



Chinese Economic Statecraft from 1978 to 1989

The First Decade of
Deng Xiaoping's Reforms

Edited by Priscilla Roberts



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Maoist Soldiers as the Infrastructure of Reform: The People's Liberation Army Engineering Corps in Shenzhen

Taomo Zhou

INTRODUCTION

In four decades, Shenzhen, located in South China immediately north of Hong Kong, transformed from a small town of peasants, peddlers, fishermen, and oyster farmers to the forefront of China's adaptation to market principles and opening up to the world. In state narratives, Shenzhen's "rag to riches" story epitomizes the dramatic change in Chinese society from Mao Zedong to Deng Xiaoping. Interestingly, the infrastructure of China's first and most successful Special Economic Zone (SEZ) was constructed by soldiers from the People's Liberation Army (PLA), who personified the Mao-era ethos of selfless pursuit of collective good. Established in 1966, the PLA Engineering Corps (*jiben jianshe gongcheng bing*) played a key role in Mao's Third Front campaign, an

T. Zhou (✉)

Nanyang Technological University, Singapore, Singapore
e-mail: tmzhou@ntu.edu.sg

economic strategy launched in the mid-1960s to strengthen China's national defenses against perceived threats from the Soviet Union and the United States.¹ Between 1979 and 1982, 20,000 troops from the Engineering Corps were transferred from secret or semi-secret heavy industry sites in the interior to Shenzhen, to build roads, water and electricity supply systems, and public and commercial buildings. Most famously, they constructed the 160-meter International Trade Center—the tallest building in China at the time and the landmark where Deng affirmed the success of the SEZs during his 1992 Southern Tour—at the rate of “one floor every three days,” making “Shenzhen Speed” an everyday expression for efficiency among the general population awakening from the Cultural Revolution.² In 1983, in accordance with Deng's decision to downsize the PLA, the Engineering Corps members were discharged from active duty and transitioned into civilian posts in either the Shenzhen Municipal Government or State-Owned Enterprises (SOEs). They were offered Shenzhen urban household registration (*hukou*) and became the first and largest batch of state-sponsored migrants in this emerging metropolis.

This chapter tells the story of how Mao's soldiers forged the infrastructure of reform in the Shenzhen SEZ—the very hallmark of Deng's economic statecraft. Borrowing from recent scholarship in geography and sociology, infrastructure is defined in both material and normative terms, including highways, pipes, cables, and wires as well as work ethics, managerial styles, and social networks. The PLA Engineering Corps not only built the physical infrastructure that facilitated economic exchanges during China's marketization; they also served personally as the *human infrastructure* that mediated relations between China and the global capitalist economy.³ During the Mao era, the Engineering Corps had been known for their endurance under harsh working environments. Deng

¹ Covell F. Meyskens, *Mao's Third Front: The Militarization of Cold War China* (Cambridge University Press, 2020).

² Juan Du, *The Shenzhen Experiment: The Story of China's Instant City* (Cambridge, MA: Harvard University Press, 2020), 170.

³ AbdouMaliq Simone, “People as Infrastructure: Intersecting Fragments in Johannesburg,” *Public Culture* 16: 3 (Fall 2004): 407–429; Brian Larkin, “The Politics and Poetics of Infrastructure,” *Annual Review of Anthropology* 42: 2 (October 2013): 327–343; and Laleh Khalili, “The Infrastructural Power of the Military: The Geoeconomic Role of the US Army Corps of Engineers in the Arabian Peninsula,” *European Journal of International Relations* 24: 4 (December 2018): 911–933.

strategically mobilized this highly disciplined labor force of Mao's relatively closed command economy to construct the transportation and telecommunication networks that facilitated the circulation of commodities and capital between China and the world. Although Deng resolved to end the excessive ideological campaigns of Mao's time, he was determined to prevent political relaxation from leading the country to "bourgeois liberalization."⁴ As the embodiment of Maoist norms of "hard working and frugal living (*jianku pusu*)," the Engineering Corps were goodwill ambassadors for Deng's "socialist spiritual civilization." Their settlement in Shenzhen at the birth of the SEZ helped the city "maintain China's communist heritage" while undergoing economic liberalization.⁵

This chapter extends, moreover, beyond the 1980s, to trace the trajectories of upward and downward social mobility construction soldiers experienced after their demobilization. After forty years of settlement in Shenzhen, the various ex-servicemen have developed uneven relationships with Shenzhen's metropolitan development and attained drastically different levels of material well-being. Among them rose Ren Zhengfei, the CEO of Huawei, the world's largest telecommunications equipment manufacturer. In November 2005, more than 3,000 demobilized Engineering Corps members, angry with the ungenerous compensation schemes offered by privatizing SOEs in exchange for the termination of relations with their staff (*maiduan*), organized a sit-in before the Shenzhen Municipal Government headquarters and were ultimately dispersed by riot police.⁶ The construction soldiers' individual biographies are intertwined with China's marketization under the influence of rising neoliberalism worldwide. While those in relatively privileged positions today call themselves "a troop that disappeared in the city" to describe how the former Engineering Corps members have been fully absorbed into Shenzhen's social fabric, those harboring grievances do not share the same sense of belonging. Ironically, the infrastructure they built produced an economic mechanism that led to their exclusion from the opportunities and developments of Reform.

⁴ Xiaoming Zhang, *Deng Xiaoping's Long War: The Military Conflict Between China and Vietnam, 1979–1991* (Chapel Hill: University of North Carolina Press, 2015), 169.

⁵ Ezra F. Vogel, *Deng Xiaoping and the Transformation of China* (Cambridge, MA: Harvard University Press, 2013), 51; and Zhang, *Deng Xiaoping's Long War*, 169.

⁶ "Riot Police Move in to Free Mayor; Ex-PLA Men Protest in Shenzhen for Better Compensation," *South China Morning Post*, 8 November 2005.

A RIFLE IN ONE HAND AND A HOE
IN THE OTHER: THE EARLY HISTORY
OF THE PLA ENGINEERING CORPS, 1966–1979

The creation, transformation, and ultimate dissolution of the PLA Engineering Corps were shaped by changes in China's geopolitical outlook and economic statecraft from Mao to Deng. In the early 1960s, increasing American military involvement in Indochina, the deepening of the Sino-Soviet schism, and the escalation of border conflicts between China and India gave rise to a sense of insecurity among the PRC's leaders. Mao Zedong found particularly alarming the worst-case scenario in which China would be surrounded by hostile forces from all directions: The Soviets from the North, the Americans from the South, the Indians from the West, and the Chinese Nationalists based in Taiwan from the East. Fearing military conflicts with China's Cold War rivals, Mao proposed to relocate China's key industrial bases to the safer interior so as to reduce China's vulnerability to foreign attack. Moreover, industrializing landlocked provinces such as Guizhou, Gansu, Ningxia, and Qinghai would address the regional disparity between the Pacific-facing coast and the economically stagnant inland.⁷ With support from Mao, Gu Mu, the director of the State Construction and Planning Commission (*guojia jianshe weiyuanhui*), institutionalized the Engineering Corps as a militarized labor force. Between 1966 and 1978, various regiments of the Engineering Corps carried out projects such as constructing the China-Pakistan Friendship Highway, exploring and extracting uranium and gold in Xinjiang, and building oil and gas industries in the Northeast and hydropower plants in the Southwest.⁸

Deng's ascendance to power brought another restructuring of the Chinese national economy and a reorientation of the country's regional development strategies. As the central government's economic goals shifted from maximizing heavy industrial output to improving the living

⁷ Meyskens, *Mao's Third Front*.

⁸ History and Encyclopedia Research Group, the Academy of Military Science of the Chinese People's Liberation Army [hereafter AMCPLA], *Zhongguo renmin jiefangjun jiben jianshe gongchengbing shi* [A History of the People's Liberation Army (PLA) Engineering Corps] (Beijing: Junshi Kexue Chubanshe, 2015), 28.

standards of the general population, the Engineering Corps were operating below full capacity due to a contraction of infrastructural investment in the late 1970s. Although the westward industrial expansion during the Third Front campaign helped bridge the gap between inland and coastal regions, the capital-intensive industrial complex exacerbated overall consumer austerity.⁹ The Deng administration ceased channeling funds to industrial projects in the interior, which imposed heavy financial drains on the government budget but generated little profit. In 1979, 70,000 out of 3.5 million PLA Engineering Corps were “forced into idleness (*wogong*).”¹⁰ In the aviation industry, for example, many projects commissioned to the Engineering Corps were suspended.¹¹

Both the initial recruitment and ultimate demobilization of the Engineering Corps reflected the fluidity of the military-civilian divide during China’s “long 1970s” and the changing role of the PLA in the country’s modernization.¹² The fusion of civilian and military functions had been one of the Engineering Corps’ main characteristics at its birth, captured in Zhou Enlai’s pithy description of the construction soldiers as holding “a rifle in one hand and a hoe in the other (*yishou na qiang, yishou na gao*).”¹³ More than 20,000 members of the Engineering Corps who had been civilian technical staff on Third Front projects were later incorporated into the PLA. In Deng’s view, however, the expansion of the PLA during Mao’s final years had brought corruption, low efficiency, and poor morale, “bloating” he was determined to eradicate. In March 1983, Deng announced the decision to reduce military personnel. To minimize the PLA’s involvement in non-defense affairs, the Engineering Corps became the first division to be demobilized.¹⁴ Deng also believed

⁹ Barry Naughton, *The Chinese Economy: Transitions and Growth* (Cambridge, MA: MIT Press, 2007), 55; and Meyskens, *Mao’s Third Front*, 2–3.

¹⁰ AMCPLA, *Zhongguo renmin jiefangjun jiben jianshe gongchengbing shi*, 120.

¹¹ Liu Gengshen, “Duanzan de lishi, shenke de jiyi—yi di sanshiyi zhidui de lishi guiji” [Short History, Deep Memories—Remembering the Historical Trajectory of the No. 31 Regiment], in *Zhuanzhan nanbei, zhagen Shenzhen—jiben jianshe gongchengbing huiyishiliao Shenzhen bianjizu* [Memories of the People’s Liberation Army Engineering Corps in Shenzhen], ed. Duan Yabing (Haikou: Hainan Chubanshe, 2013), 11.

¹² Priscilla Roberts and Odd Arne Westad, eds., *China, Hong Kong, and the Long 1970s: Global Perspectives* (London: Palgrave Macmillan, 2017).

¹³ AMCPLA, *Zhongguo renmin jiefangjun jiben jianshe gongchengbing shi*, 8.

¹⁴ AMCPLA, *Zhongguo renmin jiefangjun jiben jianshe gongchengbing shi*, 584.

the Soviet model of strict separation of military and civilian production to be unprofitable and showed great interest in Japan's experience of converting military industries to civilian use. He supported the migration of more advanced military technology to the civilian realm and urged the discharged troops to use their resources and experiences to meet rising consumer demand in the marketplace.¹⁵ Following Deng's directives, from the early 1980s, leaders of the Engineering Corps no longer passively awaited assignments from the Central Government but proactively marketed themselves and sought commercial projects through their own personal networks, or in their own words, began to "look for the rice to cook in the pot (*zhaomi xiaguo*)."¹⁶ Thus began their transformation from Mao's soldiers to stakeholders in Deng's Reforms.

SEASONED SOLDIERS DEFENDING THE FRONTIER OF REFORM: THE PLA ENGINEERING CORPS ARRIVES IN SHENZHEN, 1979–1983

In 1979, Gu Mu, the political commissar of the PLA Engineering Corps and director of the State Council's newly established SEZ Office (*guowuyuan tequ bangongshi*), ordered the transfer of troops to Shenzhen to "kill two birds with one stone"—to channel the construction soldiers out of active military duty and to build infrastructure quickly and economically in Shenzhen. Whereas Third Front construction was stalled, building infrastructure had become an urgent priority in Shenzhen.¹⁷ The city's geographical precursor, Bao'an County, had been an impoverished border town known as the gateway for illegal migration to Hong Kong. In 1980, the PRC State Council designated a territory of 327.5 square kilometers to the north of Hong Kong as the "Shenzhen SEZ," encouraging foreign investors to establish enterprises. As Lawrence C. Reardon notes (Chapter 2), despite the allure of this new policy and the city's advantageous geographic location, Shenzhen had neither the physical infrastructure to support economic production nor the manpower to build it. In March 1979, Major General Chang Shengrong, secretary

¹⁵ Vogel, *Deng Xiaoping and the Transformation of China*, 548, 550.

¹⁶ AMCPLA, *Zhongguo renmin jiefangjun jiben jianshe gongchengbing shi*, 121–123.

¹⁷ Duan Yabing, *Shenzhen tuobuang jishi* [A Record of Pathbreaking in Shenzhen] (Beijing: Renmin Chubanshe, 2018), 2.

of the Party Committee of the PLA Engineering Corps Headquarters in Beijing, arrived to inspect and survey Shenzhen. It took him six to eight hours to travel to Shenzhen by automobile from Guangzhou (Canton), the capital of Guangdong Province, a bumpy road trip further delayed by two connecting ferry rides.¹⁸ Ma Chengli, the deputy chief of staff of a pioneer division (*xianqian dui*) of the Engineering Corps, remembered seeing barely any asphalt road in Shenzhen during his first visit in summer 1979. Donkeys were the most commonly used means of transporting goods. Since Shenzhen was surrounded by hills, it was also technically difficult to build flat and smooth roads to improve the city's regional connectivity.¹⁹ Moreover, the Bao'an County Construction Planning and Deployment Office (*Bao'an xian jianzhu tiaopei suo*), a collective enterprise established in 1957 and the sole professional construction team in the city by 1979, had lost most of its staff members due to the incessant flight to Hong Kong of young, able-bodied males.²⁰ After their arrival in Shenzhen, the construction soldiers jokily code-named the residents left—most of them women, children, and the elderly—as “Division 38–61–99” because in the Chinese calendar, Women's Day is celebrated on March 8, Children's Day on June 1, and the Chongyang Festival, which honors the elderly, on September 9.²¹

Soldiers arriving at different times and from varying social and educational backgrounds had disparate experiences of being mobilized to construct Shenzhen. Between October and December 1979, the first batch of the Engineering Corps was deployed to Shenzhen in a hurried and abrupt move shrouded in secrecy, resembling the labor mobilization and transfer methods used during the Third Front campaign.²² Li Guodong, a battalion commander of the No.1 Pioneer Division, recalled receiving a late-night telephone call in December 1979 from his superior, when stationed at the Dongjiang Hydro-power Plant in Hunan. An urgent order required him to transfer his subordinates to Shenzhen in less than 48 hours with no information as to the reason, leading Li to suspect

¹⁸ Ibid., 2.

¹⁹ Ma Chengli, interview, 20 December 2019.

²⁰ Liao Chenglin, ed., *Liangwanren de 20 nian* [20 Years of 20,000 People] (Shenzhen: Xinshiji Chubanshe, 2003), vol. 1: 105.

²¹ Liu, “Duanzan de lishi,” 20.

²² Meyskens, *Mao's Third Front*, 118.

that an international conflict had broken out in Hong Kong. It turned out that the “battle” waiting for Li and his troops in Shenzhen was truly international in nature: they were directed to construct factory buildings for the Japanese company Sanyo, one of the most important initial investors in Shenzhen.²³ The Pioneer Division erected the Shenzhen government offices and the city’s first high-rise—the 20-story Shenzhen Electronics Building—and renovated the Lo Wu railway station, the first stop for foreign visitors to China and a crucial outpost for promoting the country’s global image. Impressed by their performance, Shenzhen mayor Liang Xiang negotiated with the Engineering Corps headquarters for a further transfer of soldiers. In 1982, the PLA central committee agreed to assign to Shenzhen 20,000 soldiers together with equipment worth more than 51 million yuan.²⁴ In return, the Shenzhen Government promised the PLA it would assist these soldiers in their transition to civilian life by providing them with urban household registration (*hukou*), jobs in state sectors, and subsidized welfare housing.²⁵ Between November 1982 and June 1983, more than 18,000 additional soldiers from Hubei, Shanxi, and Liaoning arrived in Shenzhen.

In the 1970s, the PLA was an important mechanism of upward mobility for young men, especially those from the countryside. Besides the economic benefits of military welfare, many recruits associated their PLA membership with honor and prestige for themselves and their families. Consequently, many construction soldiers regarded their dismissal from the PLA as downgrading them within the social hierarchy. Although Deng had since the late 1970s been planning a major downsizing of PLA service personnel, ordinary soldiers were not officially informed of this decision. Since around 1981, however, news had circulated informally that the Engineering Corps was to be disbanded. While the 2,000 soldiers in the pioneer division had no choice but to follow strict orders from above, the later batches had advance knowledge of their upcoming discharge from the military and varying degrees of agency regarding where they wished to start their lives anew as civilians. Officers had the choice of transitioning to civilian life either in Shenzhen, or at the sites where they were stationed prior to Shenzhen, or of returning to their places of origin

²³ Duan, ed., *Zhuanzhan nanbei, zhagen Shenzhen*, 18–19.

²⁴ AMCPLA, *Zhongguo renmin jiefangjun jiben jianshe gongchengbing shi*, 605.

²⁵ Duan, *Shenzhen tuohuang*, 42–45.

(*yuánjì*), that is, the location of their pre-enlistment household registration. Young soldiers—many of whom disliked the prospect of living in the little-known border town of Shenzhen—formally received little choice. Some with political connections managed to have themselves transferred out of the assignment to Shenzhen; others had no alternative but to obey the state’s direction. Tian Shujun, then a 24-year-old soldier stationed at an oil refinery in Jinzhou, Liaoning Province, recalled his sense of confusion and disappointment upon receiving his transfer order in 1982. He did not know how to pronounce “Zhen” (圳), the second character in the name of Shenzhen, and had to look it up in a dictionary. He tried to locate the city on a map but failed. Yet, being indoctrinated that “a soldier is like a block of brick, it should be moved to wherever it is needed” (*dangbing jiushi yikuai zhuān, nali xuyao nali bàn*), Tian traveled for seven days in a tanker car (*menguang chē*), to be welcomed upon his arrival on the dark and rainy night of 18 December 1982 by Teresa Teng’s “soft and decadent” (*mimi zhiyin*) love songs.²⁶

In general, Engineering Corps members with superior academic credentials tended to view their relocation to Shenzhen more optimistically. Ma Chengli, a graduate of Qingdao Architecture Engineering College (*Qingdao jianzhu gongcheng xuexyuan*), discerned abundant new opportunities in Shenzhen. Ma reasoned that the city’s urgent need for professionals in the construction industry meant faster promotion for technocrats like himself, whose landlord family origin had proved a great disadvantage to his career through the early and mid-1970s at the Great Wall Steel Factory (codename 302) in Jiangyou, Sichuan Province, which produced special alloy steel for military use.²⁷ Duan Yabing, a propaganda cadre working at the Ma’anshan Steel Factory in Zhejiang Province, was dispatched to Shenzhen in 1982 in a pilot investigation team to gather information on the city. At that time, Ma’anshan was an established industrial hub and the steel factory, managed by the well-funded metallurgical and geology bureau, that provided privileged SOE welfare for its discharged soldiers. Duan nevertheless succeeded in persuading many of his colleagues to give up the stability and comfort of Ma’anshan for Shenzhen. He was impressed by the dynamic cross-border circulation of popular culture and consumer goods, ranging from Hong Kong radio

²⁶ Tian Shujun, interviews with author, 2 December 2017, and 7 July 2019, Shenzhen.

²⁷ Ma Chengli, interview with author, 20 December 2019, Shenzhen.

and television shows that could be easily picked up by fish-bone-shaped antennae to a colorful variety of food, drink, light industrial products, and electronics, including Doll-brand instant noodles, San Miguel beer, Lux soap, and Sanyo radios. In a brochure he wrote and distributed among the Engineering Corps in Ma'anshan, Duan predicted that by the year 2000, Shenzhen would become a city of 800,000 residents. Privately, he reasoned that in a worst-case scenario, with Mao-era political campaigns resurgent and the advocates of reform coming under attack, Shenzhen would maintain an acceptable standard of living, given its strategic location. Outdone by reality, Duan's prediction was proven wrong: by 2000, Shenzhen's population had grown to more than 4 million.²⁸

Despite the shift from the Mao-era's focus on class labels to the Deng era's emphasis on educational attainment, Deng used the ideological endowment of the centralizing Maoist state to jump-start reform. In Shenzhen, the Engineering Corps continued to use militarized language to describe building civilian infrastructure, comparing construction sites to battlefields and equipment to weapons, and referring to themselves as "old soldiers fighting on the frontier of Reform and Opening Up (*zhandou zai gaige kaifang qianyan de laobing*)."²⁹ The Maoist norms of asceticism and putting work before personal comfort prepared the construction soldiers for their primitive living conditions in Shenzhen. The Engineering Corps slept in temporary bamboo huts set up at the construction sites, which barely protected them from subtropical downpours and heat and were frequently invaded by armies of rats, snakes, lizards, and mosquitoes.³⁰ Back in the hinterlands, the soldiers procured their own food and water by making use of local resources. The same principles of self-reliance and self-sufficiency guided the Engineering Corps in Shenzhen, who recycled water from kitchens to outhouses and ate captured wildlife such as snakes.³¹ The "lucky" few occasionally feasted on beef and lamb stews, which they learned later were sourced from dead, sick, or injured animals transported from the interior to Hong Kong that

²⁸ Duan Yabing, "Xuanze Shenzhen—Duan Yabing huiyilu," in Duan, *Shenzhen tuohuang*, 153–178; and Duan Yabing, interview with author, 11 July 2017, Shenzhen.

²⁹ Meyskens, *Mao's Third Front*, 172; and Liao, *Liangwanren de 20 nian*, vol. 1: 90.

³⁰ Du, *The Shenzhen Experiment*, 30; and Ma Chengli, interview with author, 20 December 2019, Shenzhen.

³¹ Meyskens, *Mao's Third Front*, 131; and Liao, *Liangwanren de 20 nian*, vol. 1: 48, 55.

had failed to meet the food safety standards for export.³² At the Third Front as well as in Shenzhen, intensive manual labor compensated for the absence of modern machinery. When unclogging a tunnel in Shenzhen city center blocked with feces, the soldiers relied on basic tools such as shovels and pickaxes, but mostly, their bare hands.³³ When a strong typhoon wiped out the barracks of the construction soldiers in September 1983, to boost morale they sang words from *The Internationale*, “No savior from on high delivers, let us save ourselves.”³⁴

“AGONY AND DIGNITY OF THE 20,000”: DEMOBILIZATION AND DEPRESSION, 1983–1986

Less than a week after this cyclone hit Shenzhen, during a bittersweet ceremony held at the Shenzhen Theater, Mayor Liang Xiang announced the official demobilization and resettlement of the Engineering Corps. Of the 20,000 soldiers who doffed the PLA uniform that had been a Mao-era symbol of respectable social status and economic security, between 5,000 and 8,000 Communist Party Cadres took up civil service positions in the Shenzhen Municipal Government. The remainder joined a new SOE—the Special Economic Zone Construction Company (*tequ jianshe gongsi*), renamed the Shenzhen Construction Group (*Shenzhen jianshe jituan*) following SOE restructuring. The organizational structure of the Engineering Corps survived in the new cooperative framework: different regiments were transformed wholesale into subsidiary companies under the Shenzhen Construction Group. Regiment No. 1 became the Shenzhen No.1 Construction Company, for instance, Regiment No. 16 the Shenzhen No. 2 Construction Company, and the political commissars or regimental commanders were retitled as general managers.³⁵ Despite their stability of personnel, these repackaged entities received significantly reduced state financial support.³⁶ Moreover, whereas between 1979 and

³² Duan, “Xuanze Shenzhen,” 158–159.

³³ Meyskens, *Mao's Third Front*, 131–133; and Shenzhen Museum, *Shenzhen tequ shi* [A History of Shenzhen Special Economic Zone], rev. ed. (Beijing: Renmin Chubanshe, 1999), 77.

³⁴ Liao, ed., *Liangwanren de 20 nian*, vol. 1:61–63; and Du, *The Shenzhen Experiment*, 165.

³⁵ AMCPLA, *Zhongguo renmin jiefangjun jiben jianshe gongchengbing shi*, 605.

³⁶ Liao, ed., *Liangwanren de 20 nian*, vol. 1: 72–73.

1983, the Engineering Corps had no rivals on the Shenzhen construction scene, because most private construction teams were unsure about the future of SEZ and reluctant to enter the Shenzhen market, by the time the Corps was dismissed, operators from all over China were rushing into Shenzhen as they sensed the promising prospects its development offered.

Facing fierce competition, the demobilized Engineering Corps renewed their Maoist ethics and “guerilla-style” management.³⁷ A commander-turned-CEO concluded that the demobilized Engineering Corps’ greatest advantage was that they “are soldiers and remain soldiers even after taking off military uniform [that is, after being formally dismissed]. The troops remain well coordinated, highly disciplined, tightly managed.”³⁸ In the past, spurred by looming potential military conflict between China and its Cold War rivals, the construction soldiers had developed a combat style of round-the-clock operations. As civilian employees, they continued to push themselves to extremes to meet the demanding deadlines common during Shenzhen’s infrastructure boom of the early 1980s—sleeping and working on the construction site during “wars of annihilation”—while applying the “huge-crowd Strategy (*renbai zhanshu*)” to overcome technical deficiencies with large labor brigades working like “ants gnawing on a bone (*mayi ken gutou*).”³⁹ Wang Jiayu, a former PLA Engineering Corps thought and politics officer, “recycled” some revolutionary propaganda methods for marketization when he became CEO of the Shenzhen Construction and Interior Design Group Limited (*Shenzhen shi jianzhu zhuangshi jituan youxian gongsi*). When bidding for a tender, Wang successfully won over the potential client by vowing to “make the red flag fly high on the top of the hill (*ba hongqi chadao shanding*).”⁴⁰

In this new environment Deng had created, the “good tradition of the PLA”—the public image of military men as altruistic, honest, righteous, and concerned with long-term public goods rather than short-term

³⁷ Elizabeth Perry and Sebastian Heilmann, “Embracing Uncertainty: Guerrilla Policy Style and Adaptive Governance in China,” in *Mao’s Invisible Hand: The Political Foundations of Adaptive Governance in China*, eds. Elizabeth Perry and Sebastian Heilmann (Cambridge, MA: Harvard University East Asian Center, 2011), 7.

³⁸ Liao, ed., *Liangwanren de 20 nian*, vol. 1: 98.

³⁹ Liao, ed., *Liangwanren de 20 nian*, vol. 1: 171.

⁴⁰ Wang Jiayu, “Cong junying zouchu de zhuangshi jinlv,” in Duan, ed., *Zhuangzhan nanbei*, 64–65.

personal monetary interests—was converted into marketable brand identities by some of the SOEs dominated by demobilized Engineering Corps. Yet the Mao-era moral requirements for soldiers to be indifferent to mercenary calculations and the pursuit of personal material well-being also hindered their adaptation to the market economy. As early as 1981, Ma Chengli introduced financial incentives to the PLA. During the building of a carpark at the Man Kam To checkpoint between Shenzhen and Hong Kong, Ma offered to pay a bonus to construction soldiers who exceeded the assigned workload, greatly accelerating progress on the project. Those who outperformed each received a bonus of over 10 RMB, equivalent at that time to one month's wages. When this unusual practice spread to the PLA Engineering Corps headquarters, the leaders expressed concern over the negative impacts of such monetary stimulants. Yet Ma was adamant that exceptions should be made in the SEZ.⁴¹ When Shenzhen experimented with a tender bidding system in the mid-1980s, the financial structure of the SOEs as well as the veterans' mentality prevented them from offering bribes or entertainment to those making bids or the brokers acting as middlemen, leaving them at a disadvantage by comparison with more flexible private enterprises. A regiment-commander-turned-general-manager once asked a broker if he would issue a receipt when the latter requested a 3 percent kickback on a 150 million RMB project. Baffled by this naïve request, the contractor left, taking his business with him.⁴²

In 1986, a recession hit the construction sector in Shenzhen hard, causing economic difficulties among the former soldiers.⁴³ In order to “cool down” the overheated national economy, in December 1985, Gu Mu called a “Special Economic Zone working meeting” in Shenzhen, where he expressed concern over the “overly expanded” infrastructure in Shenzhen and suggested a 40% reduction. Li Hao, who took office in 1985, recalled that his first mission as the new mayor of Shenzhen was to lay off 100,000 construction laborers and suspend work on more than 60 high-rise blocks.⁴⁴ The retrenchment compelled some former Engineering Corps members, usually those who managed to find employment opportunities back in their home cities, to leave Shenzhen. Among those

⁴¹ Duan, *Shenzhen tuobuang*, 27–28.

⁴² Duan, *Shenzhen tuobuang*, 215.

⁴³ Du, *The Shenzhen Experiment*, 180.

⁴⁴ Duan, *Shenzhen tuobuang*, 125.

who stayed, many felt betrayed because the Shenzhen Government had failed to honor its promise to grant their SOEs favorable consideration when assigning government-directed construction projects. In “Agony and Dignity of the 20,000,” an investigative report published in 1986, Duan Yabing, the propaganda officer from Ma’anshan, and novelist Wu Qitai depicted the struggles of former Engineering Corps personnel to survive financially: the single young males starting “riots” by hurling empty wash basins and beer bottles out of their dormitory windows; those with no income spending all day in bed so as to reduce their calorie intake to the minimum; and the wives of the now unemployed veterans scavenging for leftover vegetables in local markets.⁴⁵ Duan commented:

Shenzhen adopted this troop [the PLA Engineering Corps] as her own child, only to dump this boy into the sea and ask him to swim by himself in the sea of the market economy. Born under the socialist command economy and the highly regimented structure of the PLA, this child had no idea what a market economy was and how to swim in its turbulences by himself. No wonder he was choked by water!⁴⁶

To alleviate their grievances, the government altered its previous policy of open tender-bidding for all its projects and reserved some special quotas for the veterans.

FROM SOLDIERS TO SHAREHOLDERS: THE SOE REFORMS, 1986–2020

Sociologist Ching Kwan Lee has compared and contrasted two kinds of labor unrest in China: the “protest of desperation” by laid-off and retired workers in the Northeastern industrial heartland versus the “protest against discrimination” by young rural migrant workers in the coastal South—the powerhouse of export-driven economic growth. The protests of the former Engineering Corps in 1986 and 2005 present an interesting

⁴⁵ Wu Qitai and Duan Yabing, “Liangwan ren de tongku yu zunyan,” *Tequ wenxue*, 1986, reprinted in Duan Yabing, *Shenzhen tuohuangren—jijian gongchengbing chuanguye jishi* [Groundbreakers of Shenzhen: A Record of the People’s Liberation Army Engineering Corps] (Beijing: Renmin Chubanshe, 2014), 179–228.

⁴⁶ Duan, *Shenzhen tuohuang*, 133.

case of “rustbelt”-style unrest occurring at the heart of the “sun belt.”⁴⁷ Interestingly, in terms of the causes and nature of their grievances, the former construction soldiers of Shenzhen had far more in common with the “blue collar victims” of reform in the faraway Northeast than the migrant workers who dwelt in the same city with them. From the time of Deng’s Southern Tour of 1992, reconstituted businesses from the Engineering Corps were forced to accept tough budgetary constraints and pressured to develop into self-financing, profit-maximizing enterprises.⁴⁸ By 2005, all the SOEs restructured from the Engineering Corps had been corporatized. One real estate company (Jian’an Group), considered to be of particular strategic value, remained under Central Government control. The remaining companies were either sold to their leaders in the management buyout process or became hybrid firms with varying degrees of private ownership. To cut costs, many now privatized companies severed formal labor relations with the relatively low-educated, low-skilled former construction soldiers with lump-sum payments that monetized their past services (*maiduan*). By doing so, these enterprises freed themselves from providing future social protection—such as medical care and pensions—to the bought-out workers.⁴⁹ Sideline operations that used to provide collective welfare but were no longer profitable, such as small factories built for the Corps’ family members (*jiashu chang*), were also shut down.⁵⁰

In most cases, former construction soldiers who experienced downward mobility had been new PLA recruits from the countryside (aged between 18 and 20) when they arrived in Shenzhen. By the time of the SOE reforms, they had reached middle age and were unable to adapt to the new demands of the Shenzhen labor market. Like the Northeastern industrial workers “disenfranchised” by the collapse of the socialist work unit, they were nostalgic for the “moral economy” of the Mao era, during

⁴⁷ Ching Kwan Lee, *Against the Law: Labor Protests in China’s Rustbelt and Sunbelt* (Berkeley: University of California Press, 2007).

⁴⁸ William Hurst, *The Chinese Worker After Socialism* (Cambridge: Cambridge University Press, 2009), 37.

⁴⁹ Hurst, *The Chinese Worker After Socialism*, 79.

⁵⁰ PLA Engineering Corps Memory and History Materials Compilation Group, ed., *Zhongguo renmin jiefangjun jichu jianshe gongchengbing jiti zhuanke Shenzhen zhanyou minglu* [Name Lists of Demobilized PLA Engineering Corps in Shenzhen] (Shenzhen, 2015).

which they enjoyed state guarantees of economic security and social prestige.⁵¹ In Shenzhen, the PLA Engineering Corps proudly distinguished themselves from the self-sponsored, economically motivated migrants. Having arrived at a time when the city's future was still uncertain and its status very low in the spatial hierarchy of China, the construction soldiers believed that as firstcomers, they were entitled to preferential treatment from the state. The laid-off veterans felt left out from China's economic liberalization even though they had built Shenzhen—a city emblematic of the success of Reform—from scratch. Many viewed the changes in reward mechanisms from the 1970s to the present as unfair to themselves. When their productivity was at its peak, their incomes did not follow market mechanisms but were determined by state distribution; when their competitiveness on the labor market declined due to their age and low educational level, they were expelled from the protective shell of the socialist system.

Mirroring the situation in the Northeast and other inland regions, marketization in Shenzhen reinforced some pre-Reform hierarchies within the Engineering Corps.⁵² The majority of those with higher military rankings before the dissolution of the Engineering Corps transitioned into managerial positions in the Corps-dominated SOEs. Most of these “winners” of reform already had a head start during the socialist era, and they transformed their pre-Reform political credentials into financial stability and respectable social status in the new market environment. “Old revolutionary” Zong Dechun, for instance, joined the PLA in 1959 at the age of eighteen. Between 1968 and 1970, at the height of the Sino-Soviet split, he dug tunnels on the China-Mongolia border, and later built a missile base in Qinghai and airfields in Guizhou. By the time he arrived in Shenzhen in 1983, he had already risen to the level of regimental director of political affairs. Reform for Zong was a parallel transfer: he was first assigned as the deputy party secretary of the Shenzhen No. 5 Construction Company and later became the HR director of the Shenzhen Construction Group.⁵³ The SEZ also proved to be a place conducive to the rapid rise of “red engineers”—people who received

⁵¹ Lee, *Against the Law*, 12; and Joel Andreas, *Disenfranchised: The Rise and Fall of Industrial Citizenship in China* (Oxford: Oxford University Press, 2019).

⁵² Hurst, *The Chinese Worker After Socialism*, 103.

⁵³ Zong Dechun, interview with author, 9 July 2019, Shenzhen.

training at technical universities in the 1960s and 1970s—in light of the celebration of science and knowledge under Deng described elsewhere in this volume by Shu Guang Zhang and Hua Zheng (Chapter 4).⁵⁴ Technocrat Ma Chengli arrived in Shenzhen in 1979 as the deputy chief of staff of the Pioneer Division. After the Engineering Corps entered the civilian economy, in 1983, Ma took the position of General Manager of the Shenzhen Properties Company (*Shenzhen wuye gongsi*). Following the SOE restructuring, he became the Chairman and General Manager of the Shum Yip Holdings Company Limited in Hong Kong (*Xianggang shenye jituan*).⁵⁵

For the Engineering Corps members, Reform transformed the military hierarchy of the Mao era into an economic and social divide. Once outside the confined PLA environment, the widening gap between the elites and the underprivileged became painfully visible and no longer easily justifiable. The persistence of planning-era power structure is common in many reforming SOEs all across China.⁵⁶ What made Shenzhen unique was that the concentration of old elites from the Corps in real estate development exacerbated this process of stratification. By the late 1970s, thanks to the geographical marginality of Bao'an County and its chronic problem of population outflow to Hong Kong, the Chinese Communist Party (CCP) had weak representation in Bao'an and a great demand for reliable and competent cadres. In 1983, more than one-third of demobilized officers were Party members, constituting one-fifth of the total number of CCP members in the SEZ.⁵⁷ Between 5,000 and 8,000 ex-servicemen filled the administrative ranks of the city government, especially offices related to urban construction, such as the Planning and Land Resources Bureau (*guotu guihua ju*).⁵⁸

While their old “comrades-in-arms” took over decision-making positions in the city government, the managers of Corps-dominated SOEs gained new economic capital—land. In December 1987, the Shenzhen People's Congress approved the Shenzhen Special Economic Zone Land

⁵⁴ Joel Andreas, *Rise of the Red Engineers: The Cultural Revolution and the Origins of China's New Class* (Stanford: Stanford University Press, 2009).

⁵⁵ Ma Chengli, interview with author, 20 December 2019, Shenzhen.

⁵⁶ Hurst, *The Chinese Worker After Socialism*, 101–106.

⁵⁷ Duan, *Shenzhen tuobuang jishi*, 354.

⁵⁸ Liao, ed., *Liangwanren de 20 nian*, vol. 1: 147.

Management Decree (*Shenzhen jingji tequ tudi guanli tiaoli*). This legislation signified a fundamental change: the right to use land could now be transferred or mortgaged for compensation. For the Corps-run companies, most of which were in the construction sector, land thus became the biggest source of capital, or the hen that bears golden eggs.⁵⁹ These companies soon devised a new “snowball” strategy, in which they used their land as mortgage collateral to borrow money from the banks; used these loans to construct commercial buildings; and used the money earned from sales to build more properties.⁶⁰ Zhang Bao, the general manager of the Shenzhen Construction Group, campaigned hard to persuade the Shenzhen government to grant the land-use right. According to Zhang, the greatest inequality in the Chinese economy was the inequality among different sectors. In the construction sector, the profit rate approved by the state was 2.5%, much lower than the average of 16% across the board. By selling land-use rights, the Corps-run companies could raise the funds needed for capital-intensive construction projects. In 1989, for instance, the Zhenye company carried out the renovation of the Shun Chum River. Instead of financial investment from the Shenzhen Government, Zhenye requested and won the right to develop properties in the surrounding areas. Zhenye completed the project and became an important property developer in Shenzhen.

The new legislation allowed many Corps-run SOEs to profit from Shenzhen’s burgeoning real estate market, while benefiting many former construction soldiers in terms of either monetary compensation or subsidized housing. The majority of the discharged former soldiers who joined the Shenzhen Construction Group were able to purchase subsidized housing from their respective companies; the 8,000 civil servants were entitled to welfare housing (*fuli fang*) from the Shenzhen Municipal Government. Most of the land allocated to the Engineering Corps, such as the Bamboo Forest (Zhuzilin) basecamp where the troops first settled, now forms part of the expensive CBD areas of Shenzhen. This is why some would argue that the former soldiers, even those unhappy with their economic circumstances, belong to the “middle class” in Shenzhen if their properties were monetized. For those former soldiers who are now private property owners, their housing provided them with a social

⁵⁹ Duan, *Shenzhen tuobuang jishi*, 366–367.

⁶⁰ Duan, *Shenzhen tuobuang jishi*, 167–170.

safety net in the event of unemployment. Yet there still exist between one and two thousand among them who are not homeowners, due to the poor economic performance of their companies, enterprise bankruptcy, or personal misfortunes such as chronic illness, accident, injury, or divorce.⁶¹

As political scientist Laleh Khalili's study of the infrastructural power of the U.S. Army Corps of Engineers reveals, the operation of construction involves both the transfer of tangible technology and also the building of intangible new institutional scaffoldings and social networks.⁶² The discharged PLA Engineering Corps—transformed into entrepreneurs and government officials—constituted a wide social network that offered ample opportunities in the highly lucrative construction sector for collaboration, patron-client relations, and corruption. Jiang Zunyu, a Corps member who became a Shenzhen government official but fell from grace, represents a high-profile and sensational case of corruption. Jiang's personal CV before his downfall testified to how the Engineering Corps became a channel for upward mobility for young males. Born in 1957 in Jiangsu, Jiang joined the PLA in 1976 as a driver soldier, furthered his education in the military system, and graduated in 1979 from the Xi'an Political Institute of the PLA. After dismissal from the Engineering Corps, Jiang entered the Shenzhen city government and in 1996 became a director overseeing market operations in the Shenzhen municipal land management bureau. In 2001, he rose to the position of deputy party secretary of the Shenzhen Municipal Government, and in 2009, he became the party secretary of Longgang district.⁶³

In a biographical essay on Jiang published before his corruption case was exposed, he claimed that his military experience taught him never to be slow and sloppy, in Chinese, to “trail mud and water behind (*tuonidaishui*).”⁶⁴ Yet Jiang's approach to work, allegedly forged under the PLA, could be enterprising and efficient as well as authoritarian and

⁶¹ Duan, *Shenzhen tuohuang jishi*, 206.

⁶² Khalili, “The Infrastructural Power of the Military.”

⁶³ “Jiang Zunyu: buchuan junzhuang rengshi zhanshi,” Liao, ed., *Liangwanren de 20 nian*, vol. 2: 443–454.

⁶⁴ “Jiang Zunyu: buchuan junzhuang rengshi zhanshi,” Liao, ed., *Liangwanren de 20 nian*, 2: 443.

arbitrary.⁶⁵ Located in northeastern Shenzhen City, Longgang is the largest district by area (43% of the entire territory of Shenzhen City) but had been demarcated as outside the SEZ.⁶⁶ The landscape remained largely rural until Longgang was incorporated into the SEZ in 2010. This administrative change, triggered by Shenzhen's successful bidding for the 2011 Summer Universiade and the resulting need for new sports venues, spurred many lucrative new projects in this once sleepy township. The property ownership structure in Longgang is complicated and historically connected to the local Hakka clans. Jiang, a non-Hakka outsider and ex-PLA officer, allegedly applied "military methods" to urbanization projects in Longgang by aggressively bulldozing old properties.⁶⁷ The pressure to complete sports venue construction before the opening of the Universiade also created ample opportunities for Jiang to obtain what political scientist Yuen Yuen Ang terms "access money"—bribes and kickbacks in exchange for access to exclusive valuable privileges, special deals, and lucrative rights.⁶⁸ Between 1996 and 2014, Jiang and his family reportedly received cash and gifts worth some 32 million yuan and 46 million Hong Kong dollars from cronies who enriched themselves from the construction and renovation projects. He was sentenced to life imprisonment.⁶⁹

In 2010, shortly after he took office in Longgang, the very first official inspection Jiang Zunyu conducted was one of the corporate compound owned by another former construction soldier, Ren Zhengfei's Huawei, which chose the relatively remote Longgang as its headquarters in 1998, when the Longgang district government was eager to use Huawei to

⁶⁵ "Shenzhen shi zhengfawei shuji Jiang Zunyu luoma beihou," *Zhongguo jingji zhouban*, 2 December 2014, <https://china.huanqiu.com/article/9CaKrnJFUOo>, accessed 7 December 2020.

⁶⁶ Liu Zhuxi, "Shenzhen luoma changwei Jiang Zunyu jiushi: zhutui Longgang daza-ocheng, gongkai paichi xiao kaifashang," *The Paper*, 21 November 2014, https://m.the-paper.cn/newsDetail_forward_1279794, accessed 7 December 2020.

⁶⁷ "Shenzhen shi zhengfawei shuji Jiang Zunyu luoma beihou," *Zhongguo jingji zhouban*, 2 December 2014, <https://china.huanqiu.com/article/9CaKrnJFUOo>, accessed 7 December 2020.

⁶⁸ Yuen Yuen Ang, *China's Gilded Age: Paradox of Economic Boom and Vast Corruption* (Cambridge: Cambridge University Press, 2020), 10.

⁶⁹ "Shenzhen shi zhengfa wei yuan shuji Jiang Zunyu shouhui an ershen weichi yuanpan," *Nanfang wang*, 21 June 2019, http://www.sznews.com/news/content/2019-06/21/content_22197446.htm, accessed 7 December 2020.

attract commercial real estate developers. Jiang claimed to be an old friend of Huawei. Ren's response was lukewarm, and he objected to the Longgang district government's proposal to build a new "technology city" bearing Huawei's name.⁷⁰ In this awkward encounter, the different life trajectories of two former comrades-in-arms collided in a rapidly developing Shenzhen suburb.

By contrast with Jiang and his fellow civil servants as well as SOE managers and employees who preferred stability "within the system" (*tizhi nei*), Ren and a group of business-minded former construction soldiers made different personal choices. Born in 1944 to an impoverished teacher's family in mountainous Southwest China, Ren made his first great leap in social position by entering the Chongqing Institute of Civil Engineering and Architecture (*Chongqing gongcheng xueyuan*) in 1963 and joining the PLA as a technician in 1974. During his early years in the PLA, he worked at the Liaoyang Chemical Fiber Factory in Northeast China (*Liaoyang Huaxian jidi*) and was credited with two technological inventions. When he arrived in Shenzhen in 1983 as part of the Engineering Corps, Ren was already a cadre at the level of deputy regiment commander (*fu tuanzhi ganbu*). After the dissolution of the Engineering Corps, Ren was offered a civilian position in the South China Sea Petroleum Company logistical service base (*Nanhai shiyou houqin fuwu jidi*), now a subsidiary of the China National Offshore Oil Corporation. In 1987, when the Shenzhen Municipal Government promised tax concessions and favorable policies to encourage private investments in technological innovation (*guanyu guli keji renyuan xingban minjian keji qiye de zanxing guiding*), Ren left the SOE and built Huawei.⁷¹ Although the extent of contemporary collaboration between Huawei and the PLA remains a hotly contested topic, Ren's managerial style clearly showed the imprint of his PLA experience and his familiarity with Mao Zedong thought. The Huawei Basic Law (*Huawei jibenfa*), the document that stipulates its corporate culture, was shaped by Mao's theoretical essay "On

⁷⁰ "Lianmeng de boyi: Huawei 'beizaocheng,'" *Nanfang zhoumo*, 19 August 2010, <http://tech.sina.com.cn/t/2010-08-19/13584564316.shtml>, accessed 7 December 2020.

⁷¹ Duan Yabing, *Shenzhen tuohuangren—jijian gongchengbing chuangye jishi* [Ground-breakers of Shenzhen: A Record of the People's Liberation Army Engineering Corps] (Beijing: Renmin Chubanshe, 2014), 3–7.

Practice”; Huawei’s strategy for expanding overseas markets was influenced by the Maoist military principle of the countryside encircling the city.⁷²

Like Ren, Liang Guangwei and Gao Hongxing are two more iconic soldiers-turned-entrepreneurs belonging to a cohort of construction troops who arrived in Shenzhen at a relatively youthful age and benefited from opportunities to study in the newly established Shenzhen University. Both Liang and Gao were born in 1963 and were “baby new soldiers” (*xinbing wazi*) in 1983, when they were downsized from the PLA in Shenzhen. Twenty-year-old Liang Guangwei cried out loud on his battalion’s basketball court when putting aside his PLA uniform. Yet under Reform, educational attainment in novel fields of study at a rising young university enabled him to accumulate new social capital and ultimately leave the structured path laid out by the state. Both Liang and Gao matriculated from Shenzhen University in 1984: Liang majored in computer science and Gao in finance. Upon graduation, Liang was assigned to lead Huaqiang Electronics, a conglomerate of three military mechanical factories—Hongquan (Red Power), Dongfanghong (the East is Red), and Xianfeng (Pioneer)—relocated to Shenzhen from the mountainous regions of Northern Guangdong. He successfully transformed it into a technology and culture company—Huaqiang Industry Co. Ltd., which was listed on the Shenzhen Stock Exchange in 1997. Gao, on the other hand, rose to the position of deputy manager of the South China branch of the Guotai Junan Securities Co. Ltd., one of the largest investment banks in China, before leaving to start his own company—Hong Kong Satellite Television, a media network that was registered in Hong Kong but produced most of its programs in Shenzhen.⁷³

In 1983, more than 99% of the 20,000 soldiers transferred to Shenzhen were male, most of them young and single. By the mid-1980s, their prospects on the Shenzhen marriage market were dim. During the Mao era, PLA soldiers were much-coveted marriage partners. After their discharge in Shenzhen, these young men struggled to differentiate themselves from another group of single males who occupied the lowest echelon of the city’s social hierarchy—rural migrant workers. For many

⁷² Ibid; Ren Zhengfei, “Yao cong biran wangguo, zouxiang ziyou wangguo,” 4 May 2017, <http://www.cghuawei.com/archives/12390>, accessed 8 December 2020.

⁷³ Duan, *Shenzhen tuohuangren*, 27–63.

of them, Shenzhen was a “desert of male desire.”⁷⁴ Married construction soldiers faced an equally if not more challenging situation of family separation. Many construction soldiers had spouses with rural household registration. Although the Shenzhen Municipal Government offered them urban household registration, processing the paperwork could be a long and grueling procedure, taking up to five years when transfers from faraway regions such as the Northwest were involved.⁷⁵ In some cases, long-distance living arrangements during the early years of market transition caused family dissolution.

In the early 1980s, the tiny percentage of women in the Engineering Corps dominated the “battlefield hospitals,” providing medical care to the construction soldiers. They bore witness to the human cost of the supersonic speed of urbanization in Shenzhen: the lack of proper protection at construction sites caused many injuries and even deaths; the absence of safe drinking water, sanitation, and hygiene in the Corps’ temporary residences led to rampant gastrointestinal illnesses and skin infections.⁷⁶ Mostly married to husbands who also served in the Engineering Corps, these women struggled to balance family and work. Although technically enjoying equal status with their husbands, women tended to be the primary caregivers to young children. Luo Chaoli, who chose Shenzhen over the opportunity to work in a military police (*wujing*) hospital in her hometown of Chongqing, had to bring her three-year-old to the rudimentary operating theaters on the construction sites before finally securing childcare through repeated petitions to the Shenzhen Women’s Federation.⁷⁷ Shenzhen’s proximity to Hong Kong sparked rumors among the soldier mothers that spies from Hong Kong would kidnap children from Shenzhen and implant listening-in devices in their stomachs. Yue Yanmei recalled that fear led some mothers to lock up their children at home when they went to work.⁷⁸

During the SOE reforms, fewer women—whether as health care providers in their own right or as accompanying spouses—experienced

⁷⁴ Wu and Duan, “Liangwan ren de tongku yu zunyan,” 213.

⁷⁵ Liao, ed., *Liangwanren de 20 nian*, vol. 3: 982.

⁷⁶ Luo Chaoli, Yue Yanmei, interview by author, 20 December 2019, Shenzhen.

⁷⁷ Luo Chaoli, “Wuwanyuan shi wo cengdui Shenzhen fazhan de zuida xiangxiang,” *Tuohuangniu* 1 (May 2019): 31.

⁷⁸ Yue Yanmei, interview by author, 20 December 2019, Shenzhen.

upward social mobility than did men. After the dissolution of the Engineering Corps in 1983, women doctors and nurses employed in the military medical units were transferred to Shenzhen Red Cross Hospital (*Shenzhen honghui yiyuan*). Luo, thanks to her medical training and license, enjoyed a stable career in the Hospital until she retired; Yue, who lacked professional certificates, failed to keep her hospital job and ultimately switched to an administrative position in a Corps-run company.⁷⁹ As political scientist William Hurst observes, among laid-off workers all across China, “entrepreneurial opportunities often seemed more readily available to men than to women.”⁸⁰ Gender inequality was even more pronounced in the Engineering Corps because the social networks within this community—which generate business opportunities and start-up capital—were and still are male-dominated. The women who migrated with their husbands to Shenzhen did enjoy better public health and educational provisions for their children in the city, but as individuals, most of them—coming from rural areas, with few educational qualifications, and having reached middle age by the time they relocated—could only find low-paying, precarious positions, such as cleaners or maids.⁸¹

In the commemorative writings produced by the Engineering Corps themselves, women are often sidelined and stereotyped as persevering wives who endured without complaint the long absences of their workaholic husbands.⁸² Many former soldiers described themselves as conscientious workers but “disqualified husbands and fathers.”⁸³ Those declarations were often made with greater pride than guilt, reaffirming their commitment to the nation’s development over their own family lives. In 1986, Li Fengqi, deputy manager of the Shenzhen No. 2 Construction Company, lost his son due to an accident. Three days after the boy’s death, ignoring forceful urging from his colleagues to stay at home and comfort his grief-stricken wife, he returned to the construction site, saying: “It is our small family’s misfortune that my son died; but if the construction slows down, it would be a misfortune for our entire company. No. 2 Construction Company is at a critical stage, we cannot

⁷⁹ Luo Chaoli, Yue Yanmei, interview by author, 20 December 2019, Shenzhen.

⁸⁰ Hurst, *The Chinese Worker After Socialism*, 99–100.

⁸¹ Liao, ed., *Liangwanren de 20 nian*, vol. 3: 982.

⁸² Liao, ed., *Liangwanren de 20 nian*, vol. 2: 577.

⁸³ Liao, ed., *Liangwanren de 20 nian*, vol. 3: 867.

afford to delay for one minute.”⁸⁴ Wang Jiayu, the soldier-turned-CEO of the Shenzhen Construction and Interior Design Group Limited, characterizes his family as “the base camp” of his work, which he equates to “the revolution.” Most wives drag their husbands behind, Wang writes. Women, he implies, have more materialistic desires and less unselfish devotion to the collective good. But his own wife is an exception, always impelling him to further progress.⁸⁵

CONCLUSION

Upon first arriving in Shenzhen between 1979 and 1982, the construction soldiers received strict orders to remove their military uniforms, to avoid triggering fear and suspicion among the nearby British. At night, as the soldiers discovered the “magical” and “dreamlike” skyline of Hong Kong, many became too excited to sleep, forgetting their travel fatigue.⁸⁶ In contrast to the active in-service soldiers defending state borders via hard, military means, the Engineering Corps served as the soft, human infrastructure of Shenzhen’s border with Hong Kong, whose investment, technology, and managerial knowledge were indispensable if Reform were to take off. In terms of urban development, they laid the foundation for Shenzhen’s rise as a city of skyscrapers resembling Hong Kong. In terms of demographics, their relocation doubled the population living within the SEZ.⁸⁷ As this militarized labor transplanted the same engineering techniques and work style from the Third Front to the SEZ, “Mao’s invisible hand” extended its reach to the forefront of China’s market reform.⁸⁸ Like the communist cadres from the Southbound Work Team who arrived in Guangdong from north China in the 1950s, the Engineering Corps were reliable and trusted agents to consolidate the CCP’s authority at a remote outpost populated by “worldly” Cantonese connected to Hong Kong through longstanding cultural, commercial,

⁸⁴ Duan, *Shenzhen tuohuang*, 239.

⁸⁵ Liao, ed., *Liangwanren de 20 nian*, vol. 2: 579.

⁸⁶ Liao, ed., *Liangwanren de 20 nian*, vol. 1: 47.

⁸⁷ Du, *The Shenzhen Experiment*, 163.

⁸⁸ Perry and Heilmann, “Embracing Uncertainty.”

and family ties.⁸⁹ As Mary Ann O'Donnell points out, the political discourses of these soldier as “path-breakers” who “cut open a road of blood” played just as important a role as their labor in setting the horizon for Shenzhen’s development.⁹⁰

On 22 December 2019, the former PLA Engineering Corps held a celebration of the 126th anniversary of the birth of Mao Zedong, to which Wu Guixian, the female textile worker who was promoted to the position of Vice-Premier during the Cultural Revolution, was invited as the guest of honor. If the veterans shared nostalgia for the Mao era and the glory they enjoyed as PLA members, since then their experiences during reform had differed. All demobilized Corps members who stayed in Shenzhen were offered urban household registration and assigned jobs in governmental agencies and SOEs; the majority had access to heavily subsidized housing. Compared with later cohorts of rural migrants, they were more privileged due to urban residency and private property ownership. But their greater age made them less competitive in the labor market than the rural migrants. They also had to pay much higher costs for social reproduction in the city, whereas rural migrants could return to their villages and rely on the land and social relations there.⁹¹

Within the Engineering Corps, the SOE reforms translated the military hierarchy of the Mao years into economic inequality under Deng, leading to unsettled disputes and discontents that still continue today. Social mobility among Engineering Corps members has been shaped by the interplay of the broader economic structure, the performance of their SOEs, and their individual agencies and chances. Resembling the marketization process of the Xinjiang Production Corps (*Xinjiang shengchan jianshe bingtuan*), an SOE with similar historic connections to the PLA, “fateful but not fate-determining, mutual bonds” have existed between the discharged soldiers and the Corps-dominated SOEs to which they belonged.⁹² Generally speaking, during marketization those who enjoyed considerable influence in the command economy were able to transmute

⁸⁹ Ezra F. Vogel, *Canton Under Communism: Programs and Politics in A Provincial Capital, 1949–1968* (Oxford: Oxford University Press, 1969), 21.

⁹⁰ Mary Ann O'Donnell, “Path Breaking: Constructing Gendered Nationalism in the Shenzhen Special Economic Zone,” *Positions* 7: 2 (Fall 1999): 343–375.

⁹¹ Lee, *Against the Law*, 205; and Hurst, *The Chinese Workers after Socialism*, 91–92.

⁹² Thomas Cliff, *Oil and Water: Being Han in Xinjiang* (Chicago: University of Chicago Press, 2016), 4.

their pre-Reform political power into economic power. Some young males “disadvantaged” under Mao—lacking ties to power holders or privileged family backgrounds—seized new opportunities to attain higher education and establish private businesses in the SEZ. Yet during both the socialist and post-socialist eras, the distribution of resources favored men over women, those of urban, intellectual family origins over persons from rural, agricultural backgrounds, and individuals who possessed social capital in terms of professional credentials and patron-client networks over those without. In 2005, construction soldiers who felt unfairly treated and inadequately compensated by the state staged public protests, in which they targeted the Shenzhen Municipal Government. Yet their collective action, rather than transforming them into an interest group that the city government had to take into account, made them into a “problematic population” to be regulated for the sake of social stability.

Today, the former construction soldiers are a heterogeneous group, a community who share a common past but have fractured interests and different values and mentalities. Some of those who have retired comfortably believe that their disgruntled former comrades-in-arms are only experiencing “mild” economic difficulties and they have “brought misfortune on themselves” due to health problems or family issues. By denying structural reasons for the grievances of their one-time associates, these elites replicate a narrative of market triumphalism. Their nostalgia toward the Mao era was a cultural manifestation rather than an expression of preference for an alternative socio-economic system.⁹³ Meanwhile, activists empathetic to the disadvantaged soldiers have initiated redistribution programs, channeling more than 10 million RMB in donations from successful enterprises and entrepreneurs with links to the Engineering Corps to retired or unemployed former soldiers living below or marginally above the official poverty line.⁹⁴ The diverse views of discharged members of the Engineering Corps on the issue of social justice under Deng reflect the complex relationships between the socialist economy under Mao and market reform under Deng. As the core labor force of the Maoist militarized economy and the pioneer “pathbreakers” of Reform, this unique group of people witnessed firsthand both the death of socialism and the

⁹³ Lee, *Against the Law*, xii.

⁹⁴ Luo Yajun, interview by author via WeChat, 23 December 2020.

birth of capitalism; their experiences demonstrate that these two processes were inseparable and mutually constitutive.

BIBLIOGRAPHY

- Andreas, Joel. 2009. *Rise of the Red Engineers: The Cultural Revolution and the Origins of China's New Class*. Stanford: Stanford University Press.
- Andreas, Joel. 2019. *Disenfranchised: The Rise and Fall of Industrial Citizenship in China*. Oxford: Oxford University Press.
- Ang, Yuen Yuen. 2020. *China's Gilded Age: Paradox of Economic Boom and Vast Corruption*. Cambridge: Cambridge University Press.
- Cliff, Thomas. 2016. *Oil and Water: Being Han in Xinjiang*. Chicago: University of Chicago Press.
- Du, Juan. 2020. *The Shenzhen Experiment: The Story of China's Instant City*. Cambridge, MA: Harvard University Press.
- Duan Yabing, ed. 2013. *Zhuanzhan nanbei, zhagen Shenzhen—jiben jianshe gongchengbing huiyishiliao Shenzhen bianjizu* [Memories of the People's Liberation Army Engineering Corps in Shenzhen]. Haikou: Hainan Chubanshe.
- Duan Yabing. 2014. *Shenzhen tuohuangren—jijian gongchengbing chuanguye jishi* [Groundbreakers of Shenzhen: A Record of the People's Liberation Army Engineering Corps]. Beijing: Renmin Chubanshe.
- Duan Yabing. 2018. *Shenzhen tuohuang jishi* [A Record of Pathbreaking in Shenzhen]. Beijing: Renmin Chubanshe.
- History and Encyclopedia Research Group, the Academy of Military Science of the Chinese People's Liberation Army. 2015. *Zhongguo renmin jiefangjun jiben jianshe gongchengbing shi* [A History of the People's Liberation Army (PLA) Engineering Corps]. Beijing: Junshi Kexue Chubanshe.
- Hurst, William. 2009. *The Chinese Worker After Socialism*. Cambridge: Cambridge University Press.
- Khalili, Laleh. December 2018. The Infrastructural Power of the Military: The Geoeconomic Role of the US Army Corps of Engineers in the Arabian Peninsula. *European Journal of International Relations* 24(4): 911–933. <https://doi.org/10.1177/1354066117742955>.
- Larkin, Brian. October 2013. The Politics and Poetics of Infrastructure. *Annual Review of Anthropology* 42(2): 327–343. <https://doi.org/10.1146/annurev-anthro-092412-155522>.
- Lee, Ching Kwan. 2007. *Against the Law: Labor Protests in China's Rustbelt and Sunbelt*. Berkeley: University of California Press.
- Lianmeng de boyi: Huawei 'beizaocheng.' 19 August 2010. *Nanfang zhoumo*. <http://tech.sina.com.cn/t/2010-08-19/13584564316.shtml>. Accessed 7 December 2020.

- Liao Chenglin, ed. 2003. *Liangwanren de 20 nian* [20 Years of 20,000 People]. Shenzhen: Xinshiji Chubanshe.
- Liu Gengshen. 2013. Duanzan de lishi, shenke de jiyi—yi di sanshiyi zhidui de lishi guiji [Short History, Deep Memories—Remembering the Historical Trajectory of the No. 31 Regiment]. In *Zhuanzhan nanbei, zhagen Shenzhen—jiben jianshe gongchengbing huiyisbiliao Shenzhen bianjizu* [Memories of the People's Liberation Army Engineering Corps in Shenzhen], ed. Duan Yabing. Haikou: Hainan Chubanshe.
- Liu Zhuxi. 21 November 2014. Shenzhen luoma changwei Jiang Zunyu jiushi: zhutui Longgang dazaocheng, gongkai paichi xiao kaifashang. *The Paper*. https://m.thepaper.cn/newsDetail_forward_1279794. Accessed 7 December 2020.
- Luo Chaoli. May 2019. Wuwanyuan shi wo cengdui Shenzhen fazhan de zuida xiangxiang. *Tuohuangniu* 1: 31.
- Meyskens, Covell F. 2020. *Mao's Third Front: The Militarization of Cold War China*. Cambridge: Cambridge University Press.
- Naughton, Barry. 2007. *The Chinese Economy: Transitions and Growth*. Cambridge, MA: MIT Press.
- O'Donnell, Mary Ann. Fall 1999. Path Breaking: Constructing Gendered Nationalism in the Shenzhen Special Economic Zone. *Positions* 7(2): 343–375. <https://doi.org/10.1215/10679847-7-2-343>.
- Perry, Elizabeth, and Sebastian Heilmann. 2011. Embracing Uncertainty: Guerilla Policy Style and Adaptive Governance in China. In *Mao's Invisible Hand: The Political Foundations of Adaptive Governance in China*, eds. Elizabeth Perry and Sebastian Heilmann, 1–29. Cambridge, MA: Harvard University East Asian Center.
- PLA Engineering Corps Memory and History Materials Compilation Group, ed. 2015. *Zhongguo renmin jiefangjun jichu jianshe gongchengbing jiti zhuanye Shenzhen zhanyou minglu* [Name Lists of Demobilized PLA Engineering Corps in Shenzhen]. Shenzhen.
- Ren Zhengfei. 4 May 2017. Yao cong biran wangguo, zouxiang ziyou wangguo. <http://www.cghuawei.com/archives/12390>. Accessed 8 December 2020.
- Roberts, Priscilla, and Odd Arne Westad, eds. 2017. *China, Hong Kong, and the Long 1970s: Global Perspectives*. London: Palgrave Macmillan.
- Shenzhen Museum. 1999. *Shenzhen tequ shi* [A History of Shenzhen Special Economic Zone]. Rev. ed. Beijing: Renmin Chubanshe.
- Shenzhen shi zhengfawei shuji Jiang Zunyu luoma beihou. 2 December 2014. *Zhongguo jingji zhoukan*. <https://china.huanqiu.com/article/9CaKrnJFUOo>. Accessed 7 December 2020.
- Shenzhen shi zhengfa wei yuan shuji Jiang Zunyu shouhui an ershen weichi yuanpan. 21 June 2019. *Nanfang wang*. http://www.sznews.com/news/content/2019-06/21/content_22197446.htm. Accessed 7 December 2020.

- Simone, AbdouMaliq. Fall 2004. People as Infrastructure: Intersecting Fragments in Johannesburg. *Public Culture* 16(3): 407–429. <https://doi.org/10.1215/08992363-16-3-407>.
- South China Morning Post Reporter. 8 November 2005. Riot Police Move in to Free Mayor; Ex-PLA Men Protest in Shenzhen for Better Compensation. *South China Morning Post*.
- Vogel, Ezra F. 1969. *Canton Under Communism: Programs and Politics in a Provincial Capital, 1949–1968*. Oxford: Oxford University Press.
- Vogel, Ezra F. 2013. *Deng Xiaoping and the Transformation of China*. Cambridge, MA: Harvard University Press.
- Wu Qitai and Duan Yabing. 1986. Liangwan ren de tongku yu zunyan. *Tequ wenxue*. Reprinted in Duan Yabing, 2014, *Shenzhen tuohuangren—jijian gongchengbing chuangye jishi* [Groundbreakers of Shenzhen: A Record of the People's Liberation Army Engineering Corps], 179–228. Beijing: Renmin Chubanshe.
- Zhang, Xiaoming. 2015. *Deng Xiaoping's Long War: The Military Conflict Between China and Vietnam, 1979–1991*. Chapel Hill: University of North Carolina Press, 2015.