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Setting the scene – From Imperial to Present-Day Beijing

China has a long history of recycling; ‘everything was constantly recycled in a culture of thrift and poverty’ (Dikötter, 2006: 14). Frugality and thrift were part of the Confucian discourse that prevailed in a society of scarcity. This discourse advocated the need for a self-sufficient economy and considered wasteful habits to be part of a guilty lifestyle. Every material object could be turned into a commodity, and every commodity could be used and reused endlessly (Li S., 2002: 798). Goods that could no longer be recycled disintegrated on their own, since they were made from organic materials. Even human faeces was collected, mixed with food waste and other organic leftovers, and then dried and processed into fertilizer for use in the fields (Huang X., 2016). Recycling, sometimes by scavengers, took place both in the vast countryside and in the increasingly large, more urbanized areas that emerged along the Eastern seaboard in the late nineteenth and early twentieth centuries (Downs and Medina, 2000).

The Imperial City and the early Republic

Beijing was always a place where people consumed rather than produced, as opposed to other urban areas, such as Shanghai, that were more focused on commerce and industry. It was also a city where recycling traditionally made up a large part of the economic activities of its inhabitants. The city sprang up around the Imperial Palace and provided space for the vast administrative and bureaucratic structure that ruled over all of China. It had served as the capital since the last ethnic Chinese dynasty, the Ming (1368-1644), moved from Nanjing in 1421. These two institutions – the palace and the bureaucracy – and the people living in and working for them produced unfathomable amounts of waste on a daily basis, ranging from foodstuffs to clothing, from artefacts to paper, from broken crockery to night soil. While the city supplied space to the palace and bureaucracy, the latter's waste provided many if not most of the entrepreneurial classes of the city with much of their lifeblood (Goldstein, 2006). After the fall of the Empire in 1911-1912, recycling and reuse became even more pervasive in the lives of the inhabitants of Republican Beijing, becoming an essential aspect of its culture (Goldstein, 2006).
After the fall of the Empire and the founding of the Republic, the Imperial family and its vast retinue declined in numbers and importance, as did their power to consume. In the early years of the Republic, a political power vacuum emerged. The Republic’s first President, Sun Yatsen, was ousted from office shortly after accepting the position. The commander-in-chief, Yuan Shikai, attempted to crown himself as the emperor of a new dynasty, but withdrew his claim after failing to gain the support of provincial military leaders and business interests. Without a strong and central leader, Beijing’s governing authority was fiercely contested by military strongmen or warlords operating from local centres of power. Assuming that ruling the capital meant ruling over the nation, these military strongmen came and went, setting up new governments in Beijing, declaring themselves presidents of the Republic, and subsequently abandoning their offices – often after only a couple of months (Wu, 1991). Conquering the capital meant more than simply being crowned as the supreme leader; upon entering the city, each warlord gained access to foreign financial and material support and recognition as long as he held onto power, remained in Beijing, and was seen as representing the nation (Sheridan, 1975).

As a result of the reduced circumstances of the imperial elite and the arrivals and departures of temporary warlords and their armies, the stream of goods trickling down from high places to low, from wealthy to poor, grew and changed in character. Selling and bartering used goods and materials, including high-end articles like the often-priceless antiques and curios sold off by members of the Manchu nobility that had fallen on hard times, became a common economic activity. With the fall of the Empire, the gates were also opened for a flow of imported ‘foreign’ goods that satisfied the demands and expectations of the newly affluent cosmopolitan elite that emerged in China’s cities around the same time (Zanasi, 2015). The indigenously produced goods that this urban elite rejected in favour of imports were picked up by others and refurbished. Together with other marketable goods that had been thrown out, collected, and reappropriated, these second-hand goods ended up at markets where they were sold to those who had less money (Dong, 2003; Dikötter, 2006; Goldstein, 2006). Many inhabitants of the city – those whose livelihoods had previously been inextricably bound to the types of employment that the system of imperial administration had required – now needed to find other ways to make a living. Waste picking became an option. In the stratified world of junk collecting, they were known as ‘pole carriers’, ‘big basket toters’, ‘small drum beaters’, or ‘large drum beaters’, each category of collectors on the look-out for different types of recyclables, weaving through the streets and
alleys and calling people to sell or barter what they needed to get rid of (Goldstein, 2006: 266). Women, the elderly, and children were increasingly forced to turn to gleaning and picking garbage as a strategy for survival, as it provided them with food scraps and clothing. While Beijing and many of its people had fallen on hard times, studies of life in other late Imperial and early Republican cities and urban centres like Shanghai, Tianjin, and Chongqing show that conditions were not much better elsewhere (Gamble and Burgess, [c. 1921]; McIsaac, 2000; Rogaski, 2000; Henriot, 2013). In Tianjin, for example, the local Bureau Sanitaire rounded up the homeless, gave them uniforms, and had them clean the streets in return for food (Rogaski, 2000: 39). In these early, unsettled years of the Republic, the number of urban inhabitants kept growing, with people fleeing their homes in the war-torn and restive countryside and seeking shelter and subsistence in the cities. Others simply chose to try their luck in the bigger cities. Lacking the relevant training for urban occupations, most of these newcomers found work in the informal sector, where jobs ranged from pulling rickshaws to begging and waste picking (Strand, 1989; Lu, H., 1999; Goldstein, 2006). Although formally outsiders, these recent migrants were considered an integral part of the city’s culture (Goldstein, 2006).

**Nationalist Beiping**

The dire straits in which the capital of the nation found itself became even worse at the end of the Northern Expedition (1925-1927), a military operation in which Sun’s original Nationalist Party (Guomindang), now led by his successor Chiang Kaishek, joined forces with the relatively young and small Chinese Communist Party (CCP), which had been founded in 1921. The aim of this United Front was to defeat the warlords, some of whom had managed to conquer and rule over Beijing, and reunite China under centralized rule (Sheridan, 1975). In 1927, the United Front emerged victorious, having defeated most of its rivals on the battlefield or at the negotiating table. However, supported by foreign powers and conservative businesses and organized crime groups in China, the Nationalist Party turned on its erstwhile allies, the communists, in what became known as the Shanghai Massacre of 1927 (Sheridan, 1975). The Communist Party was forced underground and fled to the countryside, where it could regroup. With the nation once more under unified control, the Nationalist Party decided to move the capital of the Republic away from Beijing and establish it in Nanjing. This choice had grave consequences for Beijing and its inhabitants. No longer
the political centre of China, no longer functioning as the beating heart of the bureaucratic apparatus that had managed the nation for centuries, the city was relegated to an inferior position in both a concrete and a symbolic sense. It could only fall back on its former splendour and try and market its spoils and remains (Dong, 2003). The city lost its original name in the process, to illustrate how much the new rulers apparently hated the old capital: it was renamed Beiping (‘Northern Peace’), and ceased to be Beijing (the ‘Northern Capital’) (Strand, 1989). Under these circumstances, Beiping entrepreneurs and ordinary people had to come up with new strategies of survival, though they received ever-diminishing returns for their efforts. Recycling became the backbone of the wide variety of handicrafts and forms of household labour that emerged as a result (Ensmenger, Goldstein, and Mack, 2005).

Hostilities with Japan broke out in 1931, leading in 1937 to the full-blown anti-Japanese war that would become part of the Second World War. As Japanese military forces swept over China, Beijing/Beiping fell to the invaders in 1937. The city’s now-inferior position was demonstrated by the lack of interest in its fate: most domestic and international attention focused on events in Shanghai (which the Japanese bombarded in 1937) and Nanjing (where the Nanjing massacre took place in December 1937, in which Japanese troops wantonly killed 300,000 civilians); on the withdrawal of the Nationalist troops and government offices to safer destinations; and finally on the 1938 installation of the Nationalist government-in-exile in the inland city of Chongqing, Sichuan Province. However, the Japanese recognized the importance of the former capital, which they renamed Beijing and made the seat of the Provisional Government of the Republic of China, a puppet regime under Japanese control. This later merged with the puppet regime of the Wang Jingwei Government, which had previously been based in Nanjing (Wu H., 1991), to become the national government under Japanese occupation. Beijing’s municipal archives are full of materials about the events that took place under the Japanese in the former capital, ranging from grand affairs to matters of daily life, that need more careful study and analysis than can be presented here. After Japan’s capitulation in August 1945, Beijing’s name once again reverted to Beiping. It became the centre of command for the Nationalist military actions during the civil war with the CCP, which broke out in the beginning of 1947. It also regained symbolic importance as the city where a growing number of popular protests took place against the corruption and inefficiency of Nationalist rule and against continued foreign presence and influence in China. With the Communist armies advancing victoriously and the Nationalist defences crumbling, Beiping was finally
‘liberated’ by the CCP in February 1949 without a single shot having been fired (Sheridan, 1975; Strauss, 2006).

People’s Beijing

With the formal establishment of the People’s Republic of China (PRC) on 1 October 1949, Beiping was again renamed Beijing. The newly installed government under the CCP immediately started to restore unified control over the country after the almost 20-year period of disruption caused by war and civil strife. With Beijing once more the glorious political capital of the nation as well as its symbolic centre, it was imperative that the city become the ‘model of socialist urbanism for the rest of the nation, the embodiment of the criteria of socialist urban construction’ (Lanza, 2018: 42). Beijing had to become a city of workers, with modern industries that had not before existed there, and a city where the needs of the masses could be satisfied. Amongst other consequences, this called for substantial numbers of new workers to be recruited from the countryside (Bergère, 2002: 106-109). To this end, urban space needed to be reconfigured and used in different ways; rural labour recruits needed to be resocialized into urban workers; the workers’ daily lives and needs needed to be taken care of; and work, leisure, transportation, and residences needed to be connected and integrated on a scale that had not been known before (Bergère, 2002; Lanza, 2018: 43). Orderly urban management was high on the agenda of the national and municipal administration. Under Nationalist and Japanese rule, the departments responsible for running the city had been unable to turn around the results of decades of neglect and inaction: blocked sewers and drainpipes; impassable, muddy, and narrow roads; a public transportation system that functioned haphazardly; the inability to provide an uninterrupted provision of electricity; a lack of safe drinking water; and waste, organic and otherwise, everywhere (Wu H., 2005; Lanza, 2018: 44). The policies that set out to improve hygienic conditions included the formal recruitment of large numbers of recyclers who had been only informally active in the past, thereby consolidating their informal networks into more permanent, formally administered ones (Goldstein, 2006).

The initiatives undertaken to return urban society to a more ordered state included the restoration of sanitation services. From the early 1950s onward, two highly complex bureaucracies responsible for this process emerged in the city – one for the collection and disposal of household garbage; the other for buying and collecting recyclables and preparing them for processing
(Wang, Han, and Li, 2008). The latter bureaucracy also had to organize a system for the recovery of materials. The purpose of this system, as well as a number of top-down recycling campaigns, was to salvage as many resources as possible for use in national construction and industrialization (Li S., 2002). The recyclables were collected systematically, moving from individuals to neighbourhood redemption stations and networks, to larger district centres, and finally to regional recovery stations (Yang and Furedy, 1993). This organizational structure became a model that was copied on a national scale. The Beijing Municipal Scrap Recycling Company was formed in 1956 from the more than 7000 informal collectors, peddlers, and hawkers who had earlier plied their trades individually and were now reorganized into a formal work unit, a danwei (Ensmenger, Goldstein, and Mack, 2005; Goldstein, 2006). This process mirrored the policies of collectivization that were applied in other sectors. By joining the Company and becoming part of its work unit structure, scrap collectors actually attained an elevated position. They became state workers, with a national responsibility. This change in status provided these workers with the assurance of an urban household registration or hukou, which enabled them to enjoy the same subsidies and benefits that other Beijing residents had access to, including permanent employment, inexpensive housing, free medical care, and pensions (Gu, 2001: 92). In return for this administrative largesse, they had to hand over their savings, which served as the operating capital of the Company (Ensmenger, Goldstein, and Mack, 2005). The Company operated the collection points that dotted the neighbourhoods, as well as the stalls for buying goods that could not be reused anymore. Following the Beijing model, similar official redemption depots were set up in nearly every block in other cities. This nationwide organization of the urban waste management system worked very effectively (Li, S., 2002; Steuer et al., 2017). Collected industrial materials were transported directly to the factories for recycling, eliminating the intermediate levels of larger collection points and scrap markets. In this way, scrap collecting on this scale transformed into an important component of the industrial sector (Goldstein, 2006).

Campaigns

Administrative focus on the collecting and repurposing of scrap coincided with national drives to eliminate rats, fleas, and flies organized by the Ministry of Health. These campaign targets, including the creation of a garbage removal system, were all made part of the first Patriotic Hygiene Campaign.
in 1952, which directly linked cleanliness with health and modernity (Yang, N., 2004; Li, B., et al., 2015). Turning the people into healthy and modern citizens became explicit and important goals for the new nation. It enabled the state to demonstrate and project its strength and vigour. The Hygiene Campaign, as well as the many similar ones that unfolded in later years, had the additional function of disciplining the citizens, teaching them behaviours that were deemed to be in accordance with these new state ambitions. Part of the disciplining process covered the act of recycling: it was considered everyone’s revolutionary, or even national, duty to contribute to collecting waste for recycling (Li S., 2002; Zhang and Wen, 2014; Steuer et al., 2017). The full-scale industrialization of China was one of the paramount objectives of the economic policies in the early 1950s, as evidenced by the First Five Year Plan (1953-1957; launched only in 1955) (Hooton, 1955; Muramatsu, 1955). The junk brought together at state waste redemption centres was used for the extraction of the raw materials and resources that were desperately needed by the resource-hungry industrial base (Steuer et al., 2017).

All Chinese cities routinely had recycling campaigns on the agenda, but in 1957 Beijing became the first city to announce that waste should be classified before its collection (Yang C., 2013: 176). The combination of waste recycling and classification campaigns called for the production of educational materials that would demonstrate and explain which types of materials could be recycled, as well as how and for what purpose. Most of the population undoubtedly had prior awareness and knowledge of classification and recycling, but the illustration of the purposes for which these materials could be reused – thereby showing the significant role they could play in the reconstruction of the national economy – was new (Li S., 2002; Chinese Posters Foundation, 2016). However, this did not mean that everybody complied. Even though a person could show his or her commitment to the revolution by handing over recyclables, for many urbanites in money-scarce Maoist China scrap represented wealth. People saw it as a nest egg for hard times, or used it as pocket money to go to the cinema or buy themselves a treat (Ensmenger, Goldstein, and Mack, 2005). By 1958, when the Great Leap Forward campaign was undertaken to propel China’s economy to the same level as that of the United Kingdom, recycling turned into a positive act of citizenship that enabled everyone to participate even more in the great task of building the great new nation (MacFarquhar, 1987; Ensmenger, Goldstein, and Mack, 2005; Goldstein, 2006). By not actively and visibly taking part in this movement, individuals could run into trouble: such behaviour questioned one’s motivation and commitment to the state’s broader developmental goals.
The Great Leap Forward quickly failed to deliver on its promises of full-scale development, bounty, and abundance, and instead ended in a famine of catastrophic proportions. It was not only food that was lacking – though this resulted in the death of millions (Dikötter, 2010; Visser, 2016); the frenzied focus on the production of steel and other products for use in heavy industry resulted in the unavailability of almost every commodity. In the Great Leap period, the production of consumer goods came to an almost complete standstill in favour of the materials churned out by the primary industries. People were forced to use the things they had been able to acquire – or cling onto – in the past until the items could no longer be used. After the Great Leap, it took at least five years, until well into the 1960s, before food production was restored to a level at which starvation no longer threatened. Consumer goods continued to be scarce; they were often only available through the system of rationing that operated within the work units. Wei Jingsheng, a former Red Guard who turned into a human rights activist in the 1980s, provided an account of what this meant for the population well into the mid-1960s. In his autobiography, Wei recounts how he stumbled upon a group of beggars at a railway station during his 1966 train trip to the Northwest. This was at the time of the chuanlian or linking-up campaign, a movement that allowed Red Guards to freely travel the country to create links and exchange experiences with their fellow revolutionaries (Jian, Song, and Zhou, 2006; MacFarquhar and Schoenhals, 2006). Wei at first assumed that the beggars at the station were wearing dirty, dusty clothes. He recoiled when he discovered that they were local people who, as a result of the Great Leap Forward, not only lacked food but also basic clothing; they had to cover themselves with dust to hide their nudity (quoted in Fernández-Stembridge and Madsen, 2002: 207).

Recycling propaganda

Even the few possessions the people still owned after the Great Leap were coveted for recycling by the government. It can be seen as a sign of the times that the Beijing Municipal Scrap Recycling Company was renamed into the Beijing Municipal Resources Recycling Company in 1966. This renaming did justice to a reality in which junk was no longer scrap, but a resource (Ensmenger, Goldstein, and Mack, 2005; Goldstein, 2006). A number of propaganda posters and educational materials from the mid-1960s and early 1970s provide insights into the process of collecting and re-using goods. The posters lack exact publication details, but internal evidence allows them to
Illustration 1.1 Liaoning Old and Used Goods Collection Company (辽宁省废旧物资回收公司). ‘Don’t throw away broken leather shoes, recycle them to turn them into fertilizer’ (‘破皮鞋莫扔掉回收加工造肥料’)
be roughly dated. Only one of the posters shows a portrait of Mao Zedong on the wall or in the background; they provide no inspirational Mao Zedong quotes urging the people to comply; and none of the figures in the images wear buttons featuring Mao Zedong’s likeness on their chests. All of these details point to the mid-1960s as the period of publication. Moreover, the artistic styles of the poster designs reflect the aesthetic preferences of the mid-1960s (Landsberger, 1995).

Two posters published by the Liaoning Old and Used Goods Collection Company demonstrate that dedicated organizations were at work to gather used goods in localities outside of the capital. The first poster focuses on old shoes, which could be turned into artificial fertilizer (Illustration 1.1). The developmental strategy at the time stressed the need to increase agricultural production to support industrialization, even if the image tells us that the fertilizer will be used to increase fruit production rather than increase growing staple foods. In the early 1960s, China was still recovering from the famine of 1958-1962. This poster’s focus on handing in leather shoes is remarkable: most Chinese at the time would not have been able to afford leather shoes.

The second poster calls on the people to hand over their used glass containers, i.e., bottles, jars, ‘cultural products’, etc. (Illustration 1.2). The text suggests that the containers will not be melted down, but rather that each piece of glassware will be returned to the company that initially used it for packaging purposes, sterilized, and reused. Thus will the aim of thriftiness for the revolution be realized: fewer new glass containers will need to be produced and no raw materials will be wasted. Ten items of recycled or reused glassware make it possible to save five pounds of coal and more than a pound of sodium carbonate.

The third poster was published by the Shandong Provincial Local Products Company (Illustration 1.3). It illustrates in detail the wide variety of consumer goods that could be handed in and the products they would be turned into after reprocessing. Many of the examples project a sense of turning the old into something new and modern: old rubber boots and tires reappear as trainers, for example. Such posters were used to make people realize that many goods they might consider useless and not worth handing over, such as human hair, could actually support the goal of development. The lower left-hand corner of the poster shows what a collection point may have looked like at the time, though this example is located in the countryside. The chart on the wall shows the buying prices of different goods, pointing to the existence of a well-functioning collection and distribution system that connected supply and demand on a national scale. In the present age,
Illustration 1.2 Liaoning Old and Used Goods Collection Company (辽宁省废旧物资回收公司). ‘Recycle old bottles to use them again, increase production and be thrifty for the revolution’ (‘旧瓶回收能利用增产节约为革命’)
such price lists are still used at collection points, but they now quote global prices for recyclables – an indication of the transnational character that recycling now has assumed (Medina, 2011; Hunwick, 2015; Wu and Zhang, 2016). A final interesting detail about this print is the name of its producer, the Shandong Provincial Local Products Company. This name provides no indication that it specialized in recycling or collecting junk.

The fourth poster was published by the Beijing Municipal Office for Saving Paper (Illustration 1.4). It urges the population to economize their use of paper, and to collect and re-use old paper boxes, to further support the revolution. This poster shows which types of paper the Office was interested in. It explains, among other things, that one ton of recycled paper boxes would save the nation 500 kilos of coal and 350 Watts of electricity. It also lists the addresses and telephone numbers of the factories and offices that would buy used paper and details which places specialized in which specific types of used paper. Had this poster been published later than the mid-1960s, the final product the recycled boxes would have been used to produce paper to produce more editions of the Selected Quotations of Mao Zedong.
Illustration 1.4  *Beijing Municipal Office for Saving Paper* (北京市节约板纸办公室). ‘Economize on paper for the revolution, collect and re-use old paper boxes’ (‘为革命节约板纸回收复用旧纸箱’)

Beijing Municipal Office for Saving Paper, date of publication unknown, circulation unknown
IISH/Stefan R. Landsberger Collection. Photo © International Institute of Social History
When, by the mid-1960s, the spectre of mass starvation had been overturned, the CCP devised another political movement. This was to make sure that the Chinese still followed the Party’s commands despite the failures of the Great Leap. This new movement, the Great Proletarian Cultural Revolution (1966-1976), would again throw Chinese society into turmoil. No one was safe from potential prosecution, neither the high and mighty like Vice-Presidents (for example Liu Shaoqi) and Army Marshalls (such as Peng Dehuai), nor the people on the bottom rungs of the social structure (MacFarquhar and Schoenhals, 2006). One victim from the last group was Shi Chuangxian (1915-1975), a Beijing night soil collector who had been recognized and honoured as a national model worker since 1949. Shi was able to parlay this symbolic distinction into membership in the CCP and a political and administrative career as a representative of the National People’s Congress; he also was received by many State leaders, including Mao Zedong and Liu Shaoqi, and praised for his work. A 1959 photograph that had appeared in the official CCP newspaper People’s Daily, in which Shi was shaking hands with Liu Shaoqi, became his undoing. Once Liu had been driven out of office by the Red Guards in 1967, Shi was persecuted for his alleged connections with Liu and beaten so seriously that he became paralyzed. Despite efforts to provide him with care, he died in 1975. Only after Mao’s death was Shi officially rehabilitated (Jian, Song, and Zhou, 2006: 256-257).

In the first two years of the Cultural Revolution, the Red Guards, students, and high school pupils who had been mobilized to support the ideas of Mao Zedong ransacked the homes of many individuals who were suspected of having bourgeois or otherwise politically incorrect lifestyles. Many personal belongings of the victims of these raiding parties, ranging from works of art, calligraphy, and antiques to clothes, furniture, books, and other housewares, ended up in the streets, ready for collecting. Although there certainly may have been waste collectors who were willing to pick these up, there was also political risk attached to trying to sell these discarded goods. The same risks pertained to the potential customers, who would shrink from buying goods that were considered tainted by a counter-revolutionary provenance. Despite the seemingly chaotic political situation at the time, however, the enterprise of recycling and salvaging as much as possible continued as before. One last poster, published in the early 1970s by the Beijing Municipal Scrap Recycling Company for neibu (‘internal’ company) use, calls on people to hand over as much scrap metal and other waste materials as possible (Illustration 1.5). The triumvirate of a worker, peasant, and soldier clearly dates it to the Cultural Revolution period; so does the slogan on top – a Mao
Illustration 1.5 Beijing Municipal Scrap Recycling Company (北京市物资回收公司). ‘Strive to collect scrap metal and other waste materials!’ (‘大力回收废钢铁及其他废旧物资!’)
Zedong quote that reads ‘Prepare for struggle, prepare for famine, for the people’ – and the copies of the *Selected Works of Mao Zedong* that the worker and peasant hold up. Like the other posters discussed in this chapter, this poster explains how the junk that is handed in saves virgin resources and energy in the production of ploughs, minivans, and bicycles. On the whole, this image has a more militaristic and aggressive tone than the other posters.

**Beijing under Reform**

Once the Cultural Revolution ended formally in 1976 and the (economic) Reform and Opening Policies of Mao’s successor Deng Xiaoping started to gain traction in the 1980s, the lives of most Chinese changed dramatically. These changes started in the countryside, where rural communes were decollectivized and individual farmers were given their own plots of land to cultivate, in return for turning over specified amounts of the harvested crops for predetermined prices. What the individual farmer produced over the quota could be sold on the newly organized farmers’ markets, and the proceeds could be pocketed. This in effect meant that harder work resulted in higher incomes, a philosophy that industry also came to embrace. While the rural areas were the first to profit from this structural change in development strategies, the effects gradually spread to the urban areas and gathered in speed and scope. One of the hallmarks of the era, was that people no longer were dependent on their work units for the distribution of foodstuffs and other commodities but could individually buy them as long as they could pay for them. In response, factories started churning out consumer goods in dizzying abundance. The bulk of industrial production shifted away from heavy industry and related projects to the wants and needs of the people. In a relatively short period of time, urban wages rose many times over and consumption increased to unprecedented levels, trickling down from the elites to the rest of the urban population. As a result, China quickly changed into a consumer society with characteristics that are quite similar to Western ones, and has come to face problems associated with consumerism that many other developing and developed nations in the world are also grappling with. This makes China an interesting object of study: many of the problems that have emerged in developed countries in the past can be seen emerging there, almost in front of our eyes.

The generation of municipal solid waste (MSW) is a prime example of such a problem. In a relatively short period of time, waste generation increased at an unprecedented speed and the question of how to dispose
of the waste did not meet any quick and satisfactory answers. Where in the three decades from 1950 to 1980 MSW production in Beijing grew from 1500 to 3000 tons per day, it grew to 5800 tons per day in 1985 and 9050 tons per day in 1990. The make-up of the MSW changed in the process too. In 1950-1980, it consisted largely of coal ash, mixed with food or kitchen waste; in later decades, cans, plastics, paper, etc., came to make up the major part of MSW. The disappearance of coal ash from Beijing’s garbage was the result of the prohibition of the use of coal for heating and cooking purposes in the inner city; over time, the definition of the boundaries of the inner city have changed and now include the area within the Fourth Ring Road (Goldstein, 2006; McKinsey & Company and Ocean Conservancy, 2015). While the general make-up of Chinese garbage is quite similar to that of other developed and developing countries – keeping in mind that the percentages of the components vary – it is also considered extraordinarily ‘wet’ because of its high food waste content (Goldstein, 2016; Minter, 2014; Interview with Hong Chao, 2017).

The time-honoured practice of the general population recycling (or selling) waste materials continued under the Reform policies. However, it became increasingly difficult for people to find buyers interested in their junk. The employees of the Beijing Municipal Resources Recycling Company had declined in numbers and as a result were faced with more work than before. But the definition of the Company’s work also had changed: it now considered sorting through trash to be too degrading. Instead, the Company maintained its focus and the bulk of its activities on the recycling of industrial wastes, such as iron, aluminium, and copper, over which it held a monopoly. This allowed the Company to reserve this lucrative trade for itself and for industry insiders with a proper Beijing registration, thereby excluding migrant labour (Goldstein, 2006). When real estate became one of the growth poles in urban China under market reform, the Beijing Municipal Resources Recycling Company withdrew further from its original activities. Instead, the Company turned into an entrepreneur, forming alliances with local governments, local developers, and (foreign and domestic) investors to engage in real estate development activities that could produce more profit than dealing in scrap. More profits also positively influenced the relative standing and clout of the Company and its managers and employees. As a consequence, the vast and finely organized network of waste collecting points in Beijing, which had come to number some 2000 by the 1980s, rapidly disintegrated and almost completely disappeared, leaving only six in operation by 1998 (Ensmenger, Goldstein, and Mack, 2005; Goldstein, 2016). Although landownership rights continued to be vested in the government
(or the state), the Company could sell the land use or land-lease rights to the plots that had been allocated for the recycling stations and put these spaces to more profitable use by initiating urban construction projects. This market of land use or land-lease rights started after 1988 and really took off in Beijing in 1992 (Goldman, 2003; Kostka, 2014). The rights to the recycling stations were sold off to real estate developers, who turned them into the more aesthetically pleasing and better paying high-rise apartment buildings that were erected all over the city with astonishing speed. This brought the developers significant profits as well, since hardly any residents of these spaces needed to be resettled (Kostka, 2014). Urban development activities were further stimulated and covered by the Old and Dilapidated Housing Redevelopment Programme started in Beijing in the 1990s, under which more than one-quarter of inner-city dwellings were deemed to require urgent attention due to structural instability and severe deterioration (Shin H., 2009). Many of the recycling stations could be found in these parts of the city. Rather than renovating them, they were torn down and replaced, often with the financing of foreign investors (Shin H., 2009: 2821). This practice extended beyond the inner city and came to embrace all of Beijing’s districts, displacing many of the original inhabitants and forcing them ever further away, onto cheap suburban land at the margins of the city. This extraordinary building boom that started in the 1990s has transformed the city beyond recognition (Broudehoux, 2007).

Enter the waste pickers

During this same period, the amounts of garbage and recyclable waste, the daily life waste produced by Beijing’s citizens, mushroomed. This was the result of the steadily expanding size of the population, the growth of its disposable income, and its patterns of increased consumption as well as greater opportunities to consume in the form of new types of businesses such as restaurants, shops, shopping malls, and hotels. A form of conspicuous consumption once more took root in urban China as it had in the 1920s and 1930s, but this time consumption became more and more status-driven and -defining.

In the vacuum left by the withdrawal of the Beijing Municipal Resources Recycling Company, a new phenomenon emerged. This was made up of informal waste pickers, most of them migrants from the countryside who moved to the cities, including Beijing, to try to find a way to make a living. They had become redundant in their places of origin; overemployment meant
that there were no job opportunities in agriculture. The migration processes and employment histories of these informal workers are discussed in more detail in Chapter 4. These waste pickers now concentrate on collecting, separating, and selling the recyclable parts of household waste, taking over the work the Company is no longer interested in. They have connected with the new emerging businesses, something that the Company was not able to do. They transport all the junk through a hierarchical network, from residential communities to collection depots to markets, recycling factories, and even state-owned enterprises. As the waste is transported upward, it attains ever higher levels of purity and value. And they do all this without any legal basis. According to Goldstein, quoting Beijing waste administration sources, this network handled more than 1 million tons of materials, generating more than 1 billion yuan in profits, in 2001 (Goldstein, 2006: 281).

China's waste – attempting to assess amounts

According to statistics published by the former Ministry of Environmental Protection, now the Ministry of Ecology and Environment (MEE), the 246 largest cities in China produced 186 million tons of household waste in 2015. Of this waste, 90 percent was buried in landfills or incinerated without being properly sorted. This raises questions about the effectiveness of the sorting activities of the informal sector, and runs counter to the generally held belief that most recyclables are taken out of the waste stream by informal sorters (Interview with Huan You, 2017). The same statistics indicate that Beijing city produced 7.9 million tons of garbage in the same year, of which 44 percent was burned (China Youth News, 2016). By 2020, Beijing city plans to burn 67 percent of its household waste (Yuan and Li, 2017). By 2025, the World Bank estimates that China's urban population will have grown to 1.4 billion people, who will generate 500 million tons of MSW per year (Hoornweg and Bhada-Tata, 2012: 80). The China National Renewable Energy Centre estimates that by 2020, 277 million tons of collected MSW will need to be disposed of, reaching 369 million tons by 2030 and 409 million tons by 2050 (Energy Research Institute of Academy of Macroeconomic Research and National Development and Reform Commission, 2017: 316).

Yet these figures only form a part of a much larger and much opaquer picture. Over time, Chinese statistics have increasingly been treated with suspicions about their reliability, in particular when it comes to economic data (Wallace, 2014). The figures regarding waste generation and treatment
are fragmentary and notoriously incomplete (Linzner and Salhofer, 2014: 897). There are a number of reasons for this. Some authors insist that Chinese statistics in general are based on ‘guesstimates’ and that the figures quoted above attempt to paint a rosy picture about official garbage disposal activities within a region (Liu, Zhang, and Bi, 2012; Wallace, 2014; Lo, 2015). Such a favourable depiction can have a positive effect on the evaluation of the performance of local administrations or individual officials and can influence promotions or demotions, rewards and punishments. The information-gathering structure is outdated and fragmented, sometimes dating back to the system of economic planning, and leaves out many relevant variables. In other instances, the officials responsible for reporting the data are the same ones who collected them in the first place (Liu, Zhang, and Bi, 2012; Wallace, 2014; Lo, 2015). In addition, most of the often-quoted figures on waste and waste treatment are only based on the situation in some 660 cities, excluding the entire rural population of China. While this population is declining from its previous majority of the total population to less than 50 percent as a result of the ongoing process of urbanization, the fact that a large proportion of the population is not included in such calculations raises questions (Dorn, Flamme, and Nelles, 2012; Albores, Petridis, and Dey, 2016: 266). Moreover, the data do not report the amounts of waste recorded at the point of generation and omit the quantities of recyclable waste that have already been taken out of MSW by the informal sorters. According to several researchers, some of the recycling companies stick to overreporting the amount of waste they recycle, as it allows them to apply for more government subsidies (Chen, Geng, and Fujita, 2009: 38; Yang C., 2013: 177). To get a firmer grip on the problem, and in line with the dictum ‘you can't manage what you can't measure’, a method of more systematically gathering quantitative data and information is needed to monitor and control the situation (Naustdalslid, 2014: 309, 310). As Naustdalslid argued in his analysis of the plans to implement the circular economy, ‘[S]ince most of the practical efforts to promote CE are in the form of pilot programs and demonstration projects, evaluation criteria and indicators for measuring success and failure become particularly important’ (2014: 309). The same applies to the various waste-related efforts that are planned or currently taking place.

The last obstacle encountered when attempting to estimate China’s waste is the question of whether the waste one sees is actually produced by China itself. In a number of publications, Adam Minter (2013a: 85-88, 2013b, 2015) has shown how the countries that imported China’s export products, in particular the United States, have sold and exported their
waste and garbage back to China. China had an enormous appetite for resources, and many developed countries who consume finished Chinese products had more recyclable waste than they care to recycle. Junk could be shipped to China at relatively low cost, using the containers that would otherwise return empty to be loaded with consumer goods again. For the shipping companies, this would have meant an unacceptable loss. As a result, a perfect loop of exported products and imported junk came into existence. According to government figures, China imported 49.6 million metric tons of waste in 2015 (Agence France Press, 2018). In the summer of 2017, however, the CCP Central Committee and State Council adopted the ‘2018-2020 Action Plan for Full Implementation of the “Implementation Plan for Banning Foreign Wastes and Advancing the Institutional Reforms on the Management over Importation of Solid Wastes”‘, making it clear that it was no longer interested in recycling other nations’ garbage. The ban on the import of foreign waste, which took effect on 1 January 2018, is to be fully implemented by 2020 (State Council, 2017; MEE, 2018). This decision was not only based on China’s estimate that it produced enough garbage of its own, or that it no longer needed to recycle waste to have access to resources; it was also seen as an opportunity to further stimulate the development of a circular economy. The ban also added opportunities to further regulate the domestic recycling sector, phase out informal waste pickers, and make the waste disposal system healthier. These conditions further dovetailed with the decision to expand the system of completely incinerating garbage that the government committed to in the 13th Five Year Plan (2015-2020).