

**KEY WORDS:**

Urban Animals, Human-Animal Relationship, Indic Societies, Invisible Citizens, Urban Development

# MOOving Along: Following Cows in Changing Indian Cities

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**ABSTRACT**

Often overlooked in India's rapid urban evolution are relationships between people and animals; I seek to reveal how changing human-animal relationships are intertwined with development.

Animals have historically been involved in Indic societies as worshipped entities and economic resources. As a result, humans and cattle live together in a society where one does not just simply eat another. But this form of coexistence is diminishing as cities grow and conflicts arise over possession and use of space, typically giving priority to humans.

Can animals live in such cities? I begin by providing a context about the role that cows play in the Indic context. Next, I have analysed how these roles have changed based on ground studies. Finally, I discuss my learning and thoughts for planning efficacy.



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## Introduction

Four years ago, I travelled alone to Gujarat, a place different from home in every possible way. Perhaps most notable was the absence of meat in my food, and the abundance of it frolicking on the streets. Cows went as they pleased. They could sleep in the middle of an intersection and traffic would go around them. I was living in a society where cows could walk alongside the human, and one did not simply eat another.

So I thought to myself: what would it be like to be a cow living in a city designed for humans? I strapped a time-lapse camera beneath my shawl, and started following the first cow I saw. Along the journey, I captured humans who fed her, dogs that chased her, and street hawkers who patted her. I also noted changes in her environment such as when the street widened into a 2-way street, and when the sky became opaque with high rises. When I found zipping cars, cows would often pause as if facing an impassable wall, and turn back into the neighbourhood.

I noticed an intimate connection between the cow and the city. My experiences differed based on place: whether it was rural or urban, whether the neighborhood had a particular ethnic or religious orientation. The cows' interactions with other animals, in particular with dogs, also showed that as the environment became more urban, the greater the fight for left over space became.

Animals are secondary actors to a city, 'invisible citizens' as I like to call them. The way they navigate through a city often reveals nuances of the city that otherwise go unnoticed. Because the cow's presence in space is a combination of religious sentiment and socioeconomic relevance, the cow's experience from place to place would reflect how these factors are changing. Animals are part of an environment that have also ascribed to human systems and culture, and part of a system which humans have also adapted to. One can start to see how the city is changing based on changes in these animals' experiences, and hence there is a telling relationship between the cow and the city. 'Zoogeography', or the study that focuses

on the geographic distributions of animals at various scales incorporating notions of space and spatial relations is crucial in understanding India's development (Wolch, 1995, p.723). Given how central animals are to the Indic context, it became evident to me that urban planning in India required a more gestalt way of thinking.

## Background

The place-specific assemblage of animals in urban space in India is woven from a combination of religious, cultural, and legal precedents. The cow has long been revered as a worshipped entity with divine maternal attributes for centuries. Hinduism is responsible for the worship of the Cow, with 80.2% of the country's populations as believers (CIA World Factbook, 2013). Hinduism is based on "the omnipresence of the Divine, and the presence of a soul in all creatures, including bovines". According to Srimad Bhagvat, Krishna, one of the greatest Hindu Gods tended cows, as cows are the symbol of "*Dharma*". The holiness of the cow renders the killing of a cow a grave sin. Because the eating of cow requires killing it, moral precepts surround eating habits that starkly distinguish vegetarians from non-vegetarians. Because of the religious emphasis behind animals, the difference between vegetarian and non-vegetarian for many in India is often used as a measuring judge of character.

As a result, this reverence has also influenced the legal landscape. The doctrine of *ahimsa* also influences the sanctity of cows and finds its expression in the laws of the land. Article 48 of India's constitution reads, "The state shall endeavor to organize agriculture and animal

husbandry [...] and shall in particular take steps for preserving and improving the breeds, and prohibiting the slaughter of cows and calves and other milk and draught cattle". Since laws determine the aggregate value system of a society, animal-friendly laws actualise animal friendly lifestyles. The protection of cows is perhaps one of Hinduism's most vivid outward manifestations in the Indic context.

On top of religious and legal importance, a large contributing factor of cow respect can be traced to the cow as an economic resource. Many agrarian communities in India are engaged largely in subsistence living, where the

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essentials of their lives have depended on animal husbandry for centuries. The Indian farmer uses the cow "for motive power, especially pulling the plow, but also drawing carts [...] Nearly 42% of all zebu are used for work" (Hoffpauir, 1982, p.220). From past to present, Indian societies have consistently relied on their animals to carry out day-to-day activities without engines or more sophisticated technologies. Moreover, animals provide nutritional value, as "the buffalo attains its primary status as a milk producer [...] 48% of all buffalo are classified as milk animals" (Hoffpauir, 1982, p.223). Milk continues to hold a central place in religious rituals in heavily Hindu nations. Given its multiple uses, the cow has always been long appreciated for supporting Indian lifestyles.

Consequently, the combination of religious, legal, and cultural attitudes tolerates the existence of free roaming cattle and dogs in Indian cities. The mutual respect tying together animal and humans leads to a society that enables animals to manifest a unique awareness, an 'Animal Bourgeois'. But what happens when these contributing factors that formed this awareness change - when cows find themselves in a new place, one of concrete and steel rather than mud, of engine rather than cart? Consequently, this new environment formed by secularising beliefs, an expanding economy, and rapidly expanding infrastructure will also change the way these animals are incorporated into space.

I tracked the reaction of several cows in Gujarat and Maharashtra in attempt to characterise a broader narrative in this threshold between tradition and modernity.

## Key Questions

Several key questions guided my study. **Social:** How do changes in religion and moral values affect local perspectives towards urban-dwelling animals? **Infrastructural:** How do infrastructure typology and new modes of transportation affect the way that animals navigate the new world? **Economic:** How do new consumption habits and mercantilism affect where the animals live, and their perceived 'value' to society?

## Observing the Cows

Amongst the cows I followed, the main observations I attended to are **Mobility patterns**, or where the animal travels over a time period. Mobility focuses on each animal's daily activities, animal's pace, illustrating the

type or location of favorite places and how such preferences change with urban development.

**Way-Finding**, or how the individual animal moves through the urban fabric; adapting around widening streets, dense traffic, increased commute speeds, and other dynamic factors indicative of urban development.

**Foraging**, tracks the materials, substances, and foods that an animal takes from the environment and leaves behind. **Interactions**, takes into consideration the nature of engagements between the animal being followed and other humans, characterising them in categories such as hostile, friendly, neutral and other reactions.

## Mapping

I created maps highlighting the relationship of the cows' journeys to their environment.

**Where She Likes Maps** highlight where the cow spends her time in and the type of area she prefers. This is a key insight as typology of place (residential, commercial, mixed-use, etc.) changes with development. Type of place is important in understanding how an environment affects its inhabitants' behavior. The time stamps indicate how long she spent doing a certain activity in each location.

**The Invisible Cow Map** is as if one was following an invisible cow and saw everything it took and left behind. The presence of dung on a street says a lot about changing maintenance and notions of sanitation: If there were an efficient waste management system, would it be there? Would it be old if it were being reused for manure?

**How She MOOVes maps** describe moving dynamics of the cow in relationship to the



*Figure 1: Cows and buffaloes studied in Kutch, Gujarat*

moving forces around her. Indicators of development include widening streets, increased traffic and vehicles, increased pace of commuters, and others. Mobility is an important metric of development because it encompasses vehicles, streets, people, and density – all the factors that compose the dynamic lifeblood of a city.

## Rural: The Village

To begin with, I studied how cows were used and integrated in a village setting, specifically at Kutch in Gujarat. Gujarat is a large contributor to the dairy industry given the state's high bovine population, and therefore it is no surprise that it possesses many cattle-herding communities. Villages are often self-contained collectives that rely on subsistence farming, wherein cattle play a large role. Cattle provide milk, power for fieldwork, and their dung being used for fertilizer, construction material, and antiseptics. It is a frequent practice for villages to mix cattle dung with water and brush it over floors, claiming that the mixture keeps the floor clean. Socially speaking, some villagers in Kutch seem to

address cows as if they are part of their community by ascribing names to them. Locals have reported that some cows have such high familiarity with the community that they would 'horn' villagers' doors for in the morning and evening on a regular basis. The cows are fundamental economic and social assets in villages in the rural context.

## The Old City

Next, I observed cows in the context of an old city setting, traditional cities that are described as 'old' because they are flushed along a recently developed portion. Such examples of an 'Old City' are Delhi's Chandni Chowk or Mumbai's Bhuleshwar. I start with the narrative of one specific cow I followed in the Old City of Ahmedabad named *Panzy*.

*Panzy* was a cow I found in the 'Bhadra', or the Old City of Ahmedabad. Bhadra is located in the walled portion of the city near the Sabarmati River, a heritage place characterised by bazaars, monuments, a pol system with close clustered buildings, and many mosques and Hindu temples.

Total Distance Traveled: 1062 Meters Travel Time: 11:00AM-2:00PM



Figure 2: Time-lapse shots from following Panzy, a cow in the 'Old City' of Ahmedabad

Panzy spent a lot of time also in the residential veins of the Old City. She spent the last hour resting in front of an apartment complex with another cow.

Panzy was typically well paced throughout the city. She stopped to eat along the way, hardly stopping in busier streets, and took substantial time to rest in residential corners.

Most of what Panzy ate were organics: mango seeds, grass, *parathas* (Indian-styled tortillas), rice, and miscellaneous food on the floor. I also noticed dung on the floor –there was a lot more which may suggest the lack of rigorous maintenance: sewage, trash removal, or street cleanings.

I generally observed that cows in the old city travel much greater distances than in newer

cities. In Mumbai's Bhuleshwar, cows roam from fruit stand to fruit stand eating out of baskets of waste beneath stands, as if shop owners had intentionally laid them out in expectation. Also, alongside many of the houses were cow and animal feeders, an intentional architectural element that recognizes the cow in this landscape. The winding and thin vein nature of Old City streets creates a more deliberate route for the cow to follow.

On a social level, I frequently noticed people patting the cow while passing, or even putting flowers onto the cow. So I created the metric of 'pats per minute'. The 'pats per minute' metric was a way to quantify level of religious reverence for the animal. Given that old city was generally very pedestrian heavy, on an average pats per minute in an hour would range anywhere from 80 – 100 pats. In the Old

# Where She Likes

Residential & Commercial

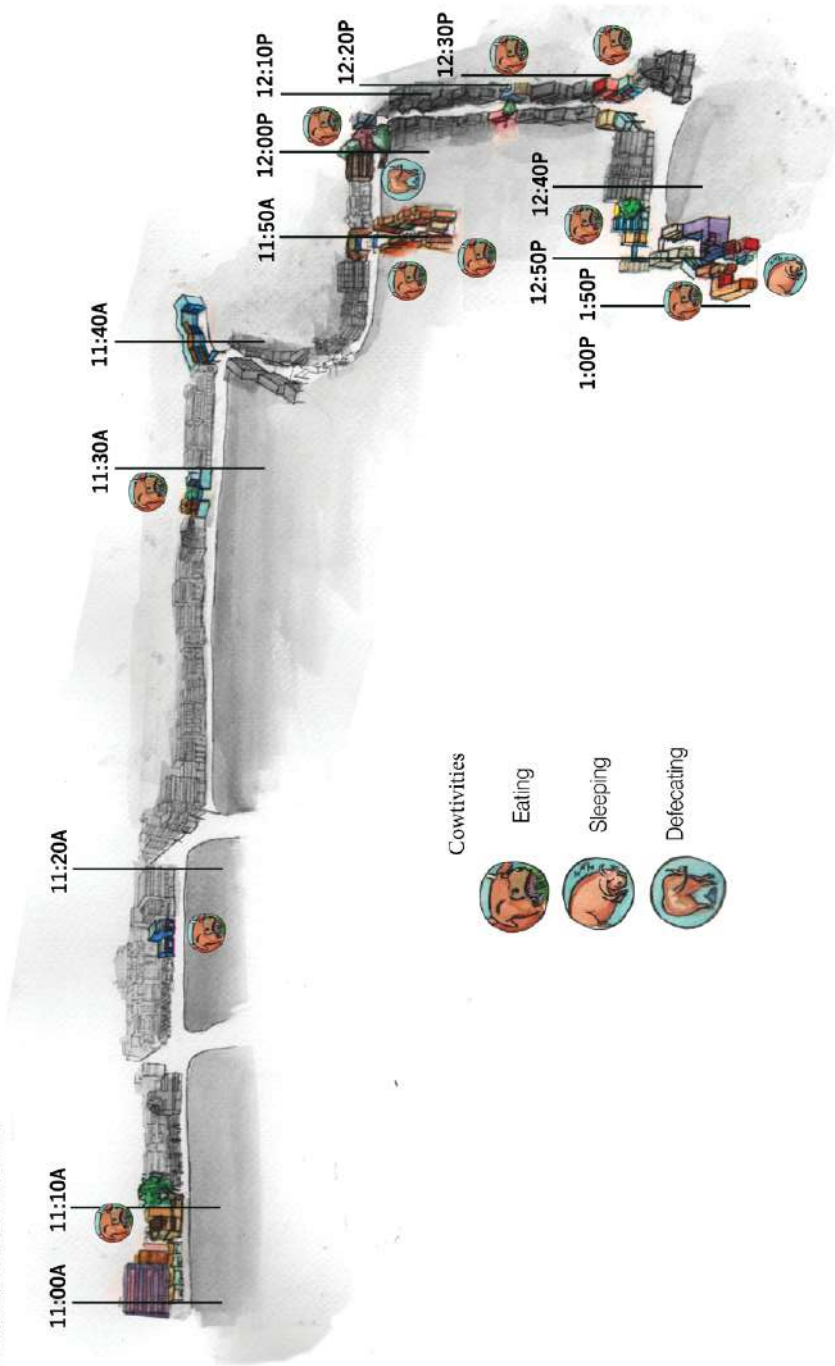


Figure 3: Where Panzy likes to go and what she likes to do during different times of the day.

# How She MOOVes

Pace & Traffic



Figure 4: How Panzy reacts to the moving things around her

# The Invisible Cow

Intake & Outtake

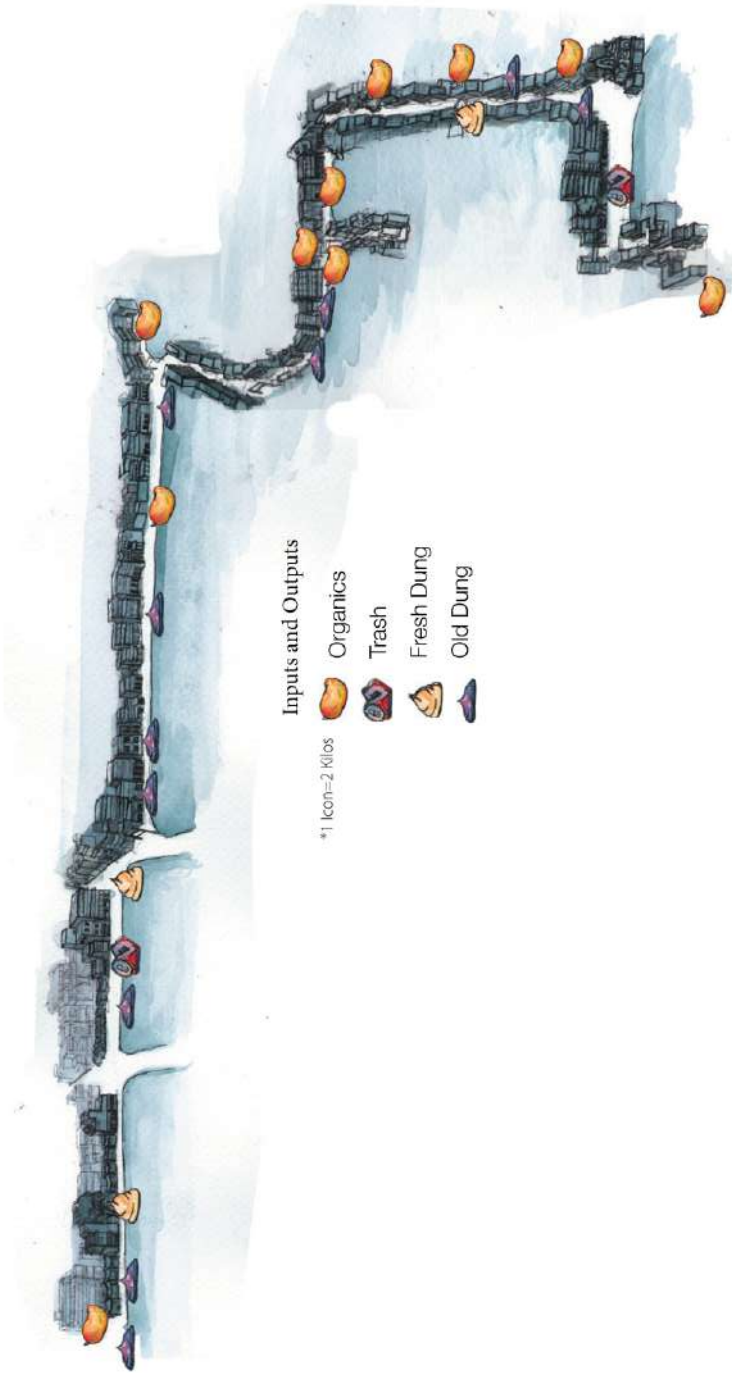


Figure 5: What Panzy leaves behind and takes from the environment

Total Distance Travelled 1.98 Kilometers

Time: 5:00PM-7:30PM



Figure 6: Time-lapse shots from following Circles, a cow in an urbanized area of Ahmedabad

City, cows would often have names too, an acknowledgment of the cow's existence and place. The cow seemed to be quite familiar in an Old City, perhaps due to a combination of traditional practices, narrower streets, and being pedestrian rather than car heavy.

### Urban

Next, I studied cows in “urbanized” areas, areas considered as tier 1 or 2 cities. Roads in general are beyond 12 meters in width, retail conducted through malls rather than small businesses, and residential units as fenced off housing societies. An urban cow I followed was named *Circles*.

*Circles* was found in a rapidly developing part of Ahmedabad towards the Northwest near the Ring Road. It is neighboring a large mall, a two-way highway, and tall apartment complexes nearby.

In the residential areas, *Circles* moved slowly and stopped often to eat. *Circles* moved quickly

throughout the main streets, particularly in districts with two-way traffic and wider streets. I lost her several times because *Circles*' pace was so fast, and I even once mistook another cow for *Circles*. As she wandered near a flower stand at a nearby temple, the shop owners would toss water at her when it started eating flowers. This I thought was ironic, considering *Circles* the cow is supposedly a holy figure to this nearby temple.

*Circles* was more restless in the main roads. At a bus stop, she horned a woman on her way. Many of the other cows I had followed would either avoid or move quickly through traffic-heavy areas, and spend the majority of their time resting in residential areas. Generally when narrower streets widen into street with 2-way traffic, the cow would stop at the intersection, and turn back. In general, the way that cows navigate through urban areas is more circular than that of the cows in the old city or village setting. Perhaps it is that there are not

# How She MOOVes

Pace & Traffic

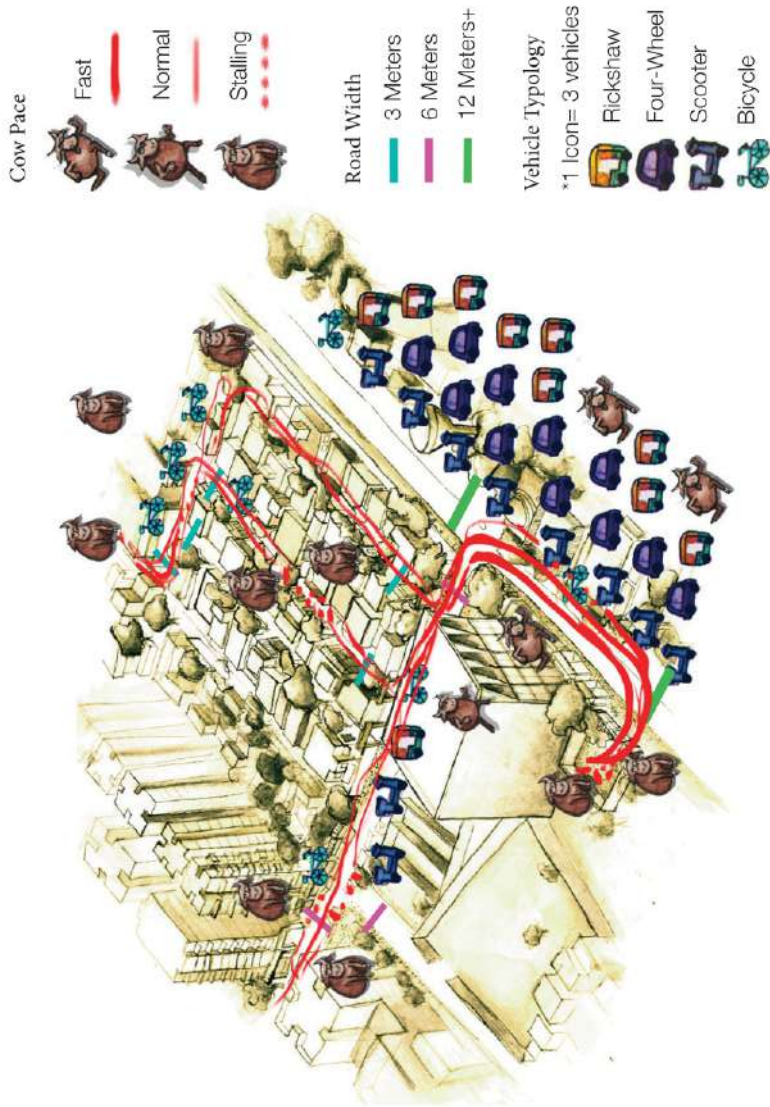


Figure 7: How Circles reacts with moving things around her

# The Invisible Cow Map

Intake & Outtake



Figure 8: What Cows leaves behind and takes from the environment

assured resting places for the cow.

Most of what Circles was taking in was trash. She spent a lot of time eating out of a land waste behind a mall. In the main street, most of what she ate along the main street was trash. In the residential districts, she ate mostly a combination of organics and trash. Many residents also left *parathas* on their front porches that the cow ate, showing that the residents were in expectation for the cow as a guest.

### The Hyper Urban

Typically in Tier 1 cities such as Delhi or Mumbai, free-roaming cows are hardly found at all. But if they are spotted – they are spatially constricted, and generally have to 'earn' their right to be there. Such settings may have legislative barriers to free-roaming cows, for

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instance, The Cattle Trespass Act of 1871. In Mumbai, signs are erected in various areas forbidding bullock carts on roads. Reorganised into corporate dairy farms, the cow is no longer the resource provider for a single family or small community.

The case of the constrained cow can be seen by observing cows at Malabar Hill, which interestingly also has the highest real estate values in India. Some apartments can be as expensive as Rs.135,000 per square feet. What is remarkable is that it is one of the few places where cows exist in the hyper dense city of

Mumbai. The cows are strategically placed along August Kranti Marg, a road that has one of the heaviest vehicle and foot traffic since it sits at the convergence of seven main streets. The cows are tied to fences in approximate 300-meter intervals, watched over by women who generate a livelihood by selling grass to passersby. The frequency of cow placements also increases towards Grant Road Station, increasing visibility of cows to pedestrians about to embark on the train. Moreover, the religious composition of the neighborhood being mainly Jain and Hindu posit favorable higher tithes, as the cows are divine entities in these religions.

Passersby who pay generally are individuals ranging from the middle to upper class, predominantly men on their way to work. While I did ask the passersby for their motivations, the speculation is that their tithes would perhaps give them good karma for the working day. The women reported to me that some nearby residents even have daily pre-fixed payment plans for their cows.

Although the business exists under religious pretenses, the women's motivations are surprisingly non-religious. The women watching the cows stated that they are mostly motivated by income-generation rather than for spiritual reasons. This cow business is also quite structured. The women do not own these cows but instead rent them from an anonymous cow lender supposedly from a nearby temple called Babulnath. From interviews with the women, I learned that the cost of this venture include the grass bought (Rs. 200 per day), the rental of cow (Rs. 1000 per month), and an unsaid fee paid to the Bombay



*Figure 9: Along August Kranti Marg, Malabar Hill, Mumbai*

Municipal Corporation to allow for this activity. Passersby may drop anywhere between 10 to 100 rupees per transaction. Do cows have to be making money in order to retain space in the city?

## Discussion

The traditions that have shaped India's unique 'Animal bourgeois' are greatly changing due to shifts in economic restructuring, population growth, and religion. By comparing the transition of the cow's experience from rural to urban, I have made several observations that carry over for the 'invisible' characters in the city.

Firstly, social status is becoming increasingly organized around one's monetary worth. In an increasingly capitalistic and privatised society, space is reorganised to prioritise those with the most power in this state –power driven by money. One pays to choose where he or she lives. Animals cannot pay for space, and therefore occupy leftover spaces. Because leftover spaces are generally what is public on the street, I have observed a particular tendency for humans with street vocations having an affinity to establish relationships with street animals. The result of burgeoning real estate and land privatisation will result in eventual loss of mixed-income social settings,

where relationships are formed on a basis of possessing the same wealth. The trend towards higher real estate prices has a segmenting effect on social relationships, and how relationships with human and non-human neighbors are formed.

Also increasingly evident in urbanising cities is the convergence of signs reduced to a common language, and in the case for Indian cities that is English or Hindi. But how will this affect India's illiterate population, or the many that speak different languages and dialects? Signage comprehension is also an indirect insight revealed through animal way finding, as animals cannot conceptualise what is private, commercial, or public. Often times when I follow cows, I find myself 'trespassing' into what my human mind would consider 'a place I should not be in'. But animals do not understand signs or see walls as boundaries. For a city where many individuals have impairments ranging from illiteracy to physical ailments, can such individuals be blamed for being in the 'wrong place' if the signs are not communicable?

Third, a notable heuristic of development is road development. Animal way finding can be



*Figure 10: Women and their cows selling grass to passersby along August Kranti Marg*

used as a heuristic for pedestrian design. In Mumbai, cows often stop and turn from crossing fast-moving or two-way streets. It is almost as if there is an invisible wall on streets beyond 14 meters in width. When crossing, many locals in Mumbai will form a large human wall and cross all at once. People will get behind the others to make sure they are not the 'first line of defense' to get hit by a car. The dogs I followed also do that; hide behind other humans while crossing the road. If animals find such crowded roads inaccessible, can they also be healthy for human pedestrians?

Moreover, cows are a gateway discussion to how notions of sanitation, clean and unclean, change with urbanisation. In many rural areas, cows and goats are allowed to occupy the same spaces as humans. Animal droppings are frequently found scattered throughout human quarters. While shoes are known functionally as a protection from unclean or unsafe elements, many villagers do not wear shoes in both indoor and outdoor spaces. But in urban spaces, I have observed many "no animals allowed" signs in public and private spaces. Dung is not as tolerable in main city roads and is generally picked up within a day. This reflects that there is a rising notion of priority towards

human health, wherein animals are increasingly seen as threats to the public welfare.

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Given India's unique culture that integrates cows into the public domain, it is especially interesting to understand how the cow's experience changes with new capital and spatial arrangements. Beyond implications for animal advocacy, making people aware of the plight of how invisible characters are being affected- especially in the case of the increasingly invisible cow- will enable more inclusive, sustainable, and equitable planning processes. ■

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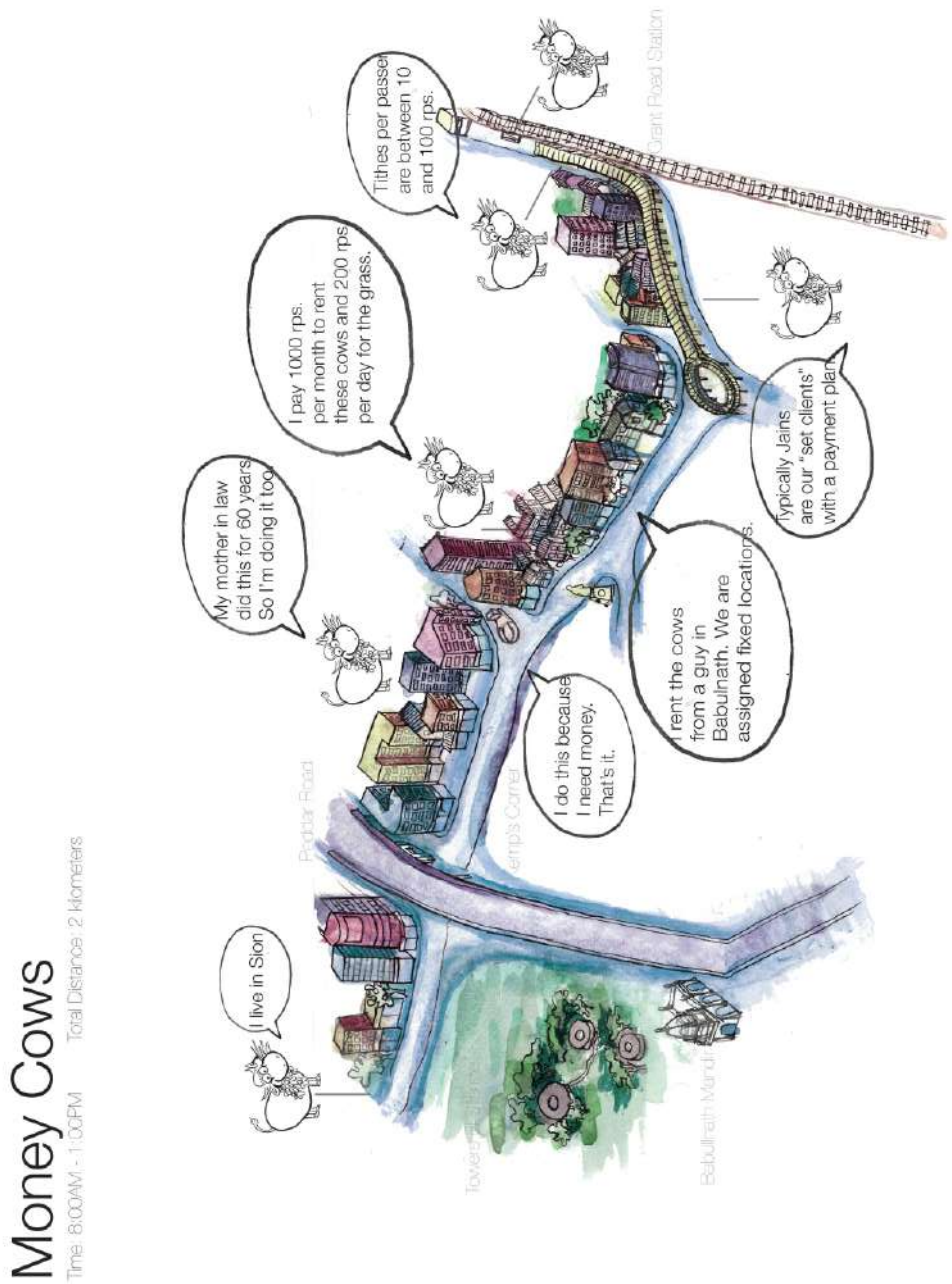


Figure 11: Map of Interviews with Grass Sellers at Malabar Hill