overlooking the verandahs seen in the earlier section (Fig.37).

There a two vital design lessons from this section in that 1) Exposing circulation corridors to face the street or designing the neighborhood such that the access corridors face each other as seen in the chawls, is a vital contributor towards visual policing.
2) All the common spaces are interconnected and as a result overlook each other is another important lesson for architects to take away from the *chawls*. This arrangement allows the verandahs to monitor the courtyard. Further, the connecting windows monitor the verandahs, which allows for the residents to keep a watch on any passers-by traversing it. Additionally, the auditory porosity afforded by the open-door policy also plays an important role in the defensibility of the space and the general perception of safety and collective efficacy seen in the *chawls*. Thus, the defensibility of the *chawl* is *hierarchal in arrangement*. The people police the verandahs, which affords a basis for policing the central courtyard. The relationships between the courtyards, the verandah, and the residential units are, therefore, interconnected.

Figure 43. Photograph showing exposed stairway and verandahs overlooking the courtyard. Source: Mumbai Moments blog.

Figure 44. Photograph showing windows overlooking the verandah. Source: Author,
5.2) Courtyard as a display space.

That the courtyard in the chawls act as large congregation space for the residents has been established in Chapter 2. They can be converted into a stage for festivals or simply into playing spaces for children on ordinary days. This ability of the courtyard to house larger groups of people, allows larger number of people to meet each other and hence increase the face-to-face contact between residents. In this section we shall see the courtyard in two ways 1) In its ability to hold group gatherings 2) through its connection to the verandah. The courtyard acts as a display space which by its central location, is viewed by the surrounding verandahs. We shall see why this is important later in this section.

During ordinary days, the central courtyard becomes a competition zone, as children form cricket teams and play with each other sometimes the adults in the chawls (Fig. 43 and 44). Recalls late architect Arvind Adarkar,

The chawls often became a battleground for inter-chawl or inter-galli (lane) cricket matches. During breaks, the children would never be found at home and would be playing in the verandahs or the compounds (courtyards) the entire day. The entire wadi (chawl ) would come alive with the noise created by the playing children. 131

These matches allows for greater expressivity and verbal exchange between the children. Ramesh attributes these cricket matches to increased bonding between himself and the

children of the *chawls* which allowed for increased information exchange, seen in Chapter 4.

Further, the central courtyard often becomes congregation spaces for festival celebrations. Festivals are an integral part of the city’s social fabric and are important occasions celebrated in the *chawls*. And, festival celebrations in the *chawls* seem to be etched in the memories of residents even after they have moved to the mid-rises. In fact, they often go back to their old *chawls* even after moving to the mid-rises to be part of the celebrations. Ramesh mentions how his uncle, now residing in the United States, sends money as his contribution to the *Ganesh Pandal* every year. Along similar lines, Nimesh recalls how his mother still participates in the *Ganesh festival* in the *chawl* where they used to live. Residents fondly remember the festival times when all the residents come together to gather funds and to organize and celebrate the festivals. During *Diwali*, the festival of lights, women get together to make sweets and other fancy food. Says Anusha,

> We often spend the earlier night at my neighbors preparing the Diwali sweets and helping fry them. My parents lose track of where I am and see me only when I return at night.

Robert Putnam in his book “Bowling Alone” suggests that group activities by memberships in clubs, civic and voluntary organizations, act as agencies that increase social capital. By a similar logic, the residents’ efforts in regard to organizing group activities during festivals and the spatial ability of the courtyard to support large gatherings both, constitutes interactions and facilitates more interactions. Says Ramesh,

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132 *Ganesh Pandals* are temporary sets to house the idol of *Ganesha*: the elephant headed god. These sets are part of the *Ganeshotsav* festival, celebrated in September lasting for for 11 days, after which the idol is immersed into the sea. This festival sees a very high turnout of citizens participating both at the scale of individual homes and neighborhoods.
Children often get together with adults to make a large paper lantern, around 3m in diameter strung across the courtyard during Diwali. Every year we have the children of the chawl get together to perform during Diwali and Ganesh Chathurti. We set up a temporary stage in the central courtyard, hire speakers and the central courtyard becomes a performance zone.

The courtyard acts as a display space for temporary stalls housing the elephant headed god (Fig. 39 and 40). It also becomes a gathering space for children and adults alike during Diwali to burst fire-crackers. The verandahs become spaces for groups competition as women competed to make rangolis (designs made with colored powder customary of Diwali) on their doorsteps (Fig. 38a and 38b). While the central courtyard in the chawls provide the space for larger congregations, common spaces in the mid – rises are restricted to the setback space, often inadequate for large-scale activities (Fig. 42). The terraces of the buildings thus functioned as larger congregation zones. These are however cut off from the view of the other residents and did not involve all age groups, like the chawl. It mainly saw the youngsters participating.

In addition to providing space for large gatherings, the central placement of the courtyard allowed other residents to view the activities from the verandahs (Fig. 41). An important lesson learnt from this section is the provision of large gathering spaces, not in isolation like in case of the mid-rises, but visible from different points of the neighborhood. But, how does that help social connections?

Humans are social by nature and gain more from passive forms of observation of groups. Increase viewing of group activities, from the verandahs in case of the chawls, often
increases their inclination to belong to groups. This need to belong and remain in a group can give rise to active forms of co-operation between people. In context to festivals in *chawls*, group efforts become visible in the form of the final product like large 3 m wide paper lantern made during Diwali or the decorated *Ganpati Pandal* decorated to house the elephant headed god. These visible group efforts become exemplars of the success of interpersonal interactions, coordination and ability to deal with challenges. Further, it allows for parents to keep an eye on their children as they play in the courtyard.

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Figure 49. Photograph of the central courtyard showing the Diwali celebration in the Kotachiwadi chawl in 2008. Source: Blog-Khotachiwadi.

Figure 50. Photograph showing the setback space in the mid rises. Source: Author, 2012.

Figure 51. Photograph of children playing football in the courtyard of the chawls. Source: The Times of India.

Figure 52. Video clip showing the men playing cards in the central courtyard. Source: Documentary on chawls.
Conclusions.

This research began by exploring the influence of spatial design and neighborhood social networks through the spatial analysis of the chawls of Mumbai. Neighborhood social networks are important because they yield large-scale benefits like visual policing, caring for the aged, in addition to other cost-reducing and time-saving benefits like baby-sitting etc. Yet, these benefits go unrealized because the hectic city life leaves people with little time and the availability of paid services in cities leaves them with little need to invest in these social relations within the neighborhood. In such a hectic city life, I asked: Can spatial design orchestrate these social interactions as people go about their daily chores and if yes, how?

This thesis through the spatial study of the chawls on social capital does four things: Firstly it proves that social networks still exist in the chawls, secondly it identifies familiarity and not trust as vital precursors to social capital. Thirdly and most importantly, it affirmatively answers the research question asked above and fourthly it synthesizes design lessons from the chawls to help the city - administration with design policy changes to help design safe and socially cohesive neighborhoods. By socially cohesive neighborhoods, I mean where the neighbors at least know each other and look out for each other and their property.

Elaborating on the first point: before studying the influence of spatial design on social capital, it was vital to establish that the social networks still exist in the chawls, in spite of all the impediments of contemporary city life outlined in Chapter 2. This research does so by furnishing evidence via tangible exchanges between chawl residents. But it is also seen through the findings, that these social networks eventually diminish or get lost,
once the *chawl* residents move into mid-rises, which replace them. Stringing patterns emerging from these findings, I learnt that small-scale exchanges, often became stepping-stones for large-scale exchanges. However, in case of either small or large-scale exchanges, the residents required prior knowledge of their neighbors or in other words required to be *familiar* with them, before exchanging.

Moving to the second conclusion, it was interesting to note through the findings, that it was familiarity, and not trust that was required for initiating these social exchanges. Eminent political scientist, Robert Putnam’s mentions trust as a vital component of social capital. It is true that trust helps to maintain these social relations between neighborhoods, but it is familiarity, and not trust, that initiates exchanges and thus forms these social networks. Familiarity, however, is not to be conflated with trust but instead seen as a pre-cursor to it and involves increased face-to-face interaction. I thus found a clearer niche for spatial design to contribute towards social capital: by orchestrating increased face-to-face contact.

Thirdly, this study affirmatively answers the research question asked above: in that, yes, the spatial design does indeed play a significant role in fostering social capital. However, just like familiarity is a pre-cursor to trust and thus a pre-cursor social capital, by that logic, spatial design cannot be seen as a direct causal link to social capital but as a precursor to it. In other words, familiarity provides a foundation for social capital to be built, but does not ensure its growth. Having addressed the main research question brings me to the fourth and last part of the study. This part includes desirable design lessons listed point wise, distilled from the influence of spatial design of *chawls* on social capital. As seen through the study, I hope these lessons would help the city-
administration to reimagine the mid-rises replacing the chawls with a focus on building socially cohesive neighborhoods.

SPATIAL LESSONS.
The spatial arrangement of the architectural elements in the chawls like the verandah, the courtyards etc. play a significant role in fostering familiarity between residents. However, this role of spatial design is bi-fold. I say bi-fold because while it is true that spatial elements of the chawls like the verandah for example, orchestrate social interactions through its role as a carrier of people, these motivations are often rooted in spatial difficulties like, for example, accessing the common toilets. Further, the role of the verandah as a container of activities, while also orchestrating social interactions, was also rooted in spatial difficulties. Spatial difficulties like the lack of space, possibly compelled residents to appropriate the verandah as storage, while lack of natural light and ventilation in the apartment units, prompted residents to use the verandah for daily activities like drying clothes or reading the newspaper.

While spatial design in the chawls orchestrated social interactions only after its fair share of tradeoffs rooted in spatial difficulties, there are simple yet significant lessons to be learnt from the spatial arrangement of the chawls for architects aiming to design community spaces or socially cohesive neighborhoods.
1. Spatial Lesson: None of the common spaces exist in isolation.

**Design tip:** Exposing the circulations spaces like horizontal verandahs, and vertical circulation like stairways and elevators to the street.

A vital lesson from the *chawls* is the arrangement of its common spaces: like the courtyard, the verandahs, and private spaces like dwelling units, with respect to each other. None of the common or private spaces exist in isolation. By this I mean, the centrally placed common courtyard is policed by the overlooking verandahs, which is in turn policed by the residents through the connecting window of their individual dwellings overlooking it. This arrangement allows each common space to be viewed by the residents. This spatial arrangement thus allows for increased visual -policing in the *chawls* resulting in an over-all increased perception of safety amongst the *chawl* residents. Not only were the residents sure their screams for help, in case of a possible intrusion, would be heard by the other residents, they were sure someone would intervene to help.

This arrangement of the dwelling units with respect to the verandah, and the verandah with respect to the external face of the building, provides an important lesson for designers looking at designing safe and socially cohesive neighborhoods. A case in point can be seen in Ramesh’s mother presence in the verandah alerted the burglars and thus successfully preventing a car robbery in the courtyard.

Thus the exposed verandahs on the external face of the *chawls* become what sociologist Jane Jacobs says ‘eyes on the street.’ However, this concept of being watched or being able to watch other neighborhood spaces does not occur in mid- rises replacing the *chawls*. Often the mid- rises are in the form of square blocks with dwelling units on the
periphery and the circulation spaces on the interiors (Fig. 25). This means that the commuting corridors are thus inward-looking and disconnected from the outside.

The chawls invert this relationship, where in some cases, the circulation corridors in addition to being on the external face of built form, exist on both sides of the dwelling units, thus sandwiching the dwelling units between them. In other words, the chawl units had party walls only on two interior sides of the units (Fig. 53). Though this arrangement allowed for greater social interaction, as seen in Chapter 4, the tradeoff of this arrangement was reduced natural light and ventilation in the interiors, and reduced privacy for the residents, since no face of the dwelling unit faced the external wall. I thus suggest we come to a middle ground with this relationship of the verandahs to the dwelling units. Instead of verandahs on both sides of the dwelling units, as seen in some chawls, I suggest the circulation pathway be retained only on the inward face of the building design. In this way, the circulation corridor is retained as a social meeting space thus allowing for those chance interactions, while the residents get access to natural light and ventilation from the other external wall of the unit.

While the above suggestion addresses horizontal circulation, it was also seen that elements for vertical circulation through the building like large exposed staircases form another vital terminating point. The ability to see who moves vertically through the building also contributes towards the visual porosity of the chawls, and hence towards increased perceptions of safety in them. This staircase or elevators, irrespective of the height of the building, must thus be exposed on the external face of the building and open out into the common verandahs, such that people traversing through them are visible to the other residents, thus increasing the chances to spot intruders.
While I spoke of the chawls interconnected spatial arrangement only in terms of increased perceptions of safety, I would also want to highlight the role of this interconnectedness in increasing social interactions. By this I mean, the connecting window attached to the kitchen spoken about at the beginning of this idea overlooks the verandah and thus allows for food-smells and noises to waft into the verandah. This was seen to arouse the curiosity of the passersby, often prompting neighbors to enquire about the dishes and possibly fostering the much spoken food-exchange in the chawls. Thus in addition to increased perceptions of safety spoken about earlier, this idea of dwelling spaces overlooking the verandah also increases chances of social interactions between neighbors.

2. Spatial lesson: Important terminating functions at the end of the verandah.

Distilled design tip: Television rooms and distribution of the recreational areas as a substitute for the toilets as vital terminal functions.

As seen earlier in chapter 5, social interactions in the verandah are not dependent only on the choice or will of the residents but instead are orchestrated by spatial arrangement. To begin with, the social spaces like the verandahs, which allow for increased interaction are not long and endless but terminate into vital everyday functions like the stairway on one end, and the toilets on the other. The inevitable daily use specifically of the toilets ensures constant usage of the verandah by the residents, thus increasing the face-to-face interaction. The residents thus have to traverse the verandah to access these functions, increasing chances of social contact with their neighbors.

The common toilets, though vital terminating functions, are seen as undesirable and are often cited as one of the reasons by the residents to leave the chawls and move to mid-
rises. Keeping this in mind, the newer toilets would be accommodated inside the individual residential units instead of the current position in the *chawls* outside the residential units (Fig. 53).

So what then could be identified as substitutes for toilets, as important terminating factors in the newer designs replacing the *chawls*? I see two potential spatial functions: common television spaces and re-distribution of recreational areas.

Television viewing has been on a rise since the mid 90’s. As seen in the findings earlier, Mrs. Lakshmy spends most of her afternoons watching re-runs of television serials. In some cases, women spent their evenings discussing the television serial plots, as they chopped vegetables. Sure it can be argued that some residents might prefer to watch television serials from the privacy of their homes. However, both teenagers and adults of both genders prefer to watch certain television events like cricket matches collectively. I recall, how the entire residential complex I visited during India’s final match at the cricket world cup in 2011, arranged for a projector, so that all the residents could enjoy watching the match together, as opposed to individually in the privacy of their homes. Nimesh recalls how all the children in the *chawl* he lived in would gather at one *chawl* unit to watch the match together. Further, reality television shows and movies are very popular and screenings of these can also held in these spaces. To prevent conflicts due to varying interests, a sign-up sheet can be provided on a first-cum-first basis, allowing residents to know what the space would be screening. Aligning with the popularity of movies, television serials, and sports, providing a common television space thus serves as a potential substitute for toilets as terminating functions.

Further, common spaces like mail-boxes can also be arranged around these areas. One thing to keep in mind, as mentioned in Chapter 5, is the importance and exclusivity of
the attached function. As seen earlier, expecting garbage chutes in the verandahs to function as community spaces as seen in the study of Park Hill, would only result in minimal social contact, given the low frequency use of the function. Thus, in addition to the importance of zoning, the exclusivity and the importance of the function is vital for designers. By a similar logic, if only the mail-boxes had to be provided with an intention to function as social spaces, this spatial decision could be considered an analogy to the example of the garbage chutes in the Park hill complex stated in Chapter 5. The same question asked in chapter 5, about the potential of a garbage chute to be a social space could be asked in case of the mail boxes role in fostering familiarity between the residents: how often would one go to check their mail and what are the chances that two neighbors check their mail at the same time? However, the mail-boxes would function as social spaces if not provided as standalone but instead supplemented by a larger common spaces, like in this case the common television room.

Secondly, recreation spaces like a gym or an indoor sports area could also function as substitutes for toilets as important terminating functions. Recreations spaces, as per the Mumbai bye-laws, are mandatory requirement after the redevelopment of the chawls. The Bombay Municipal Corporation (B.M.C) requires 15% of the plot area to be allotted for recreational spaces. However, more often than not, these are allocated as one large space. These large spaces instead of being used as recreational spaces are rented for commercial use. In the case study of the mid-rises seen used for this research, the recreational space was rented out to a private tuition company to hold classes for students. This commercial use provides residents additional income for maintenance of the housing complex, thus often digressing from its intended use as a community gathering space. I would suggest that the recreational area, if broken down into smaller chunks of space and distributed over every floor replacing the toilets, would not only
serve as a vital substitute for the toilets but it would ensure greater proximity to the residents and by that logic hopefully ensure a greater use. These recreational areas could have varying functions: exercise rooms equipped with gym equipment, indoor game areas or a private enclosed common work /study space for students who do not have access to privacy, given the spatial constraints of the units. Further, more spacious open workspace area say for women who make bindis, as seen in the findings, or cook food as part of their catering business, to gather and work together. This way they could avoid gathering at one particular resident’s house, where both privacy and availability of space is an issue. In this way, having different common functions spread across different floors could potentially create increased social interaction vertically and horizontally. The idea of terminating circulation corridors into utilitarian functions gives designers vital lessons on the importance of zoning or arrangement of spatial functions in the neighborhood design.

Fig. 53. This figure shows the spatial arrangement in the chawls and in the new proposed layout. Source: Author.

   Design tip: Linear building form instead of a square block like the mid-rises.

The provision of a common externally exposed verandah, as stated above, would serve as arenas of social interaction between a larger group of the residents, if they connected a larger number of units. By this I mean, a single linear verandah connecting ten residential units would subsequently act as an effective arena for social interaction for a larger number of residents as opposed to connecting only four residential units, as seen in the mid-rises. The form of the building units suggested would be linear as opposed to a square block to accommodate the greater number of units.
Appendix.

i) Chapter 1, Footnote no 2

Impact of the neo-liberal economy on the common man in India.

India faced a grave economic crisis in the late 1980s, resulting in a fiscal deficit, during which it had to physically airlift its gold reserves to pledge to the International Monetary Fund (IMF), which otherwise gives loans without physical proof. To counteract this economic crisis, India moved toward a competitive free market economy by adopting neo-liberal policies—policies that brought about a reduction of state control over markets and opened the door to foreign investment and increased consumption. It promoted the idea of the “economic man” both as a producer and consumer of the economy.

What neoliberalism means at a micro or individual level is increased freedom from state bureaucracy and control for the elite and the middle classes, such that members of these classes can now use their skills to benefit from the free market economy. Whereas the state was responsible for income redistribution pre neoliberalism, the poor, with few or no skills to tap into the free market, have now been left to fend for themselves. As the rich have become richer the poor have become poorer, further widening the socio economic divide.

As the government ignored this growing divide, the cracks in India’s projected economic boom first appeared in 2004 with the failure of the India Shining campaign. India Shining was an endeavor by the Bharatiya Janata Party (B.J.P.): the then dominant political party—to paint a pretty picture of the country’s economic status and prospects in order to attract more global investment. However, the campaign backfired. The campaign’s showcasing of the prosperity of certain sections of society and its neglect of a large section of the population who were excluded from this wealth was evident to the world. A decade after adopting neo-liberal policies, India’s pursuit of ineffective economic policies had increased the social divide and led to a worsening GINI coefficient. A GINI coefficient of a country is the measure of a nation’s income distribution within its residents. It ranges between 0 and 1. As it moves closer to 1 it represents an increasing inequality in

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distribution within its residents. It ranges between 0 and 1. As it moves closer to 1 it represents an increasing inequality in income distribution within its residents. As per World Bank statistics in 2010, India was at 33.9 while China was at 42.1. A worsening GINI coefficient results in increased mortality and urban crime.  

ii) Chapter 1, Footnote 12

Political difference between India and China

India is a democracy that allows free movement between cities throughout the country; China has long had measures in place to limit movement within its cities in an effort to prevent its urban centers from becoming overwhelmed. This means that Mumbai and Shanghai face different challenges. Mumbai, being the India's commercial center with better job opportunities attracts migrants from all over the country. Thus, Mumbai, in particular, must negotiate issues of migration, overcrowding, and multiple ethnicities, in addition to existing cultural complexities of caste, class, religion, region, economic polarities, inadequate and poor infrastructure, and communal and regional conflicts.

iii) Chapter 1, Footnote 21.

Impact of architectural intervention at both a radical and a controlled scale in Mumbai.

Saskia Sassen’s opinion finds resonance in Dharavi in Mumbai, Asia’s largest slum, where the Urban Age Project intervened not with the radical goal of clearing out the slum and stacking them in high-rises but instead at a smaller scale of providing community latrines so that residents would no longer have to use the railway railway tracks for this purpose. And, as a result of this intervention, the safety and sanitation conditions at the slums were greatly improved.

Dharavi, houses the city's largest informal economic industry: the tanning and the pottery industry. The workers use the roofs of their ground floor hutments to dry the pots and sometimes the leather. Initial proposals of redevelopment into high-rises did not account for their live-cum-work housing typology. Stacking them in vertical blocks did not leave them with drying space for their wares, thus threatening to rob the livelihood of thousands of workers. However, there have been design schools, NGO’s that have been working closely with the slum-dwellers to understand their needs and provide design proposals sensitive to their requirements.

income distribution within its residents. As per World Bank statistics in 2010, India was at 33.9 while China was at 42.1.


Examples of informal economies run by informal networks between common people and their negotiations with the city’s inadequate infrastructure.

The city-administration recognizes formal economies because as of 2005 they contributed 16% to the city’s G.D.P. while employing only 4% of the city’s populations. It does not recognize that 65% of the city’s population works in the informal sector, sometimes housed in slums. This neglect is seen as these slums, often considered as an eye-sore to the city’s global image, are displaced to accommodate malls, call centres, five-star hotels, airports, transportation networks: physical constructs and infrastructure of the formal economy as seen in Chapter 1.

Thus, the city aims to formalize its ideas of leisure, built forms, the systems that operate the city and the economies that run it. This is seen as the development plan drawn for the city in 2011 by a Singapore based firm visualizes the city as different islands for business, entertainment, culture. These islands, the administration hopes, would help Mumbai to get the title of the “world class city.”

However the city grows and runs on a vast array of invisible informal economies and invisible social networks in the unaccounted interstitial spaces like under the flyovers, the edges of railways, often unaccounted for in the city’s present master narrative. Architect Rahum Mehrotra says, “The subaltern survive by appropriating the inadequacies of the existing infrastructure to come up with solutions.”

1) An example of this relationships between the city’s formal and informal networks is the much spoken network of the dabbawalas (lunch box deliverers) and their use of the formal railway systems. An informal network: it is a tiffin service that delivers 200000 lunch tiffin every day at the same time to the offices, employing 4500 dabbawallas. They travel 30 km using the formal railway network for delivery and pickups having an annual turnover of $1 million. To elaborate on the binaries: Rahul Mehrotra talks of the city as both static and kinetic. These dabbawalas, like several other informal services leverage community relationships that use the formal infrastructure without “obsessing over it.”

Another example is the informal economy that runs in Dharavi. Considered to be the largest slum in Asia: it houses the city’s largest pottery leather industry of the city giving employment to millions. It acts as a scavenger to the city housing one of the largest recycling industries. Dharavi boasts one of the largest informal economies in the world. In fact, it houses the city’s largest tanning and pottery industries. Estimated to have an annual turnover of $665 million, it employs 1 million people in an area that is half the size of Manhattan. In case of Dharavi, its ability to contribute to the city’s economy and sustain itself was not enough for the city-administration, it had to also contribute to it’s fixation on the image of a world-class city which it refuted by virtue of it being a slum.

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However it sits on very prime real estate estimated at USD 2.1 billion and that takes precedence over its contribution to the city.

Most proposals advocate moving the existing horizontal sprawl of slum dwellers into a compact vertical set-up of high rises, thereby freeing up a large area of land to sell on the free market: a high-profit venture both for the developers and the government. However, such development plans are driven by a singular vision of economic gains that is oblivious to the social fabric of the slum. Though the working and living conditions are far below acceptable standards, the architectural intervention to improve them does not take into account the working-cum-living typology of the tenements. The tanners and potters use the roofs of their tenements to dry their wares. Stacking them in high-rises, without drying space exposed to sunlight would rob the residents of their livelihoods. It is important to understand the implications of this radical top-down approach of architectural intervention because it is singularly driven by economic logic fuelled with a fixation of achieving the global image, which almost inevitably ruptures the social fabric of these communities.

v) Chapter 2, Footnote 35.

Jewish community of diamond traders in New York City as an example of social capital.

The Jewish community of diamond sellers in New York City who hand over bags containing millions of dollars worth of diamonds to stores, whose jewelers then inspect them at their convenience. No formal monitoring takes place and no contract is signed, saving both time and money in an exchange system based on trust. Fear of being ostracized from the community strongly ensures against either party engaging in an action that would put this trust in jeopardy. Though it can be argued that this kind of community is very much in the minority in the United States, yet it remains important to understand the motivations, whether connected to region, trade, or religion, that drive these transactions in this way. Overall, this example suggests ways in which social capital can support economic capital.

vi) Chapter 2. Footnote 43.

History of the role of television in India households.

The privatization of the television industry in 1991 was a turning point in India’s broadcasting industry, as it allowed foreign channels like Star TV and MTV to enter the market. Although this did not directly affect the largely non-English-speaking residents of the chawls, the market’s response to it did. In response to the large number of English-language channels, a number of regional language channels came into being. From the predominant themes of social problems and women’s issues in the 1980s, these channels had moved to portraying everyday problems in the domestic realm of the Indian middle class by the late 1990s. Family dramas became very popular and were often screened late night or early afternoons to accommodate the schedule of the Indian housewife who could thus watch them after finishing all their daily chores.
vii) SURVEY QUESTIONS.

a) When did you come to live in the chawls? How long have you been living here?

b) Do you notice any changes from the time you came till now, within the chawls?

c) Describe your relationships with your neighbors?

d) How do you go about your day?

e) Are you happy living in a chawl? Do you think you would want to move to a high-rise? If yes, Why?

f) What do you think are the advantages / disadvantages of living in the chawl?

g) How many members in your family?

h) Do you work? If yes what are the work hours?

i) Are the children alone at home, at any point in time?

ii) Who takes care of the children, in case you have to leave town for the village?

i) How are festivals celebrated in the chawl?

j) Are there any group activities, competitions conducted in the chawls? If yes, what are they?

k) How safe do you feel in the chawls?

l) Have you been faced with an emergency situation like sudden hospitalization, death?

m) How do you think life has changed once you have moved into the high rise?
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