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**Title:**

Materializing a Form of Urban Governance: When Streets Building Intersected with City Building in Republican Canton (Guangzhou), China

**Abstract**

In the early twentieth-century China, the imperial court collapsed and modern cities emerged. How did a new form of governance become materialized, conceivable and understandable? This article presents a case study of street building in the city of Canton (present-day Guangzhou) in the 1920s and 1930s. Drawing on discussions of material power, infrastructures and governmentality, it attends to the role of material artifacts in creating the modern Chinese city. In particular, it illustrates the entangled emergence and development of modern streets and urban governance, a new form of governance essential to fashioning the Chinese nation-state and Chinese modernity. The unstable, evolving process of creating a new built environment provided specific,

material reference points for various stakeholders to imagine and think about the modern city as governable space. This case analysis suggests an alternative perspective to urban history in China, and contributes to the broader discussion on the symbiotic relationship between urban politics and infrastructure.

### **Keywords**

Infrastructure, governance, urbanization, street, materiality, China

China in the early twentieth-century was full of uncertainties and political turmoil. It was the time when the long-lasting imperial system finally collapsed. Young and ambitious political leaders aspired to leave the past behind and build a strong, modern nation-state. When pursuing higher education abroad, they encountered other forms of urban and national governance. Yet such experience did not give them the knowledge, technologies or resources to rebuild the polity on Chinese soil. How then did they, with such limitations, build what they had begun to envision institutionally, discursively, and materially? How, in this historical moment, did a new form of governance emerge out of the imperial debris?

By “new” I mean a set of political rationales and categories that enabled people, space and things to be thought of, problematized, made sense of, and administered in ways that were different from that in the imperial system.<sup>1</sup> In imperial China, even before the Ming dynasty (1368–1644), there were distinctive economic activities and ways of life in walled cities and market towns, which could be *described* and *analyzed*

as urban styles and urbanization.<sup>2</sup> However, as historian William Rowe keenly points out, there was “the absence of formal urban administrative discreteness: cities were administered as part of their surrounding agrarian counties, by a single local official.”<sup>3</sup> It is in the second decade of the twentieth century that cities emerged as political categories and administrative units in the new nation and state. Yet, how did the new political rationales and categories gain vitality in government practices and mundane lives? What kinds of technologies were developed to manage the population, space and things? How were ordinary people incorporated into the process of making a new urban regime? How did most of these people learn about and make sense of the new form of governance, especially given the relative lack of formal education?

My inquiry into these questions starts with the debris left on the ground after the old city walls in Canton (present-day Guangzhou) were torn down, and takes the materiality of infrastructure as the critical juncture to examine the intertwined development of street construction and the new form of urban governance that emerged in the 1920s and 1930s (the Republic period). The emphasis on the material draws on scholarship on the “material turn” among historians, archeologists, anthropologists and other social scientists.<sup>4</sup> This material turn is not a simple reiteration of a Marxian materialism in which the material or materially-embedded lives are often synonyms for the economy or economic relationships. Rather, it attends to the different dimensions of things and their effects on human lives in specific settings.<sup>5</sup> In such entanglement between humans and things, things are not merely outcomes, contexts, or media of human action, but the materiality of things represents both enabling and constraining forces that are intertwined in making a specific kind of a social and political world.<sup>6</sup>

In applying this perspective on materiality to studies of infrastructure, infrastructure is no longer treated as a holistic and stable system. Instead, infrastructural networks are torn apart; different elements and their physical and engineering features are microscopically analyzed to assess how the social and political orders, say, of cities and nations are constituted. For instance, anthropologist Nikhil Anand investigates the workings of the pumps and pipes in the distribution of water in the city of Mumbai and the way in which this infrastructure mobilized diverse relationships within a democratic polity, producing specific ways of belonging.<sup>7</sup> Others examine the materiality of electricity meters, lights, sewers, dams, fossil fuel in relation to quotidian choices, individual subjectivities, and techno-social assemblages.<sup>8</sup> They highlight how infrastructures have shaped social exclusion, stratified citizenship and political struggles in cities.

Similarly, this article seeks to construct a narrative about the entanglement between street building and urban governance by taking seriously the roles of the debris, holes, asphalt and other material artifacts in the infrastructural process. These material aspects of streets point to the significance of seeing infrastructures as processes that are inherently unstable and as artifacts that require regular construction, maintenance and re-construction. In dealing with the debris, holes and asphalts, engineering know-how and governing technologies were tested, negotiated and consolidated among various stakeholders from officials and business groups to ordinary residents. Such processes were fluid and full of contingencies, especially as modern streets—automobile-centric streets—took shape in concert with the materialization of new political rationalities and categories, legal practices, and rules of civility. The material aspect of the building process, which could provoke resistance from local residents, also provided political opportunities for gaining the cooperation

of ordinary citizens. This materialization in turn reconfigured the fabric of the city and set the conditions of a new form of governance – urban governance. The perspective offered by the mutually constitutive relationship between infrastructure and urban governance sheds light on fundamental structural changes that have continued to influence the politics of rural-urban divide in the years to come.

In the remainder of the article, I will first discuss briefly research methods and the archival materials, and outline the macro-level political changes in and beyond Canton from the late imperial time to the early twentieth century. I will present a detailed account of a specific street building project during the Republic period, and conclude with further discussion on the emerging form of urban governance and its implications in larger debates.

### **Research Method and Materials**

To reconstruct the picture of urban restructuring, I critically examine “The Canton Municipal Government Gazette” (Guangzhoushi Shizheng Gongbao, “GSG”), supplemented with maps, newspaper reports, officials’ memoirs and other archival data. GSG is a collection of government documents that have only been used scantily in many historical studies on Republican Canton. In the early 1920s the newly founded municipal government started to publish systematically its conference minutes, administrative decisions, work plans, achievements, regulations and other official documents in GSG. Since the mid-1920s, GSG also carried translations of writings on urban management in places like Paris, New York, Chicago and Philadelphia, as well as urban development in other Chinese cities such as Nanjing that became the capital of China in 1927. The publication of GSG continued until the breakout of the Sino-Japanese war in the late 1930s.

The municipal government meant to educate the ordinary people about the new government and its undertakings with the publication of government records and other materials. It is reasonable to assume that GSG did not include all government related activities, particularly those involving internal disputes and fights for power. Instead, GSG focused on administration and operational routines – or rather, attempts to establish routines and regularities – that managed space, people and things.

GSG documented thoroughly the visions and ambitions of the municipal government, its work plans, budgets and a continuously expanding list of statistics. Over two thirds of all the documents were about infrastructural projects including streets, water and electricity networks, and over fifty percent were about street building. Most documents were technical and bureaucratic. When dealing with construction of infrastructural projects, these documents could be as technically specific as the thickness of asphalt concrete, different diameters of sewage pipes on different sections of streets, and the way to draw a street plan when dealing with a curve in the existing street topography

In contrast to the vast amount of details regarding what the government envisioned and intended, information about what the government achieved and how it was done in GSG is very general and incomplete. Only when disputes happened and the government intervened did GSG sometimes include references to government decisions and reasoning. Partly because of this constraint, this article chose to focus on street construction in the Thirteen-Factory area (“Thirteen-factory project”) over a decade, for it is one of the few cases with good GSG documentation. The other reason is that the story of the Thirteen-Factory project is rather representative of the situation in urban reconstruction in the Republican period. During its implementation, the project experienced various challenges, including interruptions and disputes due to

political turmoil, a labor strike, inadequate funding, and unexpected maintenance needs. Such problems, highlighting the entangled relation among material, social, and political factors, were unexceptional—indeed were common—in street construction projects during that period. Before getting into the Thirteen-factory story, I will sketch out the fundamental political, social, cultural and physical transformations in the backdrop.

### **From an Imperial City to a Republican City: New Nation, New Visions**

Struggles to strengthen the ruling base of the Qing court had been going on since the British victory in the first Opium War in 1842, after which the imperial court was forced to cede Hong Kong Island and open other treaty ports for global trade. Officials took limited, tentative moves such as introducing European-style mechanization in factories and to build a modern navy.<sup>9</sup> However, these attempts did not save the court, which continued to suffer a series of defeats by foreign powers and domestic uprisings. The imperial order that had lasted for centuries formally came to an end in 1911 after the eruption of a revolution, which reverberated across China. The leaders of the revolution founded the Republic of China and the Chinese Nationalist Party (Kuomintang, “KMT”) in 1912. Nonetheless, political fragmentation marked the following decades until the Communist Party came to power in 1949. The national government, led by KMT, had to compete with warlords, foreign powers and later the communists for authority and control. Any form of government was effective only within certain regions in the country.

Canton was an important base for the KMT leaders and its government. Located in the Pearl River Delta and adjacent to Hong Kong and Macau, Canton was a key emporium in the network of maritime trade in the South China Sea for centuries.<sup>10</sup>

(Figure 1: A Map of Canton made in 1907. The thick, black lines indicate the city walls.)

What the English term “Canton” referred to was the walled area shown in the map, which was called the “provincial city” (Shengcheng) in Chinese documents and among its residents in late imperial times. As this suggests, the English characterization did not capture for the Chinese the multiple meanings and functions of Canton as a social and political construct. As with other imperial cities in China, the walled city of Canton was a rather different conceptual entity from a city understood in the contemporary context. A walled city was for official and ritual spaces. It housed various levels and branches of imperial offices. Specifically, the walled city of Canton had high-ranked offices that oversaw an area covering roughly today’s Guangdong, Hainan and Guangxi provinces. It also had official seats governing an area roughly equal to the Pearl River Delta. Besides the official establishments, the walled area also housed academies, civil examination sheds, temples and residential areas, a substantial part of which was occupied by Manchurian and Han military personnel and their families.

But, as mentioned earlier, the walled city was not a legally and administratively independent entity. The walled city did not have its own government, staff, or budget. The boundaries outlined by the walls were not boundaries of administrative or judicial jurisdiction of the walled area. An invisible north-south line divided the walled area of Canton into two parts. The eastern half was under the jurisdiction of Panyu County, and the western half Nanhai County. While imperial offices of both counties were located within the walls, the territory of the two counties respectively covered the vast land outside the walls and beyond the boundaries of the



above map. Such a divide was not the norm, but it was not uncommon in late imperial cities.<sup>11</sup>

An imperial city's walls were highly symbolic, but not to symbolize an urban-rural or urban-suburban divide. A walled city was an embodiment of the imperial authority.<sup>12</sup> The walls demarcated an imperial order of things, people and activity, in which commerce or circulation of goods and people was not a top priority.<sup>13</sup> They reproduced a spatial order that was inscribed with cultural values, social hierarchy, political categories and technologies of an imperial system.<sup>14</sup> Unsurprisingly, city walls became the objects of political tension throughout the post-revolution, Republican period. The walls became the epitome of a backward China, closed and dilapidated. In some places, foreign powers forced the tearing down their walls, but in some cities like Shanghai, initiative came from local forces.<sup>15</sup>

In Canton, after the fall of the Qing court, political leaders took radical steps in promoting modern development agendas. One of the proposals, as in Shanghai, was to demolish the city walls and build streets on their foundations. This infrastructural project led to the establishment of a town hall (shigongsuo) in 1918. This town hall was often considered the predecessor of the municipal government. But as this nascent government was founded, its intended functions were highly local and limited: to bring down city walls, build streets, map territories and determine city borders, while the two county magistrates continued to oversee the spaces of the original walled areas and vicinal settlements. Inevitably, there was overlap in the authorities of two sets of government entities. The establishment of the town hall seems an experiment in which political leaders tried to re-configure government structure so as to turn their visions into actions.

The town hall was not very successful in carrying out its functions, despite possessing military force to enforce its decisions. After tearing down the walls, it could not even arrange to have some of the debris removed from the sites, not to mention building new streets.<sup>16</sup> Fights to claim authority over the city often competed with political leaders' attention to infrastructural construction. Funding shortages aside, the local gentry class reacted with strong resistance, as they saw the construction as harmful to local culture and to control over their land properties.<sup>17</sup> Importantly, the town hall did not have the vision, capacity or technological know-how to plan and implement large-scale infrastructural projects in highly populated and densely built environments. Large infrastructures such as dams and canals had been built in Chinese history. But they typically involved different kinds of skills, rules and population management from urban-based, networked infrastructural projects, which were not in the repertoire of the imperial courts and its local magistrates.

The establishment of a municipal government of Canton in 1921, therefore, can be seen as an effort to solve part of the issue of insufficient managerial capacity faced by the town hall. This unified, KMT-led municipal government replaced the two county magistrates. Separate departments were put in place to preside over police, budget and expenses, education and other public affairs. The Public Works department ("Public Works") took over the functions once directly implemented by the town hall. The founding of the municipality of Canton was epochal, as the Canton government was the first municipal government on the mainland under Chinese control (thus exclusive of those under foreign control).<sup>18</sup>

From the beginning, city building was intensely linked to nation-state building via infrastructural projects. In the eyes of political leaders including Dr. Sun Yat-sen (KMT's founding father) and his son Sun Fo (the first mayor of Canton),<sup>19</sup> changing

the urban built environment was essential to the development of commerce and industry, which would lay the foundation for a prosperous nation.<sup>20</sup> Urban reconstruction was considered as, to borrow anthropologist Victor Turner's term, "a rite of passage" for the country.<sup>21</sup> It symbolized and signaled "the new replacing the old" as the nation intended to move forward toward its conception of modernity. In line with this vision, the new municipality had it as its primary goal to rebuild the physical environment of Canton.

A grand vision and ambitious plans of nation building and city building required political support, financial resources, technical expertise and professionals. None were readily available for this new government. Mimicking a western municipal government structure on paper was relatively easy, but turning design into functioning entities was challenging. Officials noted, not without frustration, that building a Chinese city was much more difficult than for cities in the United States: American cities came into being comparatively late, often with open land and a relatively small population. By the Republican period, Chinese cities were so densely built and populated that any large-scale infrastructural construction was a big headache in every aspect. From fund raising to planning, from materials to technologies, and from legal regulations to dispute resolution, the new government often had to improvise. As example, officials had continuous debates on daily management issues such as whether Public Works or the Hygiene department should take care of the sewer issues.

The Canton government was young, not only because of its recent founding, but also because officials appointed to head the departments (except in the case of the police) were all young men in their late 20s and 30s. They had higher education in countries such as the United States, Germany and Japan, but they were rarely experts nor did they have practical experience in the areas they were in charge of in the Canton

government. These young officials had been exposed to urban life and development abroad, but did not have the old bureaucrats' practices and institutional knowledge fostered in the imperial system. Instead, they had visions, ambitions and an eagerness to push for urban development.

Cheng Tiangu, who headed the Public Works Department from 1920 to 1923 and from 1929 to 1936, is a telling example. Cheng came from a big family in a village in the Pearl River Delta. When he was a teenager, he was sent to his uncle's factory in Java to make a living. Thanks to his talent, effort and luck, he managed to have an education in Singapore, later enrolling in a graduate course at the University of California, Berkeley. Cheng pursued various endeavors in industry, including establishing and running a leather factory, before he became the head of Public Works. Cheng's entry into the Canton political circle was partly due to his encounter with KMT members during his Singapore school years. This was rather common among many students who studied abroad and later became officials on their return. Cheng was diligent and passionate about infrastructural construction. It was during his term that many methods, models, rules and detailed plans came to define public construction projects and their philosophy. However, as he assumed office for the first time, Cheng had no training in Public Works. He had to read at night to acquire some basic knowledge about modern urban planning and public construction.<sup>22</sup>

During Cheng's first term, the first big challenge was debris, left in piles along the city wall base. The town hall tore down the walls, but was not able to arrange removal of the debris. Residents nearby had strong opinions against the project of building a new road. Cheng had to improvise solutions, partly drawing on his experience as an entrepreneur. Using the promise of land sale as payment guarantee, Cheng convinced the contractor to finish the cleanup work. Debris, including bricks

and mud, were not waste. They were recycled and used as raw materials for the road surface. Cheng and his cash-strapped department managed to sell the use right of land along the planned streets to raise revenue for the construction. The success of the city wall project and the laying of new roads provided Public Works officials with experience and confidence, which they developed further in the thirteen-factory street project in the vibrant west-gate area.

### **Reconstructing the Commercial District: The Thirteen-factory Street Project**

Located to the west of the city walls, the west-gate area was developed in the eighteenth and nineteenth century. On the northern river bank in this area there were once the famous international trading houses – the thirteen factories, which were the designated trading places for foreigners after the Qing court made Canton the only trading port in the empire in 1757.<sup>23</sup> Compared to the west-gate area, the city wall project was relatively easy. After all, the walls were thick and there were open space along the walls. With plenty of space after the fall of the walls, the government authority did not have to tear down a lot of houses to make room for new roads. In contrast, the west-gated area was commercially active and densely built. Some sources claimed that the area had 162 named streets in the late imperial period, while an official survey said there were more than 1,500 streets and the narrow ones were less than two meters in width.<sup>24</sup>

(Figure 2: a map of Canton in 1927. The red circle indicates the Thirteen-factory street area. The area to the left and above the Thirteen-factory street area was the west-gate area. The gridded area circled by yellow lines to the lower left corner of Thirteen-factory street area was the Shamian Island.)

Opposite to the thirteen-factory area was Shamian Island, a British-French concession established in 1861 after the second Opium War. Shamian Island was a planned space, with grid roads and western architectural style houses decorated with trees. In the eyes of political leaders, the orderly, modern yet tranquil Shamian Island exemplified simultaneously the superiority of Western industrial, technological power and the humiliation China suffered since the first Opium War. Being able to mimic that orderly, organized space on their own territory was often an explicit objective for infrastructural projects along the river and close to the island.

The street building project in the thirteen-factory area started the municipal government's reconstruction of the commercially vibrant west-gate area. The municipal government planned the new streets as automobile-oriented. This seemingly normal decision was quite radical at the time. After all, in the United States around this time, different interests groups – mothers, shop keepers, auto makers and others – still had to argue over whether the streets belonged to the pedestrians or cars.<sup>25</sup> But officials in Canton considered auto traffic to be the key to the circulation of goods for municipal and national economic development.<sup>26</sup> Moreover, the new streets were expected to serve as a showcase to the English and the French on the Shamian Island.

The first stage of construction involved six streets. The proposal was approved in 1923. The streets were planned to expand to roughly 4, 6, 6.5, 7, 8, and 13 meters in width, with a pavement on each side. A lot of existing residential and shop houses had to be demolished completely or partly in order to make room for the new streets.

Lack of money was a symptom with most government-orchestrated infrastructural projects and the thirteen-factory project was no exception. The government had a limited budget, which was used mostly for land compensation and moving costs when a house had to be completely or partly torn down. Public Works

asked residents and shop owners in the affected block to tear down their own houses by the designated time and to shoulder a share of the cost of the overall street construction relative to their property. That cost depended on the width and the size of the house. The previous city wall project suggested to officials that this shared cost method was a feasible way to solve the funding problem. They just needed to convince ordinary people of the long-term benefits, such as rising real estate value. But the city wall project provided to the municipal authorities with little experience how to deal with the complicated issues surrounding homeowner antagonism and resistance. Neither did existing laws provide useful guidance for individuals to deal with sharing costs between property owners and tenants through private negotiation and agreement. The municipal government thus improvised rules, specifying how owners and tenants should share the costs, depending on whether the lease was for residential or business use.<sup>27</sup>

### ***Resistance***

Unsurprisingly, the new street projects encountered resistance from the residents and businesses. Shop owners complained that construction would lead to the withering of their business. They sent representatives to the municipal government, negotiating for an extension to bring down existing houses. No details of the negotiation were mentioned in the GSG documents. But a similar dispute in a construction project of streets nearby gives us a glimpse what the arguments might be.

This project proposed new streets construction in the fall of 1926. The affected business people and residents made a similar petition to the government, also alleging that the planned construction would obstruct business.<sup>28</sup> They pointed out that, first, the affected area was very crowded and its livelihood relied heavily on commerce. Businesses had a certain seasonal rhythm in which they would buy a huge stock of

goods in the fall and sell them before and after the Chinese New Year time. Because the planned construction would happen during the sale season, stores would have to close and business owners would not be able to earn back their investment and pay their debts. Second, the representatives referred to a previous street construction, which took six months to finish a street of merely two hundred meters. They contended that since the streets in their neighborhood were much longer, the construction would take ten months. By the time the streets would be built, they would be out of business. Third, because the weather in the fall and winter could be very dry, there would be a high risk of fire for the neighborhoods during the construction. Residents and business, though, made no complaint that they had to shoulder the construction costs.

In reply to the representatives of the 1926 project as well as to those in the six-street construction in 1923, government officials with frustration stated repeatedly in meeting minutes and decisions that ordinary people did not understand urban administration and their shortsightedness blinded them from seeing the long-term return in real estate and business. The request to postpone seemed like a strategy that aimed at putting street construction on hold as long as possible. Officials were determined to move on with the street projects and countered each issue the representatives raised: There would be no good timing to do the construction without interrupting business and the rainy spring season could be even worse for construction than the fall. They tried to convince people in the neighborhood that the way to reduce their losses was to pay the construction fees and take down the houses as soon as possible to minimize delay. For those who refused to take action, Public Works partly tore down their houses when the occupants were not at home or in their store. The owners or tenants had no option but to continue the demolition. With the combination



of persuasion and coercion, the government finally managed to clear the space for the planned streets.

### ***Trust and Responsibility***

Residents and businesses finally gave in and paid their share of the construction cost. Intriguingly, the money was kept not by the Finance department or Public Works, but by the Canton Chamber of Commerce (CCC), an organization established in 1905 that mimicked the western practice of Chamber of Commerce but was in fact built upon the existing organizations of various guilds. CCC would pay the contractor once its construction work was inspected and signed off by Public Works. There is no documentation to explain why CCC became the money collector and dispenser in street construction projects. Many historians have pointed out that merchant organizations had long assumed responsibilities in providing important public services to local communities in urban areas in late imperial China.<sup>29</sup> In the Republican period, merchant organizations in Canton remained a powerful force that sometimes provided the critical support to the government while at other times effectively resisted the government's orders, and occasionally to a degree that threatened the stability of the government.<sup>30</sup> While CCC was a new organization, its leaders and key members had been active and influential in other local organizations, which provided CCC with reputation and authority.

Ordinary residents and businesses' distrust in the government may partly originate from their reservation about the street construction endeavors, and partly from the uncertainty and confusion when urban governance was in its nascency in a revolt-ridden period. The local government – with leaders of different political backgrounds over the years – imposed various kinds of taxes and fees that ranged from

tax on the use of cement to tax on soft drinks and night soil collectors. These taxes and fees were supposed to contribute to urban development. However, on the one hand, there were no clear guidelines to distinguish city taxes from provincial tax.<sup>31</sup> On the other hand, a good part of the revenue went into political fights and military endeavors, not to mention embezzlement and corruption. Therefore, placing the construction money in CCC seemed a reasonable resolution to ensure the money was used for what it was meant to.

Nonetheless, unexpected events happened. In 1924, the Huangshang Bank went bankrupt. According to CCC, part of the funds they collected from local businesses and residents for the six streets' construction had been deposited in that bank. Because of the bankruptcy, CCC stopped paying the contractor for the part of work done, putting construction on hold. This occurred in the financially important end-of-year period described previously. Waste and debris piled up. Holes were everywhere on the ground. Business owners got extremely worried. This was the time when they had to pay their loans used to purchase merchandies. The suspended construction made it unknown when they could re-open their stores. It would be a difficult Chinese New Year waiting for them ahead. Moreover, the construction site would be in even worse condition with the arrival of the rainy season in the early spring. The ground would become muddy or covered with water, which would render the area not passable. Public safety also became a big concern, as the semi-abandoned construction site became a convenient hiding place for those seeking to commit thefts and robbery.

The situation was brought to the municipal government in January 1925. It was a common practice during the Republican period that the municipal government, rather than a judicial court, acted as the adjudicator of infrastructural construction disputes.

The government ordered that CCC pay for the completed construction despite the bankruptcy. It pointed out that the bank stubs held by CCC bore no specific indication that the money was for the six streets construction project. Individual business owners only knew that they had the obligation to pay the money to CCC, but they would not have known how CCC handled the money. More importantly, the suspension of street construction impeded commerce. The government reasoned that, because infrastructural construction involved the public interest, CCC, which had the custody of the construction fund, should pay the contractor so that the latter could start working as soon as possible.

### ***Cooperation***

This contractor's payment dispute was resolved, but the construction did not proceed as quickly as everyone desired. Some business owners and residents refused or delayed in tearing down their houses or paying the construction fees.<sup>32</sup> Meanwhile, political conflicts and military actions had diverted government attention and resources from infrastructural building. Construction work even sometimes had to halt due to armed conflicts.<sup>33</sup> The six streets construction had been interrupted and prolonged without a foreseeable completion date. The ground remained rugged and everyday life disrupted.

In the fall of 1925, business owners and residents decided to take the construction project into their own hands. They made a petition to the municipal government that they were willing to be responsible and supervise the construction themselves, and therefore the municipal government could withdraw from chairing the street construction, including finding a contractor and supervising its work. The government granted the petition, on the condition that the construction should follow

the Public Works' material and engineering instructions, and that the construction should start within two weeks once the relevant plan, technical instructions and other documents would be handed over to the representatives of the local business.<sup>34</sup>

Business owners and residents accepted the terms. They immediately launched an auction to find a contractor for the construction. In a couple of months, the construction was completed. In early November 1925, the municipal government held a grand opening ceremony for the six streets. Every store along the new streets had the national flag hung. The mayor delivered a public speech, stating that the west-gate area was finally connected to the old city via the new streets and the residents should feel happy for the convenience of transportation.<sup>35</sup>

From its proposal to its completion, the six streets' construction took more than two years, enduring a series of interruptions for various reasons. Nonetheless, the project established a feasible model for subsequent street construction projects, combining financial arrangements, legal regulations, and technological standards,.

### ***Materials and Labor Challenges***

Soon after the street construction was completed, new issues emerged. As the municipal government expected, the widened and paved streets now allowed for flows of more goods and people than ever before. But the increased traffic, with various kinds of vehicles, from hand-push carts to automobiles, exerted tremendous pressure on the street surface. Many vehicles still used wooden and iron framed wheels that degraded the street surface. The streets soon were full of potholes. Vehicles stirred up clouds of dusts during the dry season, and the streets became muddy when rain came.

In his account of building a modern street in the city of Suzhou during the late Qing period, Carroll describes street construction technology as imported from the

West.<sup>36</sup> However, the Canton street building efforts clearly indicated that such technology was, for the most part, locally re-invented and its application economically and politically embedded. In most of the 1920s, Public Works had been experimenting with materials for street surface.<sup>37</sup> The difficulty of getting the right mixture of materials required finding a balance among desired hardness, time to consolidate the mixed materials, availability of raw materials, and costs. Moreover, this balance demanded constant adjustment because of the new levels of traffic stimulated by the expanding street infrastructure, creating a problem the municipal government had not anticipated in its planning.

When Public Works decided to re-surface the streets in the thirteen-factory project in 1926, another critical issue emerged: the availability of skilled workers. In the plan, asphalt would be placed on top of the original mixture of cement, sand and gravel. The same contractor Rongxing Company that built the streets won the contract. The plan, however, was put on hold due to the intense, organized labor movement in Hong Kong and Canton from the middle of 1925 to the fall of 1926. The causes and forces behind this movement were complicated. To put it in a possibly oversimplified way, conflicts and tension in labor relationships and trade in Hong Kong under the British government found their outlets in a series of labor strikes in the name of anti-imperialism in Hong Kong and Canton under the auspices of the newly formed Hong Kong-Canton Strike Committee. Chinese Communist Party members played a critical role in organizing the unions and strikes, which in turn strengthened the Party, although it was still far away from challenging KMT in this region.<sup>38</sup>

Among a variety of unions there was a small union composed of workers specializing in asphalt work. Significantly, one main union organizer, Li Huanqing, was also one of the owners of Rongxing, and Rongxing was co-founded by

construction workers themselves. The asphalt union prevented workers from different companies from going to work as part of the union's protests. It told its members that they should not go to work without a permit from the union. Even when did work under this stipulation, the union asked they should work in shifts so that, on the one hand, the workers had enough rest, and on the other hand, work progress would be slowed down and added pressure on construction companies. In support of the union's strategy, Rongxing itself suspended the re-surfacing work in the thirteen-factory area. But another construction company, Ruiji, that was responsible for street re-surfacing work in a different part of the city, accused the union of kidnapping and detaining workers and sending hooligans to make trouble at the construction sites.

The asphalt workers union seemed especially to have irritated the government, which documented this dispute in the GSG records but not any of the other strikes in the Hong Kong-Canton labor movement.<sup>39</sup> The mayor called the asphalt workers union a scam, in which Li's intention was to steal business from Ruiji by taking advantage of the broader political turmoil.<sup>40</sup> But the issue that really concerned the municipal government seemed to be more administrative than political: no more than twenty people in the city were skilled workers who knew how to do the asphalt surfacing, a new and evolving area of technological know-how. Once the union prevented these specialists from working, all street-surfacing work had to be halted. The municipal government asked the provincial government to intervene and stop the strikes. Meanwhile, it threatened to nullify all contracts with Rongxing.

It is not clear what kind of political pressure had been exerted over Li and the union. Li yielded, possibly because he struggled to stay in the infrastructure construction business, if not because of sheer violence by whoever did not want to see the strikes continued. Li and another owner of Rongxing went to meet the municipal

officials. They alleged that the union was meant to improve the livelihood of all the asphalt workers, and some of the workers founded Rongxing. The kidnapping and other incidents were not actions of the union but only a few workers who were “intellectually weak” and not aware of the significance of street building. Li and his partner said they had the no-interference guarantee from the union and promised that they would re-do the street surface with the skilled workers as soon as possible.<sup>41</sup> The municipal government might also take into account the city’s urgent need of the cooperation of the asphalt workers. Rongxing finally, in 1926, had back its contract for thirteen-factory project, continuing afterward as a major contractor for the government’s street building projects.

### ***Evolving Projects, Consolidating Governance***

The thirteen-factory street project and other street projects were never quite “finished” works. To facilitate efficiency and convenience in collecting individual business and residents’ payments for street building, maintenance, street lights, water supply and other facilities, the municipal government gradually developed an elaborate system of land registration, business registration, and licensing and auctioning of land use rights as part of the process of infrastructure development.

The work of street building increasingly highlighted the urgency to handle the sewage issue. Canton has a semitropical climate, with huge thunderstorms and monsoons in the summer. Construction of new streets often led to overwhelming the limited drainage capacity of narrow river branches, once prevalent across the city. Maintenance and re-surfacing work had pushed the street level much higher than the small old allies. Loose building materials, dust and garbage got stuck in the storm sewer and led to flooding. The municipal government had to redesign the sewer pipes,

as to their material composition and their diameter, then adjust the design of sand wells and consider how best to connect new to old pipes.<sup>42</sup> But building and upgrading sewer pipes was not merely a technical problem. It also required coordination between Public Works and the Hygiene Department for sewer design, cleaning, upgrade and maintenance.<sup>43</sup> Such coordination and labor division were negotiated, worked out and became formalized as problems such as drainage blockage occurred and requested attention and action.

Street building also included the laying of public walkways adjacent to the street. Such walkways were an integral part of the newly built, arcade-style shop houses (qilou) along the new streets. The ground floor was set back into the building, and the upper floors stretched over the pavements and support by pillars. Each house stood side by side in a row and thus formed a covered corridor for the walkway. The qilou style shop houses and the corridors were commonly found in Southeast Asian cities such as Singapore.<sup>44</sup> They became popular in Canton as the municipal government actively introduced and implemented infrastructure projects, all part of their concept of a modern city. The rise of qilou marked a new spatial separation that is taken for granted in contemporary times: space for vehicles and space for pedestrians.<sup>45</sup> People were no longer the natural users of the streets; vehicles, particularly automobiles, started to claim the streets. When the streets got busy with traffic, parking and driving rules came into being.

Under this new spatial order, the government also started to plan buildings to house market places, relocating an activity previously done as street markets. By doing so, officials hoped to keep the peddlers away from the tidy streets so as to facilitate traffic and maintain the image of the city as composed of organized spaces.



The emerging new urban form, made possible by the infrastructural projects, facilitated the emergence of disciplinary regulations that sought to teach individuals to be civilized citizens, a critical aspect of which was to keep people, animals and objects in their own spaces. Pedestrians should not shout, spit, urinate or defecate in the streets. Pedestrians should dress properly and follow other social etiquettes. People should look after their chickens and ducks, and not let them wander in the streets. Businesses along the new streets were told that they were responsible for the maintenance of the streets and the walkways. They could not extend their business into the streets, including the use of awnings that protruded into the air space of the street or piling their goods on the walkway in front of their stores.

Businesses that specialized in construction and construction materials flourished. By 1930 there were more than 800 such establishments with over 100,000 employees in this industry among a total urban population of roughly 1.1 million. Infrastructural construction became a major impetus for economic growth, different from that in Shanghai that was driven by machine-operating industries.

In slightly less than ten years after the establishment of the municipal government, the old walled city and the west-gate area of Canton had experienced great transformation. A journalist summarized the city's public work achievement in the English newspaper *Far Eastern Review* in 1930: "The City of Canton may be rightly called the most up-to-date city of China to-day, when compared with other cities throughout the land. It is progressive, modern, prosperous and rich."<sup>46</sup> It should be noted that the success of street building and other infrastructural construction in Canton involved a variety of factors, some of which may not be available in other cities. For instance, even though the municipal government had limited money, the development of the real estate market and commerce – the sources that funded many

street building projects --- benefited substantially from investments from overseas Chinese who had hometown connection in this region.

Nonetheless, officials in other cities often considered the infrastructural achievements in Canton as models of indigeneous urban construction.<sup>47</sup> Although Shanghai was generally recognized as a modern metropolis, municipal officials pointed out that the modern part of Shanghai was confined to the foreign concessions, while Chinese-ruled areas remained dilapidated, backward and overcrowded. The metamorphosis of Canton's urban form provided evidence that a Chinese government was capable of building a modern city and, by extension, a modern nation-state.

### **Conclusion: Infrastructure and Urban Governance**

The story of street building here by no means suggests a lineal, causal relationship between different kinds of development and modern-style regulatory regimes in Canton in the 1920s and 1930s. But based on the experience of the 1920s, relatively long-term, step-by-step street construction plans did emerge after Cheng Tiangu assumed his second term as the head of Public Works in the early 1930s. To that point, the infrastructural building process seemed to be an assemblage of separate decisions, often made in a seemingly pragmatic manner to handle immediate situations without clear intention to develop the urban landscape in a systematic way. For instance, street construction was funded, in part, by speculation in the real estate market, which relied on the institutionalization of property rights, land registration and household registration, which changes, in turn, were implemented primarily to collect payments from individuals and businesses.

Large-scale infrastructural construction did not just “facilitate” or “provide the material basis” for “the new government in the exercise of its authority”.<sup>48</sup> Facts on the

ground—the holes, asphalt, water, garbage, and other material conditions—continued to influence the ways in which construction was done, regulations were made, power dynamics were shaped, and even the events were documented. For instance, as described above, holes on an unfinished street deterred customers from coming to shop, thereby driving shop owners to collaborate with the government in finishing the construction, despite their earlier resistance. The holes themselves were the consequence of multiple factors, including materials used for the wheels in combination with the weight of the vehicles and goods. Awareness of such factors prompted the government to change street surfacing materials from gravel and sand to asphalt. Were it not, though, for the specificities of asphalt and its handling, Li Huanqing and his union may have been invisible and anonymous, like many other unions and protests, in official records.

This is not to deny the importance of political struggle, wars, grand vision or intellectual discussion in shaping the new form of urban governance. Though Sun Yat-sen's grand vision of transforming Canton to be a "grand southern port city" might mobilize his followers, he provided no guidelines to implement or realize such a vision on the ground. Critical, specific questions were left unaddressed. What should this port city look like? Which projects should have priority in terms of government funding? Where would government get the money to finance its different building projects? Which government authority should control how much of the various taxes and fees? Which authority should preside over different types of public facilities? Who should pay for maintaining or upgrading the streets?

The handling of these issues did not occur through intellectual debates on abstract principles regarding power and government. Rather, they were presented to government officials through specific questions such as how to remove the debris and

how to fix the holes in new streets. It was in the process of dealing with these practical, concrete issues rather than through debates of political philosophy that political leaders and bureaucrats learned, contested and negotiated the making of their city. They set their administrative priorities, defined and refined their own divisions of labor and responsibility, as well as their relationship with other state authorities and social organizations such as the CCC. It is also in this process of continuous infrastructural building that urban government extended its disciplining power over space and individuals in an unprecedented scale. Yet, with all the conflicts and interests involved, deliberations and decisions in handling infrastructural projects were so mundane, pragmatic, and distant from political mobilization and manipulation, military confrontation and ideological debates among political leaders. Hence, while this is a highly political process, it happened in a way that did not seem overtly political to the most of these historical actors and even to many observers writing histories of modern China.

This does not mean that there was no suspicion, conflicts or struggle. In fact, almost all of the street projects documented some kind of resistance from local communities or individuals. It often took the form of requests for extensions, and sometimes building temporary shelters despite the government's prohibition of such accommodations. Nonetheless, it seemed none of the resistance challenged directly the municipal authority or its power to build. The material aspect of street building generated a certain momentum and gravity, through which even those who were originally against the projects submitted, voluntarily or reluctantly, to the entangled process of infrastructural building and city building.

Street building and subsequent infrastructural projects have reshaped not only the landscape but also the imagination of what is meant to be a city. As mentioned at

the beginning, although observers can describe an urban lifestyle in imperial China, the urban itself was not a category that organized things and people in the Chinese imperial order. In contrast, during the Republican era, there emerged a distinctive way of talking and thinking about cities as an integral part of political endeavors in pursuit of nation-state building and modernity. The rise of the political category of the urban was accompanied with a specific way of seeing and configuring space. A good case in point is an official statement by the Canton government in 1926, the same year the Thirteen-Factory streets were re-surfaced with asphalt,

A city represents a country... For four thousand years, people in our country had been imprisoned within the city walls. Streets were narrow, and houses ragged. There were no railroads or parks. People had not even dreamed of hygiene and aesthetic education. Not until the republic era did people realize the significance of urban life. Therefore, actions were taken to break down the walls, build streets, reconstruct houses and open parks...<sup>49</sup>

The first sentence well exemplifies the new form of governance with new political categories—city and country—and a new way of thinking about the spatial as constituent of the political. The subsequent sentences demonstrate how the emerging city landscape was projected into a negative conceptualization of the past, which legitimized and naturalized the urban and its attributes. The street projects were not only products of, but also fostered, the emerging category of the urban. The streets, and broader built environment, provided a concrete expression of the imaginary and understanding of the urban, or the modern city. This imagination not only belonged to the political elites who drew the maps and planned the infrastructural development. It also belonged to ordinary people who participated and witnessed the construction of

streets, strolled the new walkways, shopped or made a living along these new features of the city. Not least, the idea of municipal government and urban development also became a shared experience and expectation among ordinary citizens through official announcements of the streets projects, rounds of negotiation, payment collection, and dispute resolution. Urban governance became imaginable, thinkable, and practicable.

Such emerging urban governance in Canton and other Chinese cities shared certain similarities with that in other parts of the world in the nineteenth and early twentieth century. In cities such as London, Manchester, and Paris, large, networked infrastructural constructions extended the administrative power of the state, and developed spaces of mobility and circulation.<sup>50</sup> A power-knowledge apparatus emerged, which sought to create a specific type of citizen-subject (as described by Joyce, Otter and others) who knew how to conduct themselves in urban settings.<sup>51</sup> The story recounted here about Republican Canton shows some of these features. After all, as historian William Rowe reminds us, western influence on Chinese city-making was prominent in the early twentieth century.<sup>52</sup> Articles about urban development in foreign cities in GSG records also indicate that government officials were looking around the world for models, inspirations, technologies and rules to develop their own city, not to mention the examples of foreign concessions in their country.

Yet, these similarities coexist with fundamental differences. While it is not the goal of this article to elaborate on them, it is worthwhile to point out that Canton and other Chinese cities did not have the legal structure, political culture or philosophic debates that underlay the emergence of liberal governmentality in cities like London. I would not consider that the new form of governance emerging in China as liberal in any sense of the term, which historical difference also points to the limit of looking exclusively at the built environment to discuss governmentality in different cultures.

Nonetheless, I emphasize that attention to the process in which infrastructural building and urban governance were intrinsically intertwined can provide an alternative perspective and important insights to debates in urban history and material culture. Urban history can be written from various perspectives. In the field of China urban studies, except for a very few exceptions,<sup>53</sup> the metamorphosis of the built environment and its political implications have not received much attention. This article suggests that tracing the life of infrastructures can thread together different kinds of political and social initiatives. This approach provides a good entry to analyze how structural transformations have taken shape on the ground particularly in mundane life, and how urban governance as configured during the early twentieth century has had lasting influence on the rural-urban divide conventionally conceived as a result of Communist China's socialist transformation. An in-depth exploration of urban governance in tandem with infrastructural building may be one way (to paraphrase historian Prasenjit Duara's book title)<sup>54</sup> to rescue urban history from the nation-state, that is, to be cautious about a narrative that is centered around the nation-state and thus struggles for power to control the government but without questioning how things (including government and the country) were materially built and made durable.

The Canton story here is not simply a China story. Growing attention has been devoted to the intersection of infrastructure and urban politics in history and the social sciences. This literature brings infrastructures, the ubiquitous presence of which used to be the background, to the foreground. Scholars draw on empirical studies from different parts of world, particularly in cities in Global South. Albeit the differences in history, culture and social-political conditions, these empirical studies show how the exploration of infrastructural politics can be a viable tool to understand how politics is

not an outcome of merely human actions, but rather entanglement among things, human, and ideas. The Canton story furthers this discussion by making an inquiry into the urban-infrastructure intersection in a context that is rather different from those in many existing works. In the latter, infrastructural politics are premised upon a relatively established form of governance. The form of governance could be a colonial rule in Batavia or Bombay,<sup>55</sup> a post-colonial, elective order in Mumbai,<sup>56</sup> a democratic polity in Sicily,<sup>57</sup> a developmental state in Jimma, Ethiopia,<sup>58</sup> or a post-socialist regime in Vinh City, Vietnam.<sup>59</sup> “Relatively established” does not mean that there are no conflicts or changes in governing practices. Rather, changes in governance tend to be more a matter of gradual and at time contingent change than revolutionary and dramatic. In contrast, urbanization in early twentieth century in China presents a radical break from a very long cultural-political tradition. Representing a more radical and massive transformation than Georges-Eugène Haussmann’s of 19<sup>th</sup>-century Paris, the story of Canton provides a good example to deepen our understanding of the relationships between materiality and human lives and between politics and infrastructure in the creation of urban spaces in different parts of the world.

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### **Notes**

1. Barry, Osborne and Rose, *Foucault and Political Reason*; Foucault, *The Birth of Biopolitic*; Lemke, “The Birth of Bio-Politics!.”
  2. Brook, *The Confusions of Pleasure*; Naquin, *Peking*; Rowe, *Hankow* (1984) and *Hankow* (1989); Shiba, *Zhongguo Dushishi*; Skinner, *The City in Late Imperial China*.
  3. Rowe, “Urban Agency in Early Modern and Modern China,” 125.
  4. Bennett and Joyce, *Material Powers*; Latham and McCormack, “Moving Cities”; Lees, “Rematerializing Geography.”
  5. Bennett and Joyce, *Material Powers*; Lewis, “Comments on Urban Agency”; Santos, “Technological Choices and Modern Civilizing Processes.”
  6. Hodder, *Entangled*; Malafouris, *How Things Shape the Mind*.
  7. Anand, “Pressure”.
  8. See, for example, Graham and Marvin, *Splintering Urbanism*; Graham and McFarlane, *Infrastructural Lives*; Joyce, *The Rule of Freedom*; Mitchell, *Rule of Experts and Carbon Democracy*; von Schnizler, “Travelling Technologies”.
  9. Spence, *The Search for Modern China*.
  10. Blussé, *Visible Cities*; Van Dyke, *The Canton Trade*.
  11. See, for instance, Shao-Hsing-Fu in Watt, “The Yamen and Urban Administration.”
- In cases when the walled city belonged to one county, the county court’s jurisdiction

usually went beyond the walls. See Rowe, “Urban Agency in Early Modern and Modern China.”

12. This does not mean the physical form had never changed over time. Historians have found that variations from the ideal type existed, but the strengthening of orthodox official ideology and the anxiety of re-articulating Han culture and identity had led to more similarities between the actual form of the capital city and the ideal in classic books. See Chang, “The Morphology of Walled Capitals”; Steinhardt, “Why Were Chang'an and Beijing So Different?” and “Mapping the Chinese City.”

13. Commerce existed within the city walls. There were commercial streets in the walled areas of capitals and trading centers such as Kaifeng and Yangzhou since Song dynasty. See Kiang, “Kaifeng and Yangzhou”. But official culture and representation downplayed the commerce and highlighted imperial agencies within the city wall.

14. Lewis, *The Construction of Space in Early China*; Steinhardt, *Chinese Imperial City Planning*; Wright, “The Cosmology of a Chinese City.”

15. Dikötter, *Exotic Commodities*.

16. Cheng, *Cheng Tiangu Huiyilu*.

17. Chen, “Cao Ruying Chaicheng”; Han, Kuang and Huang, “Jiu Guangzhou Chaicheng Zhulu Fengbo.”

18. Hong Kong, Macau and Taiwan are not taken into consideration, because these places were under British, Portuguese and Japanese control during that period.

19. The names of historical figures mentioned in this article follow the Chinese format with the surname first and the given name last.

20. Zhang, “The Rise and Fall of Qilou.”

21. Turner, *The Forest of Symbol*.

22. Cheng, *Cheng Tiangu Huiyilu*.

23. Farris, "Thirteen Factories of Canton"; Liang, *Guangdong Shisan Hang Kao*.
24. Ni, "Guangzhou Chengshi Daolu."
25. Norton, *Fighting Traffic*.
26. Zhang, "The Rise and Fall of Qilou."
27. GSG, 1923, 176-181.
28. GSG, 1926, no. 239, 48.
29. Rowe, *Hankow* (1984) and *Hankow* (1989); Shiba, *Zhongguo Dushishi*; Tsin, *Nation, Governance, and Modernity in China*.
30. Qiu, *WanQing Minguo Chunian Guangdong de Shishen yu Shangren*.
31. GSG, 1927, no. 266, 30-31.
32. GSG, 1925, no. 206, 800.
33. GSG, 1925, no. 197, 482.
34. GSG, 1925, no. 203, 689.
35. GSG, 1926, no. 210, 1064.
36. Carroll, "Huangliang Jingxiang."
37. Cheng, "Guangzhoushi Malu Xiaoshi"; Yu, "Guangzhoushi Malu Gailiang Jingguo ji Baoyang Qingxing."
38. Carroll, *A Concise History of Hong Kong*; Horracks, *The Guangzhou-Hongkong Strike, 1925-1926*.
39. GSG, 1926, no. 222, 33-35; no. 216, 41-43, 48-49; no. 218, 28-29; no. 223-225, 67.
40. GSG, 1926, no. 222, 33.
41. GSG, 1926, no. 244, 56.
42. GSG, 1926, no. 215, 7, 55-56; no. 223-225, 16-17; 1927, no. 256, 35; no. 262-264, 53; 1928, no. 296, 64-65.
43. GSG, 1926, no. 226, 9; no. 228, 47.

44. Lee, "The Singapore Shophouse."
45. Zhang, "The Rise and Fall of Qilou."
46. Lee, "Public Construction in Canton."
47. See, for example, the comments by Dong Xiujia, the head of Public Works in the city of Wuhan, GSG, 1927, no. 259-261, 1-5.
48. Tsin, *Canton, 1900-1927*.
49. GSG, 1926, no. 210, 1072.
50. Mann, "The Autonomous Power of the State."
51. Joyce, *The Rule of Freedom*; Otter, *The Victorian Eye*.
52. Rowe, "Urban Agency in Early Modern and Modern China."
53. For example, Musgrove, *China's Contested Capital*.
54. Duara, *Rescuing History from the Nation*.
55. Kooy and Bakker, "Technologies of Government"; McFarlane, "Governing the Contaminated City."
56. Anand, *Hydraulic City*.
57. Giglioli and Swyngedouw, "Let's Drink to the Great Thirst!"
58. Mains, "Blackout and Progress."
59. Schwenkel, "Spectacular Infrastructure and its Breakdown."

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