Becoming Indeterminate: Infrastructures of Personhood in a Mumbai Dumping Ground

Adwaita Banerjee

Abstract

This study examines the lived experiences of plastic waste workers in Mumbai, highlighting the interconnections between urban marginalization, environmental degradation, and infrastructural challenges. Through ethnographic engagement at the Deonar Dumping Ground and municipal chowkies, the research focuses on the roles and perceptions of waste workers amidst Mumbai's rapid urbanization and shifting waste management paradigms. It identifies three key forms of indeterminacy—prescriptive, displacive, and performative—that encapsulate the workers' precarious positions within societal and environmental contexts.

Prescriptive indeterminacy arises from structural unemployment and caste-based discrimination, directing certain populations towards waste work. Displacive indeterminacy reflects the sector's vulnerability to urban planning and disciplining infrastructures, while performative indeterminacy encompasses the physical and perceived risks performed through waste work, revealing a complex mesh of technorational, historical, and societal factors impacting workers' safety and dignity.

The article argues for a nuanced understanding of waste workers' disposability and agency, challenging the stigma and invisibility they face. By situating plastic waste work within debates on environmental justice and urban policy, the study calls for inclusive and equitable waste management practices that acknowledge and valorize the essential contributions of waste workers to Mumbai's urban ecology. This approach necessitates rethinking notions of personhood and materiality in urban environmental contexts, aiming to foster a more sustainable and just urban future.

In Mumbai, on a sweltering May morning in 2022, I joined a group of waste workers for a regular day's work of collecting and segregating the city’s dry waste. The waste workers were not the usual kind. Two were engineers, who were not born in the city, but had come to find a job in the booming finance sector. One was a retired army officer. The third were a couple of young college students. All these individuals, including myself, had paid money for a chance to put on gloves, grab a pick and sweep plastics from the beaches in Mumbai through an NGO conducting a guided tour.

The morning was hot and humid, and we set off on our journey of cleaning the plastic ridden beach. As we toiled in the sun, our guide, a young man in his early twenties, held up a piece of a torn plastic bag. “This is poison”, he declared, “this piece of trash is killing the intertidal life here in this beach.”

Using our picks, we picked a lot of plastic throughout the day: bottles, packaging, beer cans, straws, and other knick knacks. We collected the plastic onto a tarpaulin sheet that was laid out for us on the beach. Soon we stopped smelling the trash, and probably started smelling of trash. Other visitors to the beach looked confused at the group of middle class individuals collecting trash. But tours such as this have become a common occurrence in cities like Mumbai, who attempt to clean beaches and then forget about what happens to the plastic that is collected. With increased consciousness around the detriment of urban plastic waste, such tours have become a way to perform a politics of environmental consciousness, looked on favorably and even appreciated in class and caste society. Waste workers who do not volunteer and rather are forced into the profession do not win accolades for doing the same job, segregators do not win awards for risking injury and long term health impacts, manual scavengers do not win bravery awards for cleaning sewage lines. While the work that we did of cleaning the beach of plastic waste signaled moral worth, the badly paid waste work only pointed to discriminatory and involuntary entanglements of human and material.

Scholars of science and technology studies have explored a wide array of entanglements of matter with the human and more-than-human, situating practices within global ecologies (Latour and Woolgar 1986; Haraway 1988; Giddens 1992; Latimer 2013). Following this, the paper delves into theorizations of bodily risk (Giraud 2019) and practices of care (Murphy 2015) in the Global South. Here, I engage with the concept of elemental indeterminacy as it is embedded within bodies and the ways these indeterminacies animate kinship networks and ecologies.

A few summers before my beach clean up tour, in 2019, I joined another group of waste workers. They were adolescents working in the oldest and largest landfill of Mumbai, the Deonar Dumping Ground, located a mere 25km away from the beach. These adolescents spent their day picking different qualities of plastics and metal to sell to local scrap dealers to make about $3-$4 a day. With a colleague who worked in a local NGO, I joined the adolescents for a day of picking, trying to maintain my balance and being careful about picking the right quality of plastics into the collection bins. They worked quickly, picking about 200- 250 kilos of plastics and metals a day. Most (if not all) worked without gloves and proper footwear. Their hands were black from picking waste and their skin was stained yellow from exposure to the toxic fumes that the incineration plant located close by emanated.

We followed the waste workers to the end of the road where there was a line of scrap shops waiting to buy the sorted plastic waste. The scrap dealers weighed the particular quality of plastics that they desired and paid the workers cash on the spot. We followed the scrap dealer to a local storage space where they kept the plastics that they bought outside the dumping ground.

“The landfill is an odd organism,” said Sanjay, a middle aged waste picker at the Deonar Dumping Ground, “it gives and it takes as it wills.” When I asked him exactly what it had given or taken from him, he showed me his feet. It was then that I realized that he was missing three toes on one foot. “This is what it took from me. A few years ago my leg got caught in the trash compactor and I lost my toes,” he said. “As for what it gave me”, he lifted his hands and spread them wide, as if to cover the horizon. In worlds where toxins saturate spaces, bodies and minds, it is easy to forget the convoluted registers that waste and vital materials occupy. The plastic in the landfill was a vital resource in the glocal economy of recyclables, whereas the plastic in the beach was discarded as junk in systems that often hid structures of state supported oil industries and lax environmental regulations behind individual moral universes. Scholars have pointed to chemical toxins and their different registers of exposure as they leak, seep, and distribute themselves, disproportionately impacting poorer communities and lower-income nations (Liboiron, Tironi and Calvillo 2018; Lyons 2018; Duong 2018; Agard Jones 2013; Ahmann and Kenner 2020). Social struggles around the dumping ground revolve around rights over commons and how cities are imagined (Gidwani 2015). Attending to elemental pluralities thus becomes critical to the understanding of evolving forms of social injustice, the constitution of risk and modalities of inequality (within rather than across spaces).

Elemental indeterminacy is not a characteristic that is unique to big cities in India, that is always represented symbolically to squatters and permanent crisis (Chakravarty 2024). Instead, elemental indeterminacy becomes a starting point or an opening through which stability is attempted and sometimes precariously achieved through the invisible labor of marginalized groups. Accounting for concentrated violence and exposure is vital in understanding such practices of stabilization. As such, this approach is borne out of networks rather than fixed spatial ontologies (Murphy 2017; Povinelli 2016), that individuals are produced through networks and the distinctions between different groups in the city are ecological effects rather than pre determined givens, and that indeterminacy is both material and moral in ways that it is structured by caste and racialized hierarchies of being (Ranganathan 2022; Sharma 2019). The moral then becomes a specific type of materiality that creates a particular type of structure or hierarchy that is resistant to change. The moral is the material that is under stress, erasure, or mortification, and it has a critical stance towards what is considered material in different cultures, places, and times (Marran 2017). Thus, some scholars have also viewed the coconstitutive nature of humans and materials as a form of "immanent materialism" (Cole 2013) or "vitalism" (Bensaude-Vincent 2008) that is separate from human affairs yet constitutive of them. Configurations of disposability, toxic exposures and the stakes of living in permanently polluted worlds (Anand 2022) in Mumbai are largely determined by how the material flows in the city are imagined and what a citizen is defined as. Within the context of a divided and unequal urban environment, this article asks how the infrastructure around plastic waste comes into being, what are the forms of precarity that it entails and what are the vitalities that it holds and in turn produces?

On the night of January 27, 2016, a devastating fire swept through the Deonar Dumping Ground. Police reports alleged that three minors, aged between 10 and 12, ignited the garbage, inadvertently causing the blaze that engulfed the entire Bainganwadi neighborhood adjacent to the dumping site. Although it has never been made clear what caused the fire, it is a common practice among waste workers to set small fires to trash to facilitate faster segregation. The low-intensity fires are meant to burn off the undesirable components of plastic waste, such as multilayer plastics (MLPs), while preserving valuable materials like HDPE, PET, and metals such as aluminum and gold. However, when the fire escalated during the night, threatening the local community's homes, residents sprang into action to extinguish it. Using buckets, plastic water bottles, and even their bare hands, they fought to douse the flames. It was some time before fire engines arrived to tackle the inferno, which was particularly challenging to control due to the presence of methane and plastics, substances that produce difficult-to-extinguish flames. In the following days, the city was enveloped in a smoky haze. The fire grew so extensive that it was detected by three NASA satellites—Terra, Aqua, and Suomi NPP—due to the smoke it emitted. This incident caused air pollution levels to soar to the highest recorded since monitoring commenced in 2015. For more than four days afterward, over 70 schools and commercial establishments remained closed due to the smoke.

In the aftermath of the fire, media outlets criticized waste workers and local community members, labeling them as reckless and driven by selfish motives, thereby endangering the city’s environmental health. This narrative framed them as culprits behind the city’s environmental degradation, further fueled by comments from some middle-class environmental activists who pointed to the fire as proof of the negative impact of migrants and densely populated neighborhoods like Baiganwadi. As municipal authorities hesitated to take swift action against the affected community, they faced backlash on social media and in newspapers, accused of neglecting the interests of morally and environmentally conscious, tax-paying citizens. However, this perspective overlooks the dire circumstances faced by the waste workers, who, driven by poverty, risk their lives and health to sift through waste, searching for salvageable plastics to sell. In doing so, they inadvertently contribute to cleaning the city, embodying an indeterminacy wherein their efforts to survive and manage the city’s waste are misconstrued as a threat to the moral and environmental fabric of urban society. The incident shed light on the perils of landfill sites, drawing the attention of Mumbai’s middle class only when a dramatic event forced them to confront the toxic conditions that waste workers and nearby communities endure as part of their daily existence.

For the inhabitants of Baiganwadi, predominantly lower caste Dalits or migrant Muslims, work with plastics emerges as one of the limited avenues for income generation with the potential for social upliftment (Roy 2021). Consequently, plastic waste workers become an indispensable element of the city's municipal system, tasked with managing over 6,500 metric tons of waste produced daily (Tata Trusts 2023). The exact number of waste workers in the city remains uncertain, with estimates ranging from 20,000 to 300,000. In a metropolis home to around 21 million people, this ratio implies that the refuse of roughly 70 residents is managed by a single waste worker. The waste work sector showcases the extraordinary ability of individuals, often overlooked as mere cogs in the urban machinery, to offer and subsidize essential services, safeguard city environments, forge livelihoods, and craft new forms of urban life. Moreover, it highlights the subtle yet pervasive violence inflicted by viewing people solely as tools to facilitate the broader machinations of urban development.

The fire at the Deonar Dumping Ground, made visible the operation of indeterminacy in Mumbai’s plastic and recycling industry. While in the everyday functioning of the industry, risk is distributed in casteist, slow and toxic ways, the dumping ground fire of 2016 suddenly made visible the networks of poverty, hierarchy, unemployment, mortality, morality and materiality through which plastic waste work emerges and operates. This paper focuses on the commonplace, mundane and often convoluted logics of ecological violence and social mobility that waste workers have to balance on a daily basis. Barad (2007) has observed that through specific agential intra-actions that the boundaries and properties of phenomena become determinate and particular embodied concepts become meaningful. Her approach involves presenting phenomena such as the atom emerging from a material-discursive field, resulting from the specific intra-action of various entities such as the scientist, the microscope, and the atomic phenomenon. Yet when it comes to plastic waste work in Mumbai such mutuality is not guaranteed. The process of determination and observation is mediated by hierarchy and patterns of recognition that create bodies in flux, or what can be termed as elemental indeterminacies. Disposability is one of the many ontological conditions that point to the paradoxical moral and mortal constitutions that are differentially produced in diverse material contexts. Building on Barad’s observations, I consider indeterminacies not as a primary human condition, but as produced materially and distributed through racialized fields. Under what conditions do such indeterminacies operate? How are they recognized, by whom and to what end? In other words what can be made of indeterminacy other than more indeterminacy?

De la Cadena (2010) critiques the traditional separation between nature and culture, arguing that it constrains the representation and advocacy of diverse worlds, including those encompassing more-than-human entities. This dichotomy posits universal science as the sole authoritative voice on nature, while political discourse is relegated to human interests (Latour 1993). Such an approach to science, focused on establishing universal truths, often disregards other knowledge forms rooted in specific cultural practices and traditions (Law 2015; Latour 2005). De la Cadena and Blaser (2010), contend that for these alternate epistemologies to gain recognition and respect within the prevailing paradigm, they must be reinterpreted as distinct "cultures," emphasizing their unique ontological and epistemological contributions. Furthermore, Sultana (2021) amongst others have explored how indeterminacy permeates bodies—both human and more-than-human—highlighting the ongoing processes of bodily construction and reconstruction in response to environmental changes, disturbances, and resistance efforts.

Building on these arguments I posit that the plastic waste work industry is shaped by three forms of indeterminacy: prescriptive, displacive and performative. First, plastic waste workers are part of an urban population directed towards seeking precarious livelihoods in the waste industry by systemic mass unemployment and the casteist notions that only certain groups are suited for such work. Second, the plastic waste industry is, as a whole, disposable, vulnerable to displacement in the name of public and moral order. Third, work conditions in the plastic recycling industry disproportionately exposes workers to risks, rendering their lives and bodies vulnerable to injury and harm not only through the physical infrastructure and the properties of plastics but also through the performative enactment of technorational complexities, planning histories, and societal perceptions. As the dumping ground fire of 2016 indicated, the waste workers are not individualized in the wake of their indeterminate nature. Rather, as they participate in the production of the urban, they are drawn and work together, helping each other when the need arises and generating networks of kinship that interrupt superficial attempts to cast them as a disorderly population.

Recent scholarship has illuminated the concept of chemosociality, a form of kinship born from shared interactions with chemical infrastructures (Shapiro & Kirksey 2017; Checker 2005; Hamdy 2013; Sharma 2022). This term captures how individuals navigate and form bonds within environments shaped by chemical presence, highlighting kinship as both a product of modern life's conditions and a focal point of ethical interactions (Langwick 2018, p. 420). I use the frameworks of toxic worlding (Chen 2012) and chemosociality (Shapiro and Kirksey 2017) as lenses to explore these nonbiological kinship networks, and although it does not attend to registers of casteist violence, the term is very suggestive to describe the complex, shared endeavors to adapt to and resist the impacts of toxic chemicals. Exploring the altered biosocial landscapes reveal that such changes, brought on by pervasive toxic substances, often escape the full grasp of moral imaginations and technoscience (Murphy 2006; Fortun 2012; Liboiron 2021). In Mumbai’s plastic recycling industries these toxic ambivalences- its violence and generativity- are imagined, assembled, understood and challenged by the communities that reel under precarity and live under the shadow of chemical exposure.

I began research on the plastic waste industry in May 2021, in the middle of the COVID-19 pandemic and followed by the build up to a failed city-wide climate action plan. My research continued through June 2022, during which time I conducted group interviews with plastic recyclers and segregators working near the Deonar Dumping Ground as well as in-depth interviews with worker’s union leaders from Stree Mukti Sanghatana, an organization that emerged as the largest and most vocal representative of the dry waste segregators and recyclers. In addition from September 2023 onwards, I have been working alongside the Municipal Corporation of Greater Mumbai (MCGM) and Stree Mukti Sanghatana to address issues of non-remunerative waste work, specific ways of handling particular varieties of plastics and more robust ways to account for plastic waste that comes in and goes out of the waste processing centers. I have also attended workshops, rallies, “awareness campaigns” and trade shows organized by the municipal government and plastic recycling associations in Mumbai.

…………….

**Globalizing Plastic Flows**

[Need to add more citationary details here]

Mumbai is currently undergoing a dramatic process of infrastructural change, as the municipal corporation has embarked on a plan to “upgrade” the city’s infrastructure, “regulate” the informal sector, “mitigate” against climate change and bring order to the chaotic global city through planning and technorational management. Very few figures embody the chaos that the municipality wants to hedge against more than the city’s plastic waste workers, who become icons for both subaltern mobility and humans exposed to toxic pasts and presents. The waste workers assert a paradoxical presence in the city, being both invisible as well as emblematic of the interstices that produce the city.

Plastic waste work has emerged in relation to changing consumptive regimes of the city. Historically, waste workers in Deonar navigated a landscape dominated by a mix of organic and inorganic materials, employing traditional methods to sort and repurpose waste. However, the recent decades have witnessed a shift towards plastic consumption, reshaping the very nature of waste and, consequently, the livelihoods of those who work with it.The workforce comprises predominantly Dalits and Muslim migrants, groups that have historically been marginalized within the city. These individuals have often found themselves relocated to Deonar following a series of urban plans, demolition drives, and eviction campaigns aimed at 'cleaning up' the city's more affluent areas. This involuntary migration underscores the intersection of caste, religion, and economic status, further complicating the narrative of waste work in Mumbai.

The socio-spatial history of Deonar and its workers is intricately linked to Mumbai's rapid urbanization and the consequent expansion of its geographic and administrative boundaries. Initially considered beyond the city limits, Deonar Dumping Ground has gradually been enveloped by Mumbai's sprawling urban landscape. This shift reflects the city's changing perceptions of space, waste, and marginality. The presence of a train line, colloquially known as the "Kachra Line" (Trash Line), running through the area, highlights the infrastructural efforts to manage the city's waste, yet it also symbolizes the segregation and exclusion of waste workers from the urban fabric.

This spatial and social marginalization is not merely a backdrop but actively shapes the daily realities and identities of the waste workers-turned-plastic recyclers. Dalits and Muslim migrants, already navigating the precarities of their social positions, are thrust into the front lines of the city's battle against plastic waste. Their labor, essential to managing the environmental fallout of modern consumption habits, is rendered invisible by the same urban systems that rely on their work.

Moreover, the historical perception of the dumping ground as an 'outside' space has implications for the recognition and regulation of waste work. Being historically situated at the city's margins, both physically and metaphorically, has meant that the labor and livelihoods of those working within it are often overlooked in mainstream discourse and municipal planning.

With the neoliberal reforms initiated by Rajiv Gandhi’s government in the 1980s and further codified by the PV Narsimha Rao government in the 1990s opened the nation’s borders, allowing an influx of petrochemical products and infrastructure, expanding the already existing Bharat Petroleum Refinery (BPCL) in Mahul, Mumbai located a mere 11km from the dumping ground. Furthermore, the setting up of the Reliance Petroleum Limited’s Jamnagar Refinery in the early 2000s transformed the plastics industry in Mumbai.

The entry into the plastic recycling market for many individuals was facilitated by complex financial arrangements and a deeply entrenched caste/kin-based recycling network. These financial strategies included the acquisition of machinery through purchase or lease, land-secured loans from non-traditional lenders, investments sourced from familial networks, and the influx of migrant labor propelled by distress in rural economies. The emergence of informal recycling and scrap industries necessitated a labor force capable of managing the growing volumes of plastic waste produced by the city. This labor hierarchy, from collection to sorting and recycling, became stratified along lines of risk exposure, with the most hazardous tasks disproportionately undertaken by women, migrants, and Dalits.

These capital and infrastructural setups orchestrate a distribution of risk, responsibility, and harm, placing waste workers in positions of extreme precarity. Instances of workplace accidents or illnesses due to toxic exposures can devastate families, stripping them of their income sources and potentially rendering them homeless. As the industry expanded, the state sought to introduce regulatory oversight through entities like the Central Pollution Control Board (CPCB) and, specifically for Mumbai, the Maharashtra Pollution Control Board (MPCB). These organizations are tasked with setting emission standards, designating industrial zones, and issuing production permits.

However, the effectiveness of these regulatory bodies is often undercut by what remains outside the scope of their codes and regulations. Tied closely to political interests, these institutions, alongside labor boards, state governments, and municipal authorities, frequently find their operations and decisions intertwined with the agendas of political parties. Their role in regulating pollution thresholds and overseeing capital flows positions them as pivotal figures in electoral politics and influencers of stock market dynamics.

Mumbai’s relationship to plastics and more specifically plastic waste, is one that is based in the politics of indeterminacy. The rise of a novel form of civil society activism, spearheaded by the urban middle class amidst growing economic liberalization, seeks to purge the city's public spaces of perceived 'filth,' including waste, slums, and street vendors, aiming to transform urban centers into 'world-class' cities. This trend, exemplified by campaigns like 'Fight the Filth' by a Mumbai-based English-language newspaper, has been critically viewed as emblematic of a new India's pursuit of progress, marked by consumerism and the marginalization of the poor. For the middle classes. For the upper-caste middle-class residents of the city, encountering a plastic waste picker can evoke a mix of fear and relief. The presence of dirt and perceived polluting entities sparks anxiety, raising concerns about potential disease transmission from the waste and those who handle it. Observations during fieldwork revealed that many people wish to distance themselves from waste pickers as quickly as possible, evident in their distorted facial expressions and the act of holding their noses. Conversely, the absence of waste pickers, even for a single day, triggers a flurry of complaints to the municipal authorities. The city grinds to a halt during plastic waste workers' strikes, underscoring the crucial role they play in Mumbai's waste management system. Thus, while their presence might cause discomfort to some, plastic waste workers are indispensable in maintaining the cleanliness and functionality of the city, serving its residents who wish to remain detached from the consequences of their own consumption habits.

………..

**Prescriptive Indeterminacy In A Municipal Chowky**

Located in the middle class neighborhood of Chembur in Mumbai, the M (West) Ward Motor Loading Chowky is a junction serving a diverse range of actors- municipal administrators such as junior officers and *muqaddams*, formal and informal waste pickers who board the garbage trucks morning afternoon and evening collecting both wet and dry waste, truck drivers who take the waste workers in specific municipality mandated routes, trade unionists and NGO workers whose members find work in the chowky as well as the myriad others passing through the chowky to work, visit or protest. Ramesh, one of the older *muqadams* working at chowky and my key interlocutor introduced me to the chowky and the plastic waste workers. The workers at the chowky ranged in age from Taufiq 17 years old who had been in the business only six months to Ramesh and Nitin, who had been picking and transporting dry plastic waste for more than three decades.

Motor Loading Chowkies play a pivotal role in the infrastructure supporting plastic waste workers, acting as a hub where municipal truck drivers and waste pickers commence their duties, gather dry waste, and keep records of the collected waste. The M(West) Ward's Motor Loading Chowky, similar to others within the Municipal Corporation of Greater Mumbai (MCGM), typically accommodates fifty to sixty individuals. However, this number can exceed 100 during major holidays like Diwali and Christmas. These chowkies are instrumental in managing the distribution of plastics and the coordination of workers, but they also foster a sense of community and solidarity among workers, administrators, and drivers. Administrators at these chowkies work closely with waste workers to mediate conflicts, act as intermediaries between the public and the workers, and voice worker concerns to local government authorities. Beyond their administrative functions, chowkies act as socio-material nodes that connect waste workers with drivers, local communities, specific routes, and municipal records, embedding them within a broader network of plastic collection practices. They subsidize the environmental well-being of a ward by creating quasi-coherent and continuous workspaces from the fluctuating realities of plastic waste, thereby nurturing solidarity among workers.

Within the confines of the chowky, workers bide their time until they embark on their assigned routes. Truck drivers idle with their engines humming, occasionally tinkering with electronic waste discovered during their collection rounds, attempting to revive it. The more seasoned collectors lounge more leisurely, sharing the latest YouTube video or Instagram reel among themselves, while casually observing the familiar municipal operations of the chowky. Occasionally, drivers deviate from their assigned paths due to traffic, collection delays, or conflicts with individuals along their route. In such instances, alternate teams of waste workers step in, adhering to an honor system to manage the collections. Year by year, these collection excursions tend to shorten as the quantity of waste burgeons, exacerbating the challenge of managing the ever-growing backlog of plastic waste. This escalating issue is not directly addressed by municipal strategies but rather through a complex web of coordination among workers and an acute awareness of which communities are most likely to lodge complaints with higher authorities as waste accumulation becomes more pronounced.

Many workers and collectors have shared that their preference for handling plastic waste over wet organic waste stems from its perceived cleanliness and safety, alongside the minimal training required for the job. Starting early at around 6 a.m., their workday concludes by 2 p.m., leaving ample time for other activities, both productive and leisurely. "Picking plastic waste isn't my first choice of work, but right now, it seems like the best option available to me," shared one collector at the chowky. Drivers often highlighted how societal vulnerabilities, such as being labeled uneducated, are largely attributed to caste-based stereotypes and discriminatory politics, rather than acknowledging the systemic barriers and widespread discrimination that shape labor dynamics and exposure throughout the city.

"It's easier for the middle classes to attribute our circumstances to individual failings—like a lack of education, substance abuse, or laziness—ignoring the underlying caste politics and discrimination we face," a driver remarked. Another worker pointed out the diversity within their ranks, including former photographers and film industry workers, underscoring the inclusive nature of plastic waste work: "Plastics can sustain generations; it supports our families, the drivers, people in the city and villages, and even friends arriving in the city seeking employment."

Rather than having to endure the endless wait to get a job in the city, with the drying up of government recruitment, increasing inflation and the failing agrarian sector, non-permanent waste collectors in the municipality find money, however little, in working with plastic waste. The ability to avoid hunger and provide sustenance for oneself and one’s family emerges as a vital idiom of responsibility among the waste workers while they evaluate the toxic precarity of their work. As I discuss below, the idea of sustaining one’s family through working with plastics creates nodes of indeterminacy due to the prescriptive forms of disposability that the labor produces. Despite all that was relayed to me regarding the importance of working with plastics, workers also kept repeating “being continuously in cycles of anxiety” (*tension laga rehta hai*). A truck driver at the chowky summarized the situation well: “We work hard but get little. It is not because we do a bad job but because we are born a certain way.” Caste comes to shape embodiment, remuneration and establish how exposed to toxicity an individual can be, where prescriptive codes that are reiterative citational practices produce social existence. Yet, although the codes are strict, it does not always produce determinate events. While chowkies embody caste infrastructures through spatial practices and the sociality of the city, workers are also embedded in equally everyday conditions of mobility and care.

**Displacive Infrastructures**

In Deonar Dumping Ground, plastic waste segregators congregate in specific zones, awaiting the contractor’s excavator to clear the surface layer of wet waste, initiating their search. Amidst the densely packed refuse, which often resembles an archaeological site, workers employ picks and shovels to unearth valuable types of plastics such as PET, PVC, and HDPE. With hundreds of workers scouring the site at any moment, predicting the most fruitful zone for quality materials remains a gamble.

In response to the need for improved waste management post-fire, the municipality proposed enhanced regulatory measures to determine who is permitted to collect waste. Despite contractors overseeing the dumping ground's operations, the introduction of security measures—such as watchtowers, CCTVs, a nine-foot tall boundary wall, and notably, identity cards for site access—was recommended. This development instituted a system that distinguished between those deemed suitable or unsuitable to work within this hazardous environment. The explicit rationale behind these disciplining and regulatory strategies was to foster better outcomes in waste management, delineating a clear demarcation between those allowed and those excluded from extracting livelihoods from the toxic landscape.

The registration of waste workers was the first step for the municipality to bring the dumping ground to a new era of technorational management. To make an identity card, workers have to take two passport photos and authorization from the approved list of NGOs and private scrap dealers to the local contractor, who are in most cases local political leaders. After filling out the registration form, asking for personal information such as name, local address, gender and age, the workers are issued a receipt. The system is strictly enforced by the contractors, one of whom once remarked: “It is damn near impossible for you to enter the dumping ground without the identity card. Even if you come from America.” Aarti, a waste worker working at the dumping ground had told me, “What good does this identity card do for us? It is like someone telling us you don’t even deserve to get something out of the trash we throw.” This statement embodies the worker’s fear of the registration process: although meant to help them organize themselves, the registration and regulation in reality came with only disciplining and very little promises. In its first instance the identity card foreclosed the possibility that those who were not affiliated with certain NGOs or private scrap dealers would get to work at the dumping ground. A superficial concern for the safety of those who worked at the dumping ground was seen to mask the municipality’s real intentions to displace the workers.

Waste workers also fear that the introduction of the identity cards would eventually precipitate the entry of large private players into the dumping ground, thereby jeopardizing their means of living. They object that the entry would not lead to higher remunerations but would make work unprofitable due to higher and higher recycling targets. The sanctioning of workers to particular sites within the dumping ground would also come at the risk of the state producing exploitation by dictating which worker could work where. “BMC doesn’t act without keeping their own advantages in mind [...] or the advantages in mind of those that it supports. It does all this without thinking about us”, said one waste collector. The plastic waste workers did not object to the identity cards explicitly, in fact many NGOs and private institutions supported the move as a means to improve transparency and create legibility. Instead the workers resented the fact that the municipality and the contractors could decide whether they could access the landfill, which they argued was public land and a common resource. Moreover, they resented the way that the BMC saw them to be legible only by becoming data. The identity cards generated debates amongst members of the waste worker’s trade unions as well as produced solidarities, where the workers insisted on the vital roles that the plastic waste worker played within Mumbai’s ecology and on alternative ways of streamlining the waste management system.

Waste workers objected to the framing that the primary challenge of the Deonar Dumping Ground was unauthorized access. This was the logic that the BMC used in order to formulate its recommendations, which was questioned by those workers who were not part of the prescribed NGOs and private scrap enterprises. “We do not necessarily always work here, but this is what we fall back on when times are tough”, a worker would tell me at the dumping ground. He went on to observe that “most of the workers here are not static. They keep oscillating through different jobs. Some of us do not have fixed addresses. Some of us do not want to provide the information for the identity card.” This claim situates the identity card as an infrastructure that is a product of displacive indeterminacy; where the lack of planning and governance of the dry waste industry creates unsafe and non-remunerative working conditions, eventually leading to fires. Moreover, it refigures the waste worker, who refuses to become part of state’s documentary protocols as the selfish cause of the troubles in the dumping ground. The indeterminacy, thus shifts, the selfish actions and lack of orderly conduct, from the waste worker to the municipality and the larger nexus of NGOs and private enterprises around whom ideas of rights and plastic waste work is based.

Plastic waste workers explain that it is their work that subsidizes the city’s ecology. “We have saved the city many times over. Just imagine how much plastic you would see around you if we didn’t do our jobs,” explained a waste worker. Not only environmental protectors, waste workers also constructed themselves as job creators, a vital and indispensable part of plastic’s urban landscape. Workers at one of the waste picking zones explained how their work is entangled with urban history. One worker began, “the problem is not having enough workers. The basic structure of our work was set during the past regimes, during the British times.” His colleague finished the story, “then there were only a handful of workers.My father and his father also worked here. They used to say that we were not allowed inside the city limits. Now there are so many. But the rules have not changed. The structure has not changed. This is the main challenge for us.” This account links the issues faced by the plastic waste workers not only to consumption patterns of the present but also the colonial trajectories of Mumbai. It highlights that urban infrastructure operates on the same discriminatory lines as it has since the British, for whom the city was for the white administrative elite, and not meant for those that deal with waste.

The BMC’s streamlining recommendations underlies well documented techniques of disciplining: the issuance of individual identity cards, producing a database, designating zones of labor, and enforcing regulations that map responsibility on the body of the individual plastic waste worker. A determinate, disciplined industry would thus be uniform and austere, and the unruly bodies and practices would come under control. Streamlining on the dumping ground would also require a proliferation of paper: forms, documents, ledgers, receipts and acknowledgements. But the plastic waste workers are all too familiar with such fantasies of order that the post colonial states neither have the capacity nor have the resources to muster. The workers assume that such fantasies have the effect of spurts of spectacular punishment and penalization, and the goal of the BMC, is to eventually privatize the dumping ground. Paradoxically, the municipality and many NGOs look at the recommendations as a means to produce legibility blurring the lines between displacement and emplacement. Workers resist this form of enrollment and demand entitlements on other terms. While the BMC intends to locate legibility and responsibility in the minds and bodies of workers with the use of the identity card as a protective infrastructure. Workers, on the other hand, enact a more indeterminate form of responsibility that positions them as vital to both urban infrastructure and the networks that entangle morality, solidarity and obligation.

**Performing Indeterminacy**

[*Waste workers in Mumbai navigate geographies of vulnerability and marginalization, not only on the roads but within the broader societal and institutional context. There is a profound disgust for waste workers amongst the upper caste middle class people in the city, who view them as less than human and unworthy of anything but to service them. This dehumanization is not limited to the dumping ground. Ethnographic vignette- Visit to a local medical center with a group of waste workers- one of whom has been injured at his job- points to neglect and mistreatment by medical institutions, coupled with no legal recourse following the accident, underscoring how they are performing precarity. This is juxtaposed against Mumbai’s overburdened waste infrastructure during the COVID-19 pandemic, that brings to focus the necropolitical dimensions of determinacy, and how discussions of people as infrastructure overlooks these experiences of injustice and degradation. This section focuses attention on a critical reevaluation of urban policies and practices, urging a more critical look at how the bodies of the waste workers perform indeterminacy and vulnerability.*]

**Responding to Indeterminacy**

*[The narrative explores the complex struggles of plastic waste workers in Mumbai, facing both physical hazards in their work environments and systemic marginalization. It highlights how these workers, through shared experiences, resist their disposability and affirm their crucial roles in facilitating urban waste management and supporting their families. Despite encountering disregard from society and institutional oversight, they develop a profound sense of solidarity, engaging in mutual support activities that range from sharing information about police actions to assisting each other in times of accidents. This solidarity extends beyond their professional ties, encompassing broader responsibilities towards their families and communities.*

*The plastic waste workers articulate their essential contribution not only to Mumbai's environmental sustainability but also to the well-being of their families, underscoring the severe impacts of their potential exclusion from the city's economic activities. Their stories challenge the city's efforts at regulatory oversight, placing their labor within larger discussions of urban neglect, economic disparity, and a deteriorating social contract. Contrary to being viewed as sources of urban blight, plastic waste workers see themselves as integral to averting environmental crises through their economic contributions.*

*This discussion also delves into broader philosophical debates on personhood, suggesting that plastic waste workers in Mumbai embody a relational and processual concept of personhood, which contrasts with the individualistic frameworks often prevalent in municipal governance. Through their daily endeavors, plastic waste workers navigate the gap between societal marginalization and their central roles within their families and communities, illustrating the tension between their perceived indeterminacy in the urban ecosystem and their indispensability to the city's functioning and to their family's survival.]*