GRADUATION PLAN
Master of Architecture, Urbanism & Building Sciences

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Global Housing Graduation Studio:
Mixing Mumbai
Affordable Housing for Inclusive Development

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Powerful forces of migration and economic liberalisation associated with rapid global urbanisation are shaping the cities of our present and future. The effects of these global shifts are experienced more cruelly in the global south, home to the three cities that have informed me most: Windhoek; Cape Town and Johannesburg. I chose this studio to fully immerse myself in the prevailing conditions of an expansive, dense ‘global city’, where the effects of rapid global urbanisation are acutely shaping the city’s fabric. More specifically, addressing urbanisation challenges through the approach of housing affords the simultaneous interrogation of cities at the larger urban scale as well as the intimacy of the domestic realm.
C.1. Goal

Housing Humanity, Building Locality, a phrase chosen to entitle this investigation, and borrowed from Anthropologist Arjun Appadurai’s book, The Future as Cultural Fact, serves as a reminder to remain cognisant that in the provision of housing, we are also building a locality (Appadurai, 2013: 115). In fostering an acute awareness of how we shape our built environment by inhabiting it, as spatial practitioners, we must become more purposeful in how we recognise localities and their potentials.

In his essay titled The Right to the City, David Harvey quotes urban sociologist Robert Park, who states the following:

“…indirectly, and without any clear sense of the nature of his task, in making the city man has remade himself” (Harvey, 2003: 1).

Problem Statement | the unfinished edge

In the provision of affordable housing in peripheral Mumbai, design for the intimate scale, which incorporates established modes of domesticity, is wholly absent. Value is directed where the market dictates; away from people and towards profit. The effects of India’s shift towards economic liberalisation, globalisation and privatisation in the mid 1990’s has drastically altered the landscape of its cities. These powerful forces have imposed further spatial disjuncture on an unplanned city, which developed organically from an archipelago of seven islands into a so-called urban megalopolis (Varma, 2013: 17). The effects of this increased disjuncture have established a contemporary urban condition which Mehrotra refers to as Ephemeral Urbanism. This urbanism recognises that the constantly changing conditions and fluctuating practices which make up the ‘kinetic city’, are embedded in the planned, ‘static city’. The ‘static city’, driven by capital investment and accumulation, refers to the formal structures and practices of city making (Mehrotra & Vera, 2016: 17). Posing an alternative view on the urban condition, is the ‘kinetic city’, whose elasticity is increasingly enacted through patterns of occupation and habitation which give shape to the urban landscape. This ever-present duality between the static and the kinetic has come to govern the nature of the city.

Forces of contemporary urbanisation plague the developing fabric of Mumbai’s urban periphery: Nala Sopara East in the case of this investigation. As described by Mehrotra, one of the great urban development challenges of traditional Indian towns or colonial settlements is the “integral logic” of their structure (Mehrotra, 2000). This logic is limited in that it is not easily able to be expanded upon in a coordinated manner. Evident in Nala Sopara, this uncoordinated development which is increasingly pressurised by migration and other forces of urbanisation, has produced an incoherent fabric, void of any guiding principles. Mehrotra refers to this inter-scalar phenomenon, which takes form through the unfinished edge of a pavement (micro) or the growing, undefined structure of a city (macro), as ‘the unfinished edge’. The urban conditions of illegibility and incoherence, too, dominate Mumbai’s urban periphery as it sprawls.

Nala Sopara lacks an adaptive, secure and inclusive physical identity, which is situated in, and modeled off the existing needs and practices of its locality. The colonisation of the area by newly established ‘handshake chawls’ has become a dominant condition which disrupts and destroys existing domestic practices and patterns of habitation. These multi-storey developments are constructed by opportunistic local, small-scale contractors, capitalising on the proliferating housing shortage in the area. As the act of dwelling inextricably spills out and extends beyond the confines of the physical house and into the street, neighbourhood, city, geography and territory, so do the effects of the isomorphic ‘handshake chawls’. In addition to their disturbance of everyday practices, these developments stand in stark contrast to the existing low-rise baithi chawls and, as a result, articulate a disjunct urban fabric and agitated locality.
The relational proximity of the ‘handshake chawls’ and their conditions, chronically lacking natural
lighting and fresh ventilation, deem these developments inadequate for sustained wellbeing, let alone
aspirations for upward mobility. In addition to these neglected basic needs, is an undeveloped range
of quality, open-to-sky public spaces within the private realm. The prevailing response to rising density
requirements lacks severely in social sustainability.

Nala Sopara is home to a large population of displaced and economically weak citizens from Mumbai.
It is also a point of arrival for migrants from within India, as well as the greater territorial region, with
migrants seeking jobs and opportunity in India’s financial capital. The prevalence of migration and the
emergence of a ‘stateless’ identity calls into question the notion of home, and poses a viewpoint
through which home is associated with temporality and transience. This viewpoint builds on the work
of Korean artist Do Ho Suh who, through his installation The Passage, explores giving physical form to
the notion of life as a journey, “with no fixed beginning or destination” (Victoria Miro Gallery, 2018).

With these numerous destabilising forces at play, the problem statement is articulated as follows:

Urban change and growth are inevitable realities in the morphology of cities. The current shift from
low-rise chawls to high-rise developments seeks to respond rapidly and primarily to prevalent
density requirements, under economic pressures. As a result, these developments lack in their
consideration of established habitation practices, resulting in the cultivation of an urban fabric
dominated by disjuncture and exclusion.

Research Question | reconstructing locality
With the inter-related dynamics of globalisation, migration and urban governance affecting domestic
life, the research questions asks:

How can the design of affordable multi-level, mid-rise housing developments incorporate the
inhabited familiarity and intimacy brought about through appropriative space-making practices,
while responding to requirements of density and economy?

As a result this morphological urban shift, imminent sub-questions of a trans-scalar nature emerge as
follows:
1. How can a legible and coherent urban locality be reconstructed utilising endemic domestic
practices as a core driver in the process?
2. How does the dominance of migration and temporality affect domesticity in Nala Sopara?
3. How can local, bottom-up practices of appropriation converge with global, top-down forces in
processes of urban flux?

Design Assignment | transformative potential
The research question seeks to establish a relation between physical elements and appropriation
practices as equal contributors to the making of space, establishing an approach to housing which
places inhabitants at the heart of the design process.

Michel de Certeau’s theorisations on the way in which everyday life is experienced argues the active
role that citizens play in the shaping of cities through their “ordinary processes of active appropriation”
(Ahearne, 2010: 1). Through the simple act of inhabiting, invisible spatial practices and place-based
meaning is imparted onto the planned and constructed city. The influence of these visible and invisible
forces can be related to the concept of stigmergy, which refers to the following principle: actions
taking place within the environment inherently become catalysts which prompt new actions. It is this
recognition of the physical and non-physical forces at play in the city which begin to frame an
approach towards the arising isomorphic fabric of Nala Sopara.

The approach to the design assignment draws on Henri Lefebvre’s framing of space as a product of
social practices, and relates it to James Gibson’s notion of Affordances, which he defines as, “what
the environment affords the animal” (Gibson, 1979: 127). The arrangement of physical elements in our
environment, and their inherent qualities, provide agents of that locality with a set of affordances. In this sense, the body and its rhythms are placed at the centre of the design process.

The design assignment seeks to explore the transformative potential of domestic space, bridging across the spectrum of scale. The existing road infrastructure will be strengthened through the identification and development of perpendicular existing movement routes, towards the creation of a robust interconnected grid of movement. By engaging with the rhythms and ruptures of processional route, the varying hierarchies of movement corridors, and their inherent qualities, will be explored and tapped for potential. The transition from the public street to the private home has been identified as an area of interest, where specific attention is directed towards the development and accentuation of the spectrum of public life and space within the private realm. The design assignment asserts to support and empower existing practices of domestic habitation through the application of socio-spatial notions of permeability, transition, layering and multi-usage. These design assertions work towards creating an urban fabric which, driven by domestic practices, is flexible, inclusive, coherent and empowering.

C.2 _ Process | accentuate/reconstruct/introduce/recover

Articulating and making explicit what is implicit to our understanding of an environment, especially a foreign one, is the foundation upon which critical positions are established. These inherent positions form the basis of design decisions which shape the environments which we inhabit, and these environments in turn shape the way in which we think and occupy space.

The research is approached as an inter-related triad comprised of typological, ethnographic and praxeological processes. This amalgamated method of working seeks to uncover tacit ideologies, values and knowledge.

1 Ethnography | The Global Housing research studio introduces visual ethnography as an empirical research method through which to engage with the social ecology of a locality. This locality is analysed according to its inter-relation with space, place and people. This technique draws inspiration from Atelier Bow Wow's Harvard Graduate School of Design studio whereby “the act of drawing becomes an instrument of dialogue and engagement”. Central to this research method is the translation of observed patterns of habitation into communicative drawings. These drawings are organised according to four themes; income generation, borders, building techniques and social spaces. The process of studying housing developments in the Netherlands assisted in developing an observant eye during on-site analysis and data collection, in preparation for site work in Nala Sopara. Through interviewing, cognitive mapping, sketching and habitation pattern identification, an insight into domestic activities in Nala Sopara was gleaned.

Ethnography/Typology Link: The processing of the environment through a lens which documents related patterns of habitation to the physical environment and typological variations.

2 Typology | The transformative typological variation and morphological potential of typology present in Mumbai, from the city's first settlement to present day developments, makes the impact of typology on domestic life clear. This process is interested in what the various typological shifts or variations afford or disallow their inhabitants. In Mumbai, various housing projects were visited, discussed and verbally compared. Strategies around incremental, fractal clustering and variation in public, open-to-sky space were brought to light. The case study visits afforded us the opportunity to experience the manifestation of these strategies ourselves.

Typology/Praxeology Link: The transformative potential of typology is utilised as a mechanism through which design can engage the affordance of existing domestic practices, as well as project an improved reconstruction of domestic life.
3 Praxeology | The observation and study of human actions in India, in general, contributes towards a reading of the city, where acts of appropriation and the physical environment are equal informers in the morphology and development of the urban fabric. Stigmergy and the iterative relation through which the built environment and those who inhabit influence each other was brought to the fore. A deep recognition and respect for the nuances of the intimate scale of domestic life was emphasised here.

The process of typological analysis seeks to both enhance valued and established patterns of domestic habitation, as well as identify opportunities for transforming typological development at various scales. With the view that the arrangement of physical elements in our environment, and their inherent qualities, provides inhabitants with a unique set of affordances, identified attributes are treated according to the four following 'actions':

1  Accentuate,
2  Reconstitute,
3  Introduce, and
4  Recover.

These ‘actions’ are applied to isolated moments observed in the transformation of the chawl typology and habitation patterns in Nala Sopara. The act of accentuating/reconstituting/introducing/recovering conditions related to these moments, is a mechanism through which to engage and empower locality in design.

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<td>documenting observed existing patterns of habitation</td>
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Core Literature

**territorial**


**urban fabric & clustering**


**intimate**


General Literature


C.3 Relevance

As emphasised by Appadurai, forces of globalisation are creating “new geographies of governmentality”, whereby “new forms of globally organised power and expertise” are emerging within the confines of existing nation-states (Appadurai, 2013: 155). This condition extends to the notion of ‘world-class’ cities, which increasingly function as ‘city-states’ in the context of a networked global economy (Appadurai, 2013: 155). As a result of this shift from ‘nation-states’ to ‘city-states’, conditions emerge in which the nature of citizenship is being redefined. With increasing global migration into ‘world class’ cities, the number of “citizens without a city” is proliferating. This condition is especially prevalent in urban peripheries where migrant workers arrive in search of opportunity in urban centres and aspirations of upward socio-economic mobility.

In investigating the morphology of Nala Sopara’s urban fabric, in addition to its incoherent structural development, an emerging dominant isomorphic condition is observed in the area. This condition is a result of the proliferation of baithi chawl redevelopments into multi-storey ‘handshake’ chawl developments, underway in the area. This incongruent dominance in form, organisation and relation, which is entrenching itself as a sort of ‘new vernacular’ in Nala Sopara, not only exacerbates the disjunct urban fabric, but further creates an environment in which once established patterns of occupation are excluded.

Given the scale and rate of urbanisation, one might speculate that Nala Sopara may develop and shift from an urban periphery to an urban centre in time. This speculative condition calls for the reconstruction of the urban fabric. In order to reconstitute this socio-spatial disjuncture, the design proposal seeks to offer an alternative locality, generated through acts of domestic life, which counters the prevailing conditions of hegemony and exclusion of these acts.
# C.4 Time Planning

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- **Research**
- **Patterns of Habituation**
- **Field Trip**
- **Design Hypotheses**
- **Graduation Plan**
- **Initial Design**
- **Design Development**
- **Architectural & Technological Analysis**
- **Management & Strategy**
- **Urban Design**
- **Cooperative Program**
- **Building Technology**
- **Materials**
- **Construction Techniques**
- **Technical & Financial**
- **Final Design**
- **Final Drawings**
- **Final Model**
- **Reflection**