Mumbai's Tool-House

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Across Mumbai, millions of people, with insufficient capital to purchase or rent property at market rates, occupy space in the most economical ways possible. In the process of optimizing the little space they have they often mix and merge living and working functions. We refer to this typology as the 'tool-house'. While similar live–work conditions have been identified under various avatars all over the world, we look at its particularities in the context of Mumbai and show how its emergence is both context induced and context generating. Entire neighbourhoods, such as Dharavi in the heart of Mumbai are shaped by the presence of tiny tool-houses which, taken together, represent a fantastic productive network. We argue that tool-houses should be recognized as legitimate urban forms, not just in Mumbai but everywhere. In this paper, we show how tool-houses (and more generally live–work structures) have been essential building blocks of urban economies in various moments and times and, along with focusing on Dharavi in Mumbai, we also describe the specific case of postwar Tokyo.

We coined the term 'tool-house' to characterize a prevalent live–work typology in Mumbai, which is part of a larger family of 'buildings that combine dwelling and workplace', referred to as workhomes (Holliss, 2021)[1] that exist in different forms all over the world, and encompass a variety of permutations and combinations of activities with living.[2]

The tool-house is a central element in our practice, which seeks to recognize and gradually improve existing habitats, even in neighbourhoods as challenging as Dharavi, where our office is located. The tool-house typology is emblematically situated at the crossroads of all the dynamics that create neighbourhood life: built form, economic activity, and people, or as Patrick Geddes put it: place, work, folk (Lanchester and Tyrwhitt, 1947). We believe that its role must be recognized, particularly in contexts where people need to optimize resources to sustain or enhance their livelihoods. This would pave the way for a more humane urbanism, as opposed to the reckless and unsustainable type of urban development we witness today, not just in Mumbai, but all over the world.

We first describe the specific context of Mumbai and Dharavi, where we initially identified the tool-house typology. We then show how Dharavi's morphology belongs to a universal urban realm, which has existed across all cultures and ages, where habitats emerge out of needs, based on available material and local knowledge. These dynamics, combined with the absence of central planning and regulations, allow for the spontaneous coming together of residential and productive activities. We explain how this is expressed in the specific case of Mumbai, but also how the tool-house belongs to a broader family of mixed-use habitats, which have for too long been ignored, dismissed and even actively repressed, when they should instead have been celebrated as tools for urban and economic development from the local level upwards. We attempt to reconnect the tool-house to a much broader and universal story of artisanship, castes, and guilds, which has left its mark on cities throughout Europe and Asia. We then present the case of postwar Tokyo, where the live–work typology was a *de facto* reality, which empowered citizens to rebuild their neighbourhoods and contribute to the rise of the Japanese economy. Finally, we present case studies from our Mumbai practice that demonstrate the central importance of the tool-house in the life of Dharavi. We conclude with a pledge to integrate the tool-house in urban planning practices, not just in Mumbai but all around the world.

Mumbai and Dharavi

Mumbai's metropolitan region is twenty-one million people strong and spreads over 4,355 square kilometres. Within the city's municipal limits, Mumbai has some of the highest population densities in the world with 21,000 people per km[2]. In some parts of the city, which have been incrementally developed by their users, the density figure is much higher. According to some estimates, the population of the neighbourhood of Dharavi is four to eight times higher than that of daytime Manhattan. However, enumerations have proved unreliable in Dharavi. Its population is estimated to be somewhere between 500,000 to a million people and the area covers only about 200 hectares.

As the financial and economic capital of India, Mumbai has always attracted immigrants from all over the sub-continent. Dharavi is a living testimony to that history with communities representing a cultural mosaic of India. The city's authorities, unable to cope with its rapid's growth, which accelerated after India gained independence in
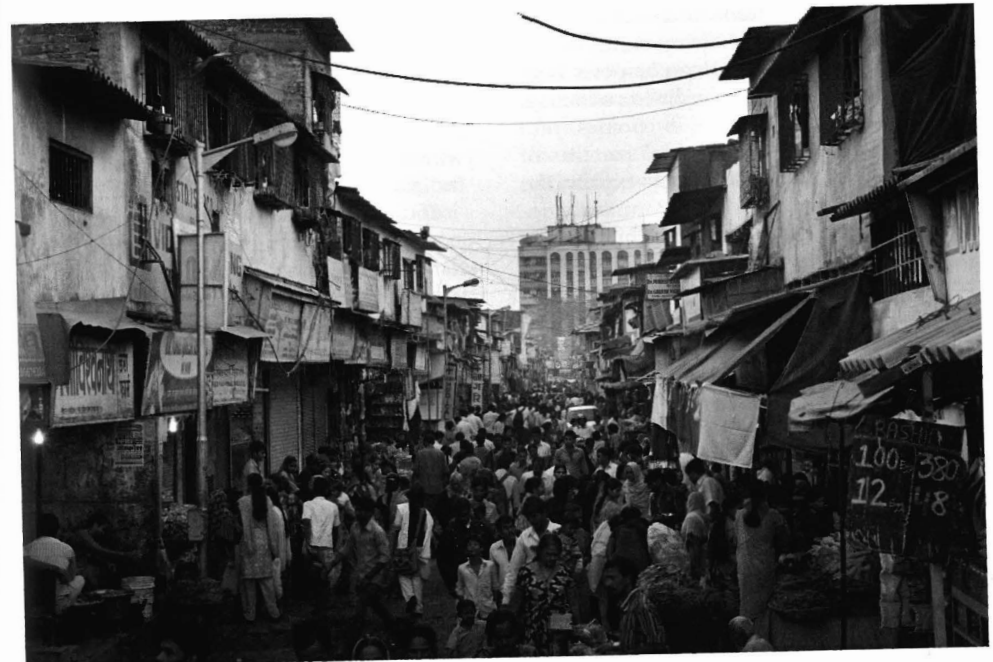

Figure 1. Dharavi, Mumbai by Julien Gregorio. (*Source:* urbz)

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trial city is sparking interest in live–work typologies among academic and architectural circles. A growing body of economic commentaries talk of the return of the home-based workspace (in the US this is supposed to be a good antidote to outsourcing) and the re-emergence of the post-industrial artisan. The contemporary world is proving to be a live exhibition space for different eras and epochs to be displayed, with regard to the world of industry and commerce.

According to Frances Holliss, 'The COVID-19 pandemic triggered an experiment in enforced home-working across the globe…' (Holliss, 2021) and the situation has not reverted to the pre-pandemic as smoothly as was expected. She points out that 'An unarguable outcome is that WFH (work from home) during Covid has been more prevalent, persistent and popular than predicted – and this has major social, economic and environmental implications, globally' (ibid,).

Unfortunately, in spite of the way things actually unfold, perceptions about contemporary society remain limited. The movement from the home to the factory, however arcane and incongruous today, still provides a narrative arc about work and residence continuing to shape urban planning projects focused on commutes and separating living working conditions.

Tool-Houses, Artisanal Neighbourhoods and Guild Networks

Most cities around the world were shaped through trading and manufacturing activities (Echanove and Srivastava, 2023). Mumbai was a major colonial trading and processing hub with networks stretching from deep into the hinterland all the way to China and the UK. Ahmedabad's economic and urban development was once centred around the *Pols* and textile industries. While there is no question that urbanization and economic development go hand in hand, the relationship between the two is often misunderstood. Cities are often touted as

engines for growth however we rarely trace the productivity of cities all the way back to its neighbourhoods and communities, least of all to houses and their inhabitants.

Our collective imagination associates skyscrapers with intense economic activity, when more often than not, these are parking spaces for unproductive giants, casting a long shadow on the productive communities that were displaced to make room for them. Their value is purely speculative, based on how much one believes they may be worth. The opposite is true of tool-houses, which only generate value through use. This value may be much less in monetary terms than the one that can be derived from a real estate operation, but it is a very tangible one, which rewards work rather than capital. The spread and resilience of the tool-house across space and time speaks volumes about its value. It has been able to absorb and contribute to different economic regimes in different cultural contexts.

It may reinvent itself in new forms in a rapidly transforming city, depending on its peculiar social history. If the city privileges professional expertise, then workhomes (Holliss, 2015) that allow for a general physician, or a lawyer or an accountant to set up an office or clinic at home or in a residential neighbourhood may be acceptable while local trading and manufacture may not be approved.

Similarly in certain Asian cities, like Singapore, where middle-class trading families and communities may have had a greater degree of acceptance or even dominance – the typology of the shophouse may be more easily accepted; and in some periods even celebrated, leaving behind beautiful architectural legacies.

In Tokyo small-scale home-factories contributed more than is usually recognized to the gradual rise to prominence of the post-war Japanese economy. They have also generated the very unique urban quality of Japanese mixed-use neighbourhoods, as we explain below.

Live–work habitats have been ubiquitous yet discreet contributors to the history of urban and economic development around the world. They were mainly identified (as a problem) when they were caught in a narrative of urban planning. With very few notable exceptions, live–work conditions have been attacked by planners in a mission to order the industrial city around functional lines.

Today live–work habitats are still seen as illegitimate in the West and countries which follow Western planning principles. Notwithstanding the wake-up calls from such giant urban thinkers as Patrick Geddes and Jane Jacobs, urban planners and policymakers still care shockingly little about the deep relationship between habitat and livelihood, still being shaped by late nineteenth and twentieth century narratives. They echo an old narrative where factory-led industrialization that disrupted older economies, both urban and rural, was seen to spawn a wave of 'uncontrolled' urbanization following massive rural–urban migration. The large cities, that were the destination of these movements, had several neighbourhoods that were seen as problematic because the old urban infrastructure could not accommodate newcomers. Narratives of crime, pollution and disease, were part of many reasons cited for controlling, dividing, zoning, and separating urban functions, activities and eventually spaces.

This suited industrialists and the political establishment alike for several reasons: collecting revenues, managing law and order, organizing markets, regulating property markets, facilitating real estate development, easing infrastructure expansion including highways, and so on. These were the real reasons why new modes of urban life and relationships to habitats were imposed on cities. The imposition of industrial time, zoning, and transit-oriented development meant the gradual loss of the older forms in which live–work habitats once played a vital role.

All over the world, from Japan to China,

the African continent to Europe, economic specialization and attempts to organize crafts, manufacturing, and trading processes have been integral to urban life. In Europe, medieval guilds that interacted, resisted, or cooperated with the State and the Church have impacted political and social trajectories involving power, monopolies, and conflict for centuries.

Even after the spread of industrial capitalism and the rise of corporate globalization, European cities still show traces of the influence of guild-based systems. This can be seen in the way economic activities from wine making to copyrighted design, from brands and labels to architectural styles, try to bridge traditional practices and modern demands.

While contemporary urban planning practices and norms do not always respond as flexibly to economic activities as they did in the past – the legacy of strong lobbies and traditional elites controlling the urban landscape is still visible.

According to Max Weber, guilds played a special role in the emergence of a certain kind of economic urban character – distinguished significantly by an attempt to control urban life, create protectionist systems as well as maintain secrets connected to trade activities (Weber, 1978).

Weber points out that the special quality that European guilds had was their direct connection with city-based spatial regimes, local resources, and in-house apprenticeships, which were often open for anyone with skills who belonged to the city, town, or village. At the same time guilds were also closed when it came to taking in people from outside who were sometimes discriminated against on the basis of region or language.

In India, exclusion was based on a more abstract principle, caste. Caste was capable of making someone from the same village or town socially distant. Someone from a different caste could belong to your village or neighbourhood but physical proximity did not transcend social distance. In the

European context, while ghettoization and segregation also existed, especially in terms of the designated 'outsider' – there was a deeper process at work in which economic associations played a strong civic role in shaping urban centres.

The guilds may have had several problems, as they were often monopolistic, exploitative of labour, and resistant to the control of mercantile capital from elsewhere, which explains their antipathy to right and left economic practices. But they did leave a huge impact on urban Europe in terms of the development of cities and towns, and towards the modernization of several crafts and artisanal practices.

Many European urbanscapes can be traced to the way in which economic associations played a role in shaping them. Combined live–work spaces and neighbourhood streets as economic sites of exchange were as integral to the experience of medieval European cities as they continue to be in several older, Asian ones (Holliss and Dutson, 2022).

In India spatial configurations have rarely had a unified articulation, split as they have been, on divided social lines. The co-existence of the rich and poor in Indian cities is as much a factor of co-dependence thanks to specialization of roles than anything else. While professional associations are highly organized across territories, almost always affiliating with their own kind, the principle of urban space is inevitably splintered within – making inequalities starkly visible.

A homegrown neighbourhood like Dharavi is not simply a physical space, but one that is shaped by the social and historical contours to which it belongs. Leather workers and communities involved in tanning, processing, and making finished leather goods, as well as potters, have been socially marginalized and economically valued. They have shown great enterprise while being victims of traditional marginalization at the same time.

It is important to see how factors beyond the distribution of resources, urban planning or political intention can change cities, for example, socially and historically inflected modes of livelihood connected to institutions such as guilds and caste, or principles of shared living that emerge through structures of interdependence that are part of local economic exchanges.

We connect Mumbai's tool-house to the history of artisanship that is integral to communities who form the bulk of urban India's huge service economy still pejoratively referred to as its 'informal sector'. Its activities range from small-scale manufacture to services such as carpentry, food processing, recycling, mechanics, and similar activities. As part of contemporary urban life, these specializations even include new economic, legal, and technological 'needs' for instance, electronic repair services, and all forms of coding, programming, and hacking.

Traditional skills of ironwork, textiles, and pottery constantly adapt, as these skills have always done, to contemporary economic needs. In Dharavi, it is not just old leather work that is sold in shops in India and abroad, but manual skills that have adapted to new needs of technologies connected to computers, mobile phones and automobiles. Not being able to deal with the social and economic knots into which these highly prized skills are tied, has made India pay a huge price, evident in its poor social and economic indicators and under-serviced urban neighbourhoods.

Economist Smita Srinivas is one of the few voices who has thought through the way Indian economic practices are embedded in urban and social contexts (Srinivas, 2010). What happens in Indian neighbourhoods is an intricate, detailed scale of production that works flexibly and simultaneously for local, regional, national, and global markets. And in all this, the local economy acts as a foundation, a bedrock, drawing hugely from familial and community resources.

Local needs can be very specific and peculiar such as implements and raw materials needed for community rituals or jewellery made in a particular regional and ethnic fashion: specialized household items that are not always found in the regular market. What we get is an overlay of traditional practices and needs that have become integrated in new chains of production and exchange. This makes it easier to customize the production of any good, object or service – thanks to the presence of high quality but affordable skills that are constantly testing and experimenting at the local, neighbourhood level.

This is as true for constructing homes locally as it is for adapting tailoring skills to servicing industrial needs. In this context, one striking example of a city that has indeed managed to combine many apparent contradictions to produce a template of urbanism that does not reject craftsmanship or high-end technology and engages with both in a setting that itself is a testimony of a layered and complex urbanism worthy of emulation, is Tokyo.

The Homegrown Neighbourhoods and Tool-Houses of Tokyo

The residential neighbourhoods of Tokyo provide us with a glimpse of how a city can be at once homegrown and hyper-modern. As it rebuilt itself from near total destruction caused by American firebombs dropped during World War II, the city had no choice but to rely on its residents' ability to construct their homes and develop local businesses.

Tokyo's small-scale, family-run, businesses, workshops and micro enterprises provided the bulk of employment for several decades after the war. While the government focused its resources on big infrastructure projects, a majority of the workforce was self-em-

Figure 5. A commercial street in Tokyo, after the Pacific War. (*Source*: Public Domain)

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