Invisible Labouring Bodies

Waste Work as Infrastructure in China

Sanitation worker in
Guangzhou. PC: Amy
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Recent investments in municipal waste infrastructure in China can be understood as a part of a broader effort by the state to build modern green cities that symbolise development. This article examines the failure of China's attempts to implement citizen recycling programmes. Absent citizen participation, recycling, and waste collection are nevertheless achieved by workers who mobilise their labour, constituting a mundane, low-tech infrastructure to recuperate and circulate waste.

Recent investments in municipal waste infrastructure in China can be understood as a part of a broader effort by the state to build modern green cities that symbolise development. In concrete terms, the state's approach to modern waste infrastructure has meant building waste-to-energy (WTE) incinerators and promoting citizen recycling programmes. In Guangzhou, where my research is based, efforts to implement these visions have generated contention and suspicion on the part of citizens over the state's approach to infrastructural development. Concerns over the environmental and health impacts of WTE incinerators have sparked protests across China since 2006; notable mobilisations in Beijing, Guangzhou, Hangzhou, and Shenzhen

have garnered both national and international attention (Johnson 2013; Lang and Xu 2013; Zhang 2014). This article examines the failure of China's attempts to implement citizen recycling programmes. Absent citizen participation, recycling, and waste collection are nevertheless achieved by workers who mobilise their labour, constituting a mundane, low-tech infrastructure to recuperate and circulate waste.

Infrastructures of Waste Management

Brian Larkin characterises infrastructure as the 'built networks that facilitate the flow of goods, people or ideas and allow for their exchange over space' (Larkin 2013, 328). Waste infrastructure is concerned with the reproduction of urban life by channelling the flow of discarded things out of cities. Socio-technical assemblages such as water, highway, and sewage systems form 'a series of interconnecting life support systems' (Gandy 2005, 28), the 'prosthesis and prophylactic' responsible for ensuring the healthy reproduction of humans and their urban environments (Swyngedouw 2006).

Waste infrastructure is best understood as a socio-technological assemblage constituted through an array of practices, technological systems, and mundane objects. The heterogeneous network of things and practices include not only end-of-life facilities such as landfills and WTE incinerators, but also labour and citizen practices. Political campaigns that, for example, encourage citizens to recycle, often deploy the discourse of moral responsibility and environmental stewardship to mobilise citizen participation. Urban scholars studying public service delivery systems in the Global South have pointed to how the labour of collecting, handling, and sorting waste often function as 'vital infrastructures' in which labour forms the channels of circulation and flow (Simone 2004; Fredericks 2014).

Anthropologists have shown how seemingly mundane technical structures of urban service delivery, such as water or electricity, have embedded within them the techno-rationalities of the state's governance. These rationalities perpetuate different forms of state rule such as the racial politics of post-apartheid South Africa, for instance, or reveal the relations of patron-client networks in India (Von Schnitzler 2013; Anand 2017). In a given context, the socio-technological configuration for the circulation and conversion of waste is further a function of the constitution and content of heterogeneous materials in the waste stream, each demanding specific practices and technological systems for their treatment. In short, different streams of waste matter generate different socio-technical systems. Efforts to build such systems produce their own infrastructural publics as infrastructures become 'collective objects of contemplation, discussion, or sentiments' (Taylor in Fennell 2015, 26).

Chinese Infrastructural Development and State Power

Chinese infrastructural development indexes a different narrative than the decline of public services and the privatisation of financing under neoliberalism (Roy and Ong 2011; Ganti 2012; Bear 2015). Dominique Boyer argues that the recent anthropological focus on infrastructure can be thought of as 'a conceptual New Deal for the human sciences—a return of the repressed concerns of public developmentalism to the academic environment ... that has become saturated with market-centered messages for the past three decades' (Boyer 2018, 224). Scholars have shown how infrastructural development in China—through both domestic and foreign investment—can be characterised by a reliance on state-led investments. While private actors now play a larger part in

infrastructural projects than in the socialist era, infrastructural development in China is nevertheless inseparable from the project to consolidate state power. Going all the way back to 1920, the publication of Sun Yat-sen's *The International Development of China* signalled that the Nationalists viewed the construction of railways, electricity networks, and urban sewage systems as intimately linked to the formation of state bureaucracies (Sun 1943). Contemporary China, similarly, is a 'paradigmatic infrastructural state ... produced by and through infrastructure as a modern project' (Bach 2016).

From the onset of the Reform Era, infrastructure investment has been at the centre of the state's project of political legitimisation. Large-scale projects such as the Three Gorges Dam and the proliferation of ghost cities—planned and built but unoccupied—illustrate the ways that investments in infrastructure have been at the core of national development policies (Bach 2016). Chinese infrastructure investment abroad is also characterised by the dominance of state rather than multinational capital. Writing on Chinese investments in Zambia, Ching Kwan Lee (2017) shows that the outflow of finance capital from China indexes a problem of national and global overaccumulation. The dominance of Chinese state-owned enterprises (SOEs) in foreign infrastructural development has also created an interactive relationship between international investment and domestic politics (He 2019).

The role of infrastructural development in the expansion of China's interests overseas and its consolidation of power at home is particularly evident under Xi Jinping's administration (Economy 2018). State capital backing the construction and maintenance of infrastructural projects created a distinct approach to labour and managerial culture (Lee 2017). In my current project on urban waste in Guangzhou, I am interested in the ways that infrastructural development is entangled with urbanisation as a development strategy, and how China might export its urban infrastructural and development model

abroad—as both a technological approach and a system of labour. In China, infrastructure investment and the closely related drive to 'modernise' through infrastructure encompass not only the construction of mega-projects but also an attempt to reform social relations by altering citizen behaviours and labour practices. In particular, I illustrate how efforts to implement a recycling campaign in Guangzhou altered the system and placement of waste bins in one housing complex. Rather than encouraging citizens to recycle, these changes structure the texture and rhythm of waste work for sanitation workers even as it demarcates who is responsible for handling waste.

Mundane Infrastructures

In 2012, One West Street, a high-rise gated commercial housing complex to the west of the city, was selected as the site of a pilot programme in Guangzhou's citywide efforts to promote recycling. Since the early 2000s, cities across China, such as Beijing, Shanghai, and Hangzhou, have repeatedly attempted and failed to motivate citizens to participate in municipal recycling campaigns. In Guangzhou, the first wave of citizen recycling campaigns was launched in 2000 by environmental groups and the municipal government. Ten years later, however, residential waste still remained largely unsorted. The gated community kicked off their recycling campaign by introducing an additional waste bin in the staircase of each building: a single mixed waste bin was replaced by two, one for regular waste and one for recyclables (see Figure 1). Individual volunteers went door to door to hand out pamphlets explaining exactly which types of waste could be recycled. However, after several rounds of promotion and education campaigns, sanitation workers found both trash bins filled with mixed waste: bottles on top of individually bundled plastic bags splashed with wet tea leaves. Despite waves of rhetorical support

Waste bins in One West Street: Recyclable Waste and Other Waste. PC: Amy Zhang.

and promotion of recycling by the municipal government, residents remained recalcitrant towards the task of sorting their own garbage.

The campaign to promote citizen recycling illustrates how sustainable systems of municipal waste management hope to rely in part on the efforts of citizens to order and sort their own garbage. Yet, in reality the collection and transportation of trash in contemporary Chinese neighbourhoods is still carried out through a series of low-tech, labour-intensive practices by sanitation workers. In One West Street, the question of where to place the additional bin for recycling illustrates the ways that seemingly mundane objects such as waste bins alter labour practices. The 'operation' of trash bins by citizens and sanitation workers dictates the spatial flow and divisions of waste labour within an urban gated housing community. Waste work reifies a social division between urban residents who are eager to enjoy the amenities of a green city and rural migrants who perform much of the work of sanitation maintenance. Where recycling campaigns aim to create a motivated and environmentally responsible urban citizenry, sustainable waste management is, in reality, reliant on the labour of sanitation workers who recuperate recyclables not for the sake of the environment but out of economic necessity.

As I illustrate below, the addition of an extra bin for recyclables in housing communities did little to convince citizens to sort their waste but, by doubling the number of bins in buildings, effectively doubled the labour of waste collection required of sanitation workers. Citizens in China, not unlike in the United States, rarely pay attention to the types and number of waste bins, often simply tossing waste into whatever receptacles are available. The work of sorting and hauling waste and recyclables is often carried out by sanitation workers whose bodies become dirtied and stained by leaking receptacles (Nagle 2013). Waste work marks their bodies as filthy and contributes to a form of social differentiation in the housing community.

As with many commercial high-rises in Guangzhou, building management (物业) at One West Street contracts out cleaning work to a private sanitation company which, in turn, hires rural migrants from outside of Guangzhou. In One West Street, every day at 6pm cleaners enter a separate service elevator next to the main freight to empty the building's trash. One August evening during my fieldwork in 2013, I followed Wang, a migrant sanitation worker, as he completed the evenings collection. As we cram into the elevator along with a large bin with wheels that cleaners use to haul out the bags of trash, Wang, a thin man in his late fifties, points to tiny black spots on the ground for which he will be 'docked points', in effect a deduction from his monthly wage. He tells me that building management complains that the spots are leakages from waste bags but he believes they come from residents who throw cigarette butts and gum onto the floor.

I follow Wang as he rides the service elevator to the very top floor in order to work our way down. Every three floors or so, Wang dumps all the trash into one bin and then makes a second trip between every other floor or so to pull these buckets downstairs (Figure 2). Working alone, he uses the waste buckets to stop the elevator door from closing too quickly, and then wheels the bags to the front entrance of the building where the bags are piled along the sidewalk.

Wang lining garbage bins in the service elevator during an evening collection route. PC: Amy Zhang.

Buckets that have a split or are missing a handle are especially hard to grip. Bags of trash are momentarily stored at the front of the building. Before long, another cleaner rides by on a three-wheel cart to lift the trash bags, and wrestle them onto his vehicle. I try to lift one onto the cart but the bag rips easily and pieces of leftover and bones fall out. ‘You can’t grab onto the corners, it will tear,’ Wang instructs. The way to ensure that the bags do not spill is to pull the bag close to your body, so that you can use your chest as a support while hoisting it up. The juice of the rotting food waste drips out of the bag, spilling onto Wang’s well-worn uniform. Sanitation workers, stigmatised as dirty and filthy, tell me that to remain clean while doing their work is impossible: ‘There’s no way that this can be clean’ (这个干净不了). The daily work of cleaning up waste illustrates the extent to which labour practices constitute a form of vital infrastructure (Fredericks 2018), a critical part of the circulation and flow of urban services. At the same time, human bodies bear the burden of waste collection and function as channels of circulation.

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The scholarly discussion around China’s efforts to invest in and to construct domestic infrastructure, and its ability to export infrastructure abroad have primarily focussed on the study of large technological systems such as highways, dams, electricity generation, and high-speed rails as objects that symbolise both the promise and arrival of modernity (Anand, Gupta, and Appel 2018). The effort to create modern green infrastructure also involves campaigns that attempt to change citizen behaviour and technical configurations that impact the system of labour. The discrepancy between the state’s proclaimed goal of achieving development through technological innovation and the concrete labour practices that make the realisation of those goals possible is a reminder of the invisible labouring bodies that have sustained China’s meteoric economic rise over the last 40 years. China’s ongoing infrastructural expansion must be understood as not only the construction and export of a set of technologies but also as a collection of labour practices and social formations that infrastructural modernisation produces. ■