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Between the mountains, the city, and the world: the microhistory of a 'Small Third Front' Chinese arsenal during Revolution and reform

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ABSTRACT

This article presents a microhistory of Dongfang Arsenal, a Small Third Front project in Beijing, using archival sources, gazetteers, memoirs compiled by former workers, and oral history. It focuses on how the arsenal's former workers engaged with socialist modernity and tangibly experienced the changing relationship between China and the outside world. It examines the military-industrial complex as a physical micro-space for employment, political mobilisation, and later a collective memory site. Built upon existing studies of the Third Front and emerging research on negotiated state power in socialist enterprises, the article demonstrates how the Third Front's internally stratified industrial labour force creatively navigated the physical and institutional urban-rural divide by employing collective bargaining power. It also offers an insight into how an industrial, close-knit community and the society related to it experienced the Cultural Revolution. Additionally, it discusses the Front employees' experience and the arsenal's struggle for survival during the transition between various socio-economic regimes, bringing together the history of Maoist revolutionary modernisation and post-Maoist reform.

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Third Front; factory; military-industrial labour; China; Cold War

Introduction

In 1981, the Lion Brand P-45-3 spring-air sporting rifle manufactured by Beijing Airgun Factory entered the international market. Walters (1984), a prolific writer on small arms, was amused by its 'sophisticated cocking mechanism with a sliding breech sleeve' and the 'poorly finished' metal components that nevertheless had an 'unquestionable' strength (p. 91). The sliding breech mechanism permitted direct loading and reduced the cost of mass-producing firearms in less mechanised factories because only 'the moveable compression chamber' required 'careful milling and polishing' (Ogilkes, 2010). Few contemporary arms collectors knew that while the 'Beijing Airgun Factory' was the credited manufacturer, among the actual producers of these air rifles was one of Beijing's Small Third Front (*Xiao sanxian*) factories (anonymised as Dongfang Arsenal in this article). Dongfang Arsenal once enjoyed stable orders from the People's Liberation Army (PLA), but by 1980, it struggled to survive due to plummeting military purchases. The arsenal resorted to manufacturing civilian air guns to adapt to the country's shifting political and economic priorities. However, that failed to save it from closure by the end of the decade (Changzhi bianjibu [CZBJB], 2011, p. 88).

The rise and fall of Dongfang Arsenal offer insights into the broad social impacts of the Small Third Front and China's militarised industrial modernisation during the eras of revolution and reform. The

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Third Front was ‘a purposeful, large-scale, centrally-directed development programme’ in response to perceived American and Soviet threats. Mao Zedong’s strategy was to create ‘a huge self-sufficient industrial base area’ to serve as the country’s strategic reserve in the event of war (Naughton, 1988, p. 351). About ‘1,100 large and medium-sized industrial and mining enterprises’ were moved to or constructed for the Big Third Front (*Da sanxian*) in southwestern and western China during the campaign.¹ Meanwhile, 268 local enterprises were relocated or set up on the Small Third Front to serve as the military-industrial bases for the twenty-eight provinces, autonomous regions, and directly administered municipalities (Xu, 2020, p. 165). Meyskens (2020) estimated that fifteen million workers and one million of their family members were relocated to the Third Front industrial bases (pp. 1–2). From 1965 to 1980, the central government invested RMB 205.268 billion in the project (Guowuyuan sanxian jianshe bianxiezhu, 1991, p. 32), making it ‘the most expensive industrialisation campaign of the Mao era’ (Meyskens, 2020, p. 2).

This article presents a microhistory of Dongfang Arsenal, a Small Third Front project in Beijing, using archival sources, gazetteers, memoirs compiled by former workers, and oral history. Examining the complex as a physical micro-space for employment and political mobilisation – and later a collective memory site, it focuses on how the arsenal’s former workers engaged with socialist modernity and tangibly experienced the changing relationship between China and the outside world. Like all Front enterprises, the arsenal’s employees were primarily recruited from ‘politically trustworthy’ families. The fact that most arsenal workers were from Beijing – the country’s political centre – nevertheless granted the community significant social capital and bargaining power against coercive state institutions. As a result, the Beijing Municipal Government (BMG) had to actively maintain the connections between the arsenal complex and the city and gradually improve living standards to keep the skilled workers on the Front despite the stringent policy that demanded secrecy and isolation of military-industrial bases and the Maoist development ethic that prioritised ideological and moral incentives. Encountering restrained circumstances, the internally stratified Front employees made conscious choices to navigate and negotiate against the militarised modernity that demanded unconditional obedience during the revolutionary era and to maintain their living standards after the central government diverted resources away from the Third Front in the late 1970s. The sustained connections between the arsenal complex residents and the outside world went beyond navigating the urban-rural divide. Despite the isolated location, the arsenal and Beijing’s Small Third Front, as a whole, were deeply involved in China’s revolutionary foreign strategy and global market exploration.

While Economists have critically evaluated the Chinese Third Front policy’s industrial efficiency at national and regional levels (Fan & Zou, 2021; Naughton, 1988), recent historiography examines the campaign in the geopolitical context of the Cold War and the long history of China’s industrial modernisation. In explaining its origins, Lüthi (2008) and Meyskens (2020, pp. 62–66) emphasised the role of American escalation of the Indochina conflict in 1964 and how it shaped a consensus among Chinese Communist Party (CCP) leaders about the exigency of this expensive programme. The security-driven campaign entered a second phase after the Sino-Soviet border clash in March 1969. The conflict shifted the focus of the Big Third Front to central and northwest China, which were under greater Soviet military threat (Meyskens, 2020, pp. 13–15). In the first detailed history of the Third Front, Meyskens (2020) argued that the campaign steered China away from its post-Great Leap Forward economic policy that enhanced the importance of consumer goods, coastal regions, and technical expertise and reasserted the Maoist agenda prioritising heavy industry, inland development, self-reliance, and mass mobilisation (pp. 2–10). Studies of this military-industrial campaign complicate China’s Cultural Revolution-centred history from the mid-1960s to the death of Mao, which highlights the chaotic anarchy that paralysed government institutions. Furthermore, they underline the continuity of China’s crisis-induced modernisation since the mid-nineteenth century. Successive Chinese responses to wars, crises, and security concerns since the late Qing era were critical driving forces behind the country’s economic development, especially the industrialisation of its interior (Kinzley, 2012, pp. 559–560; Meyskens, 2020, p. 2; Naughton, 1988, p. 374).

Besides examining the relationship between national security and industrialisation, historians have taken a bottom-up approach to shed light on the Front employees' experiences and memories of their years at these secret industrial bases. Meyskens (2020) characterised workers' lives in Panzhihua, the largest mining and steel centre created by the Third Front campaign in Sichuan Province's far south, as 'privileged hardship' (p. 187). Despite suffering from unsafe work environments and being deprived of material goods, Front workers nevertheless enjoyed stable employment and social services exclusive to employees of state-owned enterprises (pp. 187–191). J. Li (2015) revealed that 'to varying extents', the former Front employees 'internalized and identified with socialist beliefs and discourses that permeated their working lives' (p. 332). Chinese historiography concerning the Third Front often depicted it as an irrational, inefficient, and immature "'lower-level" industrial[s]ing project', which conformed to and legitimised the developmental policy during the economic reforms (p. 324).

Compared with the Big Third Front, which drastically changed the landscape of China's remote interior by creating cities and industrial migrants, the Small Third Front has received much less attention except for Shanghai's industrial complexes located in the neighbouring Anhui Province. Several studies have used local archives and oral history to demonstrate that these industrial plants were essentially exclaves of the municipality, and their employees exploited various connections with Shanghai to cope with the austerity of Front life (Xu, 2021; Xu & Wang, 2022; Xu & Chen, 2015–2021; X. Zhang, 2014; Meyskens, 2021). In their brief overview of Beijing's Small Third Front, Xie and Zhang (2015) argued that the project promoted the industrialisation of 'backward regions' and trained skilled workers, yet the choice of locations was often 'unscientific' and the workers' quality of life was 'ignored' (pp. 52–53). Like Shanghai, Beijing operated its own Small Third Front projects. The national capital was ostensibly richer in political resources than other regional governments yet faced competing national and local priorities. A more fully textured analysis of Beijing's Small Third Front remains a gap in the current historiography of the campaign.

Since the publication of Kotkin's classic study of industrial labour under state socialism (1995), historians have unpacked the socialist factory as a space of employment, socialisation, emotional attachment, and 'a site of memory' (Akgöz et al., 2020, p. 6). Recent studies have challenged the stereotypical images of 'state socialism as a static system' where 'monolithic parties' ruled over a homogenous working class (Archer & Musić, 2017, pp. 45–46). Li (2016, 2023) pointed out that everyday power relations in Chinese factories during the Maoist era featured an equilibrium between the cadres and workers. The cadres were subject to waves of rectification campaigns and had to guarantee the workers' 'subsistence rights' to win the latter's cooperation in hitting production targets (Li, 2023, pp. 128–29).

This article contributes to studies on negotiated state power in socialist enterprises and the bottom-up and international history of China's transition between socio-economic regimes by exploring the historical process through the microscopic examination of an arsenal. It demonstrates how the agency of a few well-connected workers enhanced the collective bargaining power of the internally stratified Front workforce and allowed them to navigate the physical and institutional urban-rural divide creatively. In addition, despite limited records and the interviewees' reticence concerning many details, the history of Dongfang Arsenal offers insights into how a small industrial community with a supposedly trustworthy class background experienced the Cultural Revolution and how the utopian movement lost momentum from the bottom up. Departing from existing literature on the Third Front that primarily focuses on the formation and expansion of the Front's industrial complex, this article investigates the arsenal's struggle for survival in the 1980s by exploring domestic and international markets in detail. Because the workers' frustration and anxiety during the Front's decline feature at the centre of their collective memories, the downturn of the Third Front was an integral part of the campaign's history despite the cease of industrial production. Lastly, by assigning due significance to individual choices, social categories, material limitation, and power dynamics in explaining everyday life on the Third Front, this article presents a non-

dichotomous relationship between agency and structures and places them ‘in concrete historical practices’ (De Vito, 2019, p. 359).

Beijing’s Small Third Front and the foundation of Dongfang Arsenal

Following the Secretariat of CCP Central Committee’s instructions on establishing the Third Front in September 1964, the War Preparation Group of BMG completed the ‘Report on the Preliminary Plan for Constructing Beijing’s Interior’ in November 1964. It selected the mountainous regions of Zhangjiakou in Hebei Province and Yanbei in Shanxi Province as Beijing’s rear base to increase the capital city’s strategic depth. The report proposed an ambitious scheme, including setting up and relocating military-industrial enterprises and research institutions, connecting the strategic rear with Beijing through highways, and promoting agricultural development in the rear (Su & Zhang, 2014; Xu & Zhang, 2024, p. 49; X. Li, 2015, p. 46). In August 1965, the National Meeting on Relocation held by the National Basic Construction Committee of the State Council issued guidelines on choosing sites for Front projects. It decided that military-industrial plants should be launched at places ‘close to the mountains, geographically dispersed, and easy to hide; some cutting-edge defence projects need to be constructed under shelter’ (Zhongguo shehui kexue yuan & Zhongyang dang’an guan, 2011, p. 509). Other Front enterprises should ‘disperse nationally yet concentrate locally, avoid forming clustered cities, and prioritise small towns’ (p. 510). The overall purpose of the Small Third Front was to prepare for ‘provincial-level defence’ (*Dangdai Beijing gongye congshu bianjibu*, 1990, p. 180) so that each province would be capable of supplying its weaponry when facing significant invasions.

While most defence-related factories and research institutions in Beijing drafted plans to move entirely or partly to the rear, the relocation proceeded slowly (Department of Military Industry of the Bureau of Mechanical and Electrical Industry of Beijing, 1965, pp. 1–13). In a report to the BMG, an electrical appliances manufacturer acknowledged that their construction of production bases on the Front lagged behind schedule because ‘the urban-oriented way of thinking had not been completely eradicated, and the guideline of running an enterprise with thrift had not been thoroughly implemented’ (Chinese Communist Party Committee of Beijing Appliances, Instruments, and Electrical Appliances Company, 1965, pp. 23–24). That indicates the institutional inertia countering the top-down initiative of constructing the Third Front. Due to the prohibitive cost and workers’ factional struggle and desertion during the Cultural Revolution, many of the relocation projects were aborted. Beijing’s Small Third Front was downsized to include only building new arsenals in the rear and improving transportation and electricity supply around those industrial bases (Su & Zhang, 2014, pp. 47–48; Chinese Communist Party Beijing Municipal Committee & the Planning Branch of the Beijing Municipal Revolutionary Committee, 1970, p. 4).

Between 1964 and 1967, Beijing established several arsenals on the Front to produce small arms and light weapons for local PLA units and militias (CZBJB, 2011, pp. 1–2). While provincial-level authorities were the Small Third Front’s leading investors, the central government contributed to the research and development fund. The National Planning Commission and the State Council’s Defence Industry Office outlined plans for desired products. Then, the Fifth Ministry of Machinery Industry (FMMI), responsible for ordnance production and supply, and the Ministry of Finance drew up a budget and allocated funds to provincial-level authorities (The Infrastructure, Transportation, and Urban Construction Branch of the Beijing Municipal Revolutionary Committee, 1968, pp. 5–6).²

The relationship between Beijing’s Front arsenals and the PLA evolved under volatile domestic and international situations. In March 1967, along with thousands of local governments, schools, and factories that had fallen into virtual anarchy under the violent attack against officials in the power-seizure stage of the Cultural Revolution (Wang, 2015), the Front arsenals were put under military control (H. Zhang, 2014, p. 125; CZBJB, 2011, p. 7). In September 1969, in a nationwide initiative to strengthen centralised oversight of the Third Front in response to increased Soviet military pressure, the Beijing Municipal Revolutionary Committee (BMRC, the city’s governing body from April 1967 until the end of 1979) and the PLA Beijing Garrison District jointly established the Municipal Office for

National Defense Industry (MONDI) and took leadership of the municipal Front arsenals from the Beijing Municipal Bureau of Machinery Industry (BMBMI). As the formal management structures within Front enterprises collapsed in the late 1960s, dealing a severe blow to product quality, the Beijing Military Zone established liaison offices at each Front arsenal in 1970 to conduct regular acceptance testing (CZBJB, 2011, pp. 184–185; X. Li 2015, p. 42). Following the country's improved geopolitical situation after the Sino-U.S. rapprochement, the management of Beijing's Front arsenals was transferred back to the BMBMI in 1973. An order of the State Council and the CCP Central Military Commission (CMC) pointed out that this nationwide re-decentralisation of the Small Third Front rectified Lin Biao's policy line of putting all Front projects under 'unified plan', which had 'severely dampened the motivation of local governments to develop industry' (State Council & Central Military Commission, 1973, pp. 10–11).

Dongfang Arsenal, which specialised in semi-automatic rifles, was among the new industrial plants established on Beijing's Small Third Front. Without prior expertise, Dongfang Arsenal recruited more than twenty experienced engineers and obtained technical drawings from a Big Third Front arsenal in Chongqing. It took them and their Beijing colleagues six months to adjust the production process to fit local conditions. One of their changes involved modifying the temperature requirements for heat-treating and cold-forming because of the climate difference between Chongqing and Beijing (CZBJB, 2011, pp. 149–153; X. Li 2015, p. 42). During the first operational year, the arsenal hired 851 workers (including 213 females), and the number doubled the following year (Dongfang Arsenal, 1965, p. 4; Dongfang Arsenal, 1966, p. 7). The recruiting cadres were required to 'avoid discussing the First, Second, or Third Front, but speak of new construction in the coastal area and interior, to the masses' to ensure confidentiality (X. Li 2015, p. 40). When offered jobs, the recruits were allowed to tell their family they were employed by an arsenal but nothing else. They were not permitted to reveal the enterprise's name, location or its products (interview with several anonymised arsenal workers, 6 August 2019, Beijing [here after 'interview, 6 August 2019']; interview with an anonymised arsenal worker, 27 July 2022, online [here after 'interview, 27 July 2022']).

While the CCP downgraded the Third Front construction from a 'primary task' to an 'important task' in August 1972 following Nixon's visit to China (Meyskens, 2020, p. 228), the 1970s was the arsenal's heyday. After the Sino-Soviet border conflict, Dongfang Arsenal was ordered to increase production through technical improvement. The enterprise also experimented with manufacturing automatic rifles and rifle grenade launchers after Nixon ordered the ground invasion of Cambodia in April 1970. However, they soon aborted the project due to improved relations with the United States (The Planning Branch of the Beijing Municipal Revolutionary Committee, 1970, p. 2; CZBJB, 2011, pp. 165–167, 181). From 1970 to 1978, the number of employees grew steadily, and annual production reached a zenith of 30,000 rifles in 1979. By the end of the decade, nearly 4000 people (including more than 2000 arsenal workers, auxiliary service employees, and their families) lived in the industrial complex (CZBJB, 2011, pp. 75–88, 272, 289). The Arsenal Revolutionary Committee (ARC, the enterprise's governing body during the Cultural Revolution) and the PLA liaison office jointly planned output and set the military purchase price (typically five per cent higher than the manufacturing cost) yearly. Both plans were subject to approval from the municipal authorities (The Finance Department of Beijing Municipal Bureau of Industry, 1977, p. 63; Dongfang Arsenal, 1977, p. 64). During almost twenty years of operation, Dongfang Arsenal produced more than 300,000 rifles (CZBJB, 2011, p. 273). Although a closed and militarised community, various institutional arrangements and the social fabric connected the arsenal to the capital city.

Between the mountains and the city: negotiated livelihood at Dongfang Arsenal

'Little Beijing' (Su & Zhang, 2014, p. 48), the neighbouring rural residents' nickname for the industrial base, indicates 'an urban-rural hybridism' of the Small Third Front (Tan et al., 2021, p. 1151). More than ninety per cent of the employees in this urban satellite centre were natives of Beijing, mainly workers reassigned from other factories and recruits from vocational, middle, and high school

graduates (CZBJB, 2011, pp. 143, 182). The other ten per cent consisted of recruits from Chongqing and Shandong, PLA veterans, and local peasants. In Shanghai, a rigid ‘one worker, one peasant’ policy – each family should have one agricultural labourer to secure an urban job – was an obstacle to many graduates’ endeavours to remain in the city if they did not have a sibling who had gone to the countryside as a sent-down youth (Lü, 2010). This quota was not strictly implemented in Beijing. Compared with Shanghai’s Small Front and Big Front industrial plants in the interior, Beijing’s Front workers and their families enjoyed slightly higher living standards regarding connections with the urban centre and opportunities to take advantage of resources there. Such ‘privilege’, however, was precarious.

Toeing the line of ‘good people and good horses go to the Third Front’ (Meyskens, 2020, p. 79), academic excellence and political background were the two most crucial recruitment criteria. TXY was born in an ‘urban petty bourgeoisie family’ and hired by the arsenal after finishing middle school as a top student in the late 1960s. Among the 300 graduates of her class year, forty per cent secured jobs in Beijing’s public sector, including twelve males and eight females recruited by the arsenal as apprentices. The rest of her cohorts, including children of ‘landlords, rich peasants, counter-revolutionaries, bad elements, and rightists’, were among the ‘educated youth’ sent to the frontiers of Inner Mongolia, Heilongjiang, and Yunnan (interview, 27 July 2022). LQH, with a trade school diploma, was hired as a ‘first-level worker’, the lowest skilled worker rank above apprentice, in the mid-1960s. As the highest performing student, LQH and other graduates who joined Dongfang Arsenal and specialised in forging, casting, milling, and mechanical manufacturing were the first in the trade school to receive jobs in the year (interview with an anonymised arsenal worker, 8 August 2022, online [hereafter ‘interview, 8 August 2022’]). Unlike many Big Third Front factories with skewed gender ratios (Meyskens, 2020, pp. 182–184), females eventually accounted for almost forty per cent of the arsenal complex’s workforce (interview, 8 August 2022). BMG noted the workforce’s gender imbalance when beginning recruitment and addressed it, hoping to foster a stable industrial exclave. The authorities sought to create a model socialist working-class community through a politically and socially engineered recruitment process.

The workforce demography set the stage for this industrial settlement’s micro-politics by contributing to the workers’ negotiating power. The ‘politically reliable’ families from which the Front workers were selected were also the talent pool for the government and other state-owned enterprises. The most politically trustworthy social group was also the best-connected one, allowing some Front workers to transfer to non-Front urban jobs without the stigma of shirking revolutionary responsibility. By the end of the arsenal’s first operational year, forty-eight employees strove back to the capital city (Dongfang Arsenal, 1966, p. 7). Because they needed approval from the often uncooperative arsenal leadership for the transfer, some workers with a job offer elsewhere adopted a ‘pestering’ tactic – sitting in the manager’s office for the whole day and following them wherever they went – to obtain it. ‘There are too many well-connected workers who attempted to get reassigned,’ LQH observed, ‘so the leadership had to improve the living standards on the arsenal complex to keep people [on the Front]’ (interview, 8 August 2022).

Thus, the national slogan ‘production first, life later’ (*xian shengchan, hou shenghuo*) twisted to ‘prioritised production, simplified life’ (*shengchan youxian, shenghuo congjian*) (CZBJB, 2011, pp. 148, 217–218, 290; interview, 8 August 2022) on Beijing’s Front, lest the reassignment of the well-connected demoralised the rank and file, especially after the state expanded investment in the campaign in 1969. With many employees’ social networks in Beijing and nearly two-thirds of the population finding spouses in the industrial settlement, their collective social capital asset – the intangible resources of ‘reciprocity and trust’ that allowed the members of a social network to gain benefits, seek solutions, and achieve ‘mutual objectives’ (Tripp et al., 2009, vii) – augmented over time. As a community that could leverage impressive connections, the Beijing Front workers enjoyed greater negotiating power concerning the stringent Front policies than those outside the capital.

The factory, as an institution, gave rise to ‘disciplined apportionment of industrial time’ (Walton, 2014, p. 22); the arsenal’s remote location and military equipment production shaped the rhythm of

work and leisure alike, setting the industrial settlement apart from its rural neighbours and their urban counterparts. The morning and evening shift workers toiled for eight hours daily, controlled by bells. The enhanced war preparations after the Sino-Soviet border conflict led to a short-lived campaign of 'two shifts covering the workload of three' that extended the hours to eleven per shift until the end of 1969 (interview, 8 August 2022). Because it took about four hours each way to travel between the industrial base and Beijing, people worked continuously for around twenty-five days monthly to have five consecutive days off to visit family. In January and February, they worked even longer to create a two-week holiday around the Lunar New Year. A nearby vehicle manufacturer dispatched buses to transport the workers between the arsenal and the city centre each month (CZBJB, 2011, pp. 253–254). Being able to see family and friends monthly distinguished these workers from Front employees elsewhere in the country, including Shanghai's Front enterprises in Anhui, where workers were only permitted to go home during the Lunar New Year (Meyskens, 2021, p. 444).

Li (2023) argues that Chinese socialist firms disciplined their workers 'softly' during the Maoist era, mainly by promoting their sense of obligation as the 'masters of their factories' and the revolutionary nation (p. 29). The fact that the development of Front factories coincided with the Cultural Revolution, an era when revolutionary zeal delegitimised institutional regulations, further encouraged informal institutions to constrain workers' behaviour. In the early years of the arsenal's operation, workplace injury was common, especially among the apprentices without experience in handling machines. XYS, a shop floor manager, carefully employed the Maoist discourse to enforce workplace safety and warned the junior workers at a study session of Mao's thoughts in 1969 that:

Chairman Mao is absolutely right that imperialism and all counter-reactionaries are paper tigers. The machine tools with which you work are real tigers. If you fail to pay due attention to production safety, a real tiger will bite you sooner or later. (CZBJB, 2011, p. 262)

By the early 1970s, the arsenal had put safety regulations in place: long hair under caps, shoes with broad heels, and shirts tucked into pants to avoid the speedy moving machine drawing in workers were on the safety checklist before entering the shop floor (CZBJB, 2011, pp. 263–264; interview, 8 August 2022). In 1971, the arsenal briefly implemented a policy of fining workers one per cent of the economic loss they caused by violating production regulations. Without a corresponding bonus for excellent workers, the rule was deemed 'unfair' and soon abolished (CZBJB, 2011, p. 160).

Individual honours for 'model workers' or 'advanced producers', collective honours for winning the quality competition against other arsenals, and demerit records on personal profiles for workers in dereliction of their duties (none of which involved monetary bonus or penalty) remained the foundation of worker management. The emotional elements in this informal motivational mechanism promoted an awareness that high work standards contributed to the arsenal's reputation in the strategically important military-industrial sector and, thus, that of the workers themselves. Working in a factory supplying the PLA and foreign countries reinforced the workers' self-identity as the 'excellent, selected few' (interview, 6 August 2019) in China's workforce.

Improving facilities and auxiliary services outside the shop floor was crucial to ameliorate worker discontent. Deliberately constructed in the mountains, Front settlements did not enjoy access to regular social welfare facilities. These industrial bases were generally modelled on Daqing, an oil field city epitomising the Maoist developmental paradigm of independence and self-reliance (Hama, 1980, p. 180). Front industrial settlements often became self-sustained 'mini-societ[ies]' (Xu & Wang, 2022, p. 49), with workers' dormitories or apartments, state-run grocery stores, 'auditoriums, hospitals, basketball courts and kindergartens/schools' to fulfil the basic needs for housing, education, health care, and divertissement (Tan et al., 2021, p. 1150–1151). The arsenal built a central mess hall, a halal dining hall, and a special canteen with a limited à la carte menu for official guests, all modelled on urban factories. Two Beijing markets supplied fresh vegetables and dried seafood to the base, and Beijing's nearest rural county provided meat and grain (CZBJB, 2011, pp. 138–39, 173–74). Similar to Shanghai's Front complex in Anhui (Meyskens, 2021, p. 442), the industrial community's daily life had limited trickle-down effects that spread the benefits of militarised industrialisation to its

rural surroundings yet highlighted the stringent urban-rural divide at the same time. From the mid-1970s, the complex's inhabitants could buy poultry and vegetables raised on neighbouring peasants' 'family plots' (*ziliudi*) (interview, 8 August 2022), although such food was supposedly for the villagers' consumption instead of entering the market (Unger, 2005, p. 119). The outdoor cinema and communal bath were periodically open to nearby villagers who otherwise had no access to electricity or hot running water (CZBJB, 2011, p. 142).

Unlike many Front industrial bases where the workers had to build their homes themselves, the BMG dispatched construction teams to build Front bases. Due to the priority given to the shop floor, when the constructors departed, the dormitory only had 100 rooms to accommodate 400 people, slightly more than half of the workforce (CZBJB, 2011, p. 217). For several years, many young recruits had to live in stone huts and burned wood shavings from the workshop for heating (interview, 8 August 2022). The industrial base capitalised on the renewed investment during the second phase of Third Front to improve housing and other facilities. For the secrecy of military projects, the municipal authorities decided not to deploy constructors from elsewhere. Thus, Front enterprises established construction teams in 1969 and hired 'temporary workers' from the rural community. In the following decade, besides expanding workshop capacity, Dongfang Arsenal built two-story brick-and-tile dorms, apartment buildings with in-unit bathrooms and kitchens for families (in 1978), an auditorium, a school, an infirmary, a basketball court, a water tower, and other living facilities (CZBJB, 2011, pp. 140–142; interview, 8 August 2022). In the early 1980s, piped coal gas was extended to the industrial base before being connected to the urban centre (interview, 8 August 2022).

Besides housing, the arsenal strived to catch up to urban educational standards. The formal education of children living in the industrial complex began in the dormitory's three spare rooms with three teachers from Beijing who had high-school diplomas (CZBJB, 2011, p. 200). By the early 1970s, as more children reached school age, Beijing expanded the schools of Front enterprises. All new Front schools overran the budgets drawn up based on construction on plains due to the cost of building on rugged terrain and a shortage of lumber (Beijing Municipal Office for National Defense Industry, 1972, pp. 26–27). Another challenge the Front schools encountered was teacher shortage. No normal school graduates were available for hire by the time these new schools enrolled students in the fall of 1972 because the Cultural Revolution had devastated teacher training. Dongfang Arsenal reassigned workers who had completed secondary education before the Cultural Revolution to its school to cover science subjects (interview, 8 August 2022). In addition, the Front administrations tapped the workers' social networks, stipulating that any employees' relatives who taught in other cities would be granted a Beijing residential permit (*hukou*) if they came to Front schools. Those permits offered access to materials and services unavailable outside the capital (CZBJB, 2011, p. 143). While Maoism demonised material incentives, compensating relocated teachers with a Beijing *hukou* indicates the application of material benefits to Front management, although less explicitly. By the 1980s, comfortable housing, a convenient life with easy access to numerous services, and a school that covered primary and secondary education made the arsenal complex 'too comfortable to leave' for many, especially double-income couples with children (interview, 6 August 2019).

Recruited from selected echelons of the socialist society, the arsenal community was far from homogenous. Apprentices were paid RMB 17.5 monthly for three years. Vocational school graduates and those who completed apprenticeships were categorised as first-level workers and received RMB 35.5 monthly. Experienced second and third-level workers received RMB 41.5 and RMB 46.5, respectively. Senior engineers were allowed to bring family, who usually worked in the auxiliary services, whereas single workers lived in the dormitory's shared rooms and could only apply for an apartment after marrying someone who also worked in the industrial complex (CZBJB, 2011, p. 252; interview, 8 August 2022). With free or low-cost housing, medical services, and child education, the Front workers' most significant expense was food. Although skilled arsenal workers could afford a comfortable life, many lived on a tight budget to send money home (interview, 27 July 2022;

interview, 8 August 2022). Most workers' income stagnated from the late 1960s until 1978 while supporting growing families and ageing parents (CZBJB, 2011, pp. 176–178). Soon after the arsenal opened, spontaneous mutual help groups formed in each workshop. Each month, workers gave a portion of their income to the group, which would provide interest-free loans to members in need, ranging from those stretched thin before payday to those who could not afford wedding banquets. The groups expected borrowers to repay their loans before the Lunar New Year so other workers would withdraw their savings for the holiday (interview, 27 July 2022; interview, 8 August 2022). This financial arrangement weaved a safety net, strengthened workers' sense of belonging, and increased mutual dependence beyond the workplace.

The privilege accorded to arsenal workers was nevertheless precarious because it was conditional on their Beijing *hukou* and subject to changes at the arbitrary will of political authorities. In the autumn of 1969, a BMRC grassroots official who felt 'snubbed' by the arsenal's reception bypassed his leaders and asked the Beijing Bureau of Public Security to transfer Front workers' *hukou* to the provinces where the industrial bases were located. Xie Fuzhi (1909–1972), a staunch supporter of the Cultural Revolution and head of the reorganised BMRC, swiftly approved the request. Anxiety soon grew in the arsenal community. The ARC spent the following year lobbying against the decision. Firstly, the managers visited BMRC to 'win the sympathy' of cadres for Front workers and delay the transfer. They then asked the authorities of the county where the arsenal was located to convince the provincial government that their impoverished rural society could not supply the sizeable industrial settlement. After the arsenal managers drafted lengthy reports and made countless trips to various government institutions, the BMRC eventually shelved (and later retracted) the order (CZBJB, 2011, pp. 174–175; interview, 6 August 2019). BZT, then a shop floor worker, later described the experience as 'a lucky escape from catastrophe' (CZBJB, 2011, p. 175).

The socially engineered demography, precarious privilege, and somewhat monotonous Front life shaped the workers' choice of marriage partners. An employee who established family with a co-worker or staff member at the auxiliary facilities qualified to move into a subsidised apartment in the industrial complex (interview, 8 August 2022). The prospect of an improvement in housing did not appeal to everyone. Unlike her 'close female friends' who 'married their masters in the same workshop after getting to know them through the apprenticeship', a female worker declined 'excellent colleague suitors' and did not marry her partner working in Beijing until her mid-twenties, late by society's norms. Suffering from 'severe motion sickness' and feeling frustrated with 'the endless monthly bus trips between the arsenal and Beijing', she believed that 'not marrying an arsenal employee would make it easier [for her] to transfer back to Beijing'. Indeed, she successfully applied to be reassigned to an urban job after getting married (interview, 27 July 2022). Many other arsenal workers did not marry colleagues. Most PLA veterans from rural areas in Shandong preferred to marry women from their hometowns who could look after their parents. Despite lengthy absences from home, these veterans were popular on the marriage market because a husband with a prestigious job granted rural women higher status in their villages (CZBJB, 2011, pp. 250–251).

Married women in the arsenal complex had different experiences. Dual-earner couples who both worked in the industrial base distributed household labour more equally (interview, 6 August 2019; CZBJB, 2011, p. 290). Young mothers with partners working elsewhere, however, struggled with raising children alone while working full-time. Unlike employees without family on the complex who lived in four-person dorm rooms, these working mothers stayed in the 'March 8th compound' (nicknamed after International Women's Day), where two mothers and their children shared a unit. While daycare relieved some post-maternal leave burden, breastfeeding mothers had to run from their workshop to nurse their children. They also assumed typical male household responsibilities, such as lighting coal stoves while ventilating their rooms for safety. After the mid-1970s, the arsenal helped relocate some employees' spouses, mostly female homemakers, from their hometowns to the nearby commune. Unable to obtain Beijing *hukou*, these women were registered as 'worker-peasants' (*gongnonghu*). They could reside in the commune yet had no access to family plots or food rations and thus had to purchase grain from the commune (CZBJB, 2011, pp. 249–250).

The early years of Dongfang Arsenal coincided with the Cultural Revolution's most radical stage; the isolated industrial base was not immune to the political turmoil. A few workers occupied the arsenal radio station during the power-seizure campaign in the second half of 1966. Afterwards, young employees gradually splintered into two factions, the 'red union' and the 'legion', that verbally and physically attacked each other and competed in launching 'struggle sessions' against the managers to avoid being seen as 'conservative' (CZBJB, 2011, p. 308). Due to the disruption, the arsenal had to send many workers home and only manufactured 220 rifles in 1966, far short of planned production (CZBJB, 2011, pp. 38, 72, 341). Due to the 'trustworthy' family background of arsenal recruits, militant workers failed to find conspicuous 'class enemies' among themselves. Therefore, they falsely accused the targets of 'struggle sessions' with trumped-up charges.

The foundation of the Military Control Committee in March 1967, ironically, added to the tension. While instructed to 'identify, support, and rely on the "leftists"', the PLA officers dispatched to Dongfang Arsenal realised that Front employees were recruited for their 'reliable background' and 'outstanding performance'. Therefore, the committee declared both factions 'revolutionary proletariats', explaining that 'not just anybody can work in the military industry' and that arsenal workers' 'different opinions' resembled those between 'brothers' or 'husband and wife' and, thus, were not political. Not satisfied with the officers' 'straddling' attitudes, both factions intensified the conflicts to pressure the committee to take their side (CZBJB, 2011, p. 231). The most dangerous moment happened in August, when factional workers attempted to fire rifles, only to be stopped by an arsenal manager who kneeled, begging them 'not to escalate the situation to a whole different level' (CZBJB, 2011, pp. 290, 309; interview, 6 August 2019).

The formation of the ARC, consisting of cadres appointed by the municipal government, officers transferred from the PLA, and workers selected from the arsenal to take over the management in December 1967, contained the violence (CZBJB, 2011, p. 73). Relative geographic isolation and the necessity for mutual reliance to overcome the hardship of Front life cultivated a strong sense of community that buffered the atomising effect of directing loyalty to the party-state at the expense of other social relations. The PLA acceptance testing group set up in 1970 legitimised the emphasis on production and order. While cadres and intellectuals in cities were ostracised to rural farms dubbed 'May 7 Cadres Schools' (Fen, 1986), the arsenal's managers and supervisors were demoted to shop floor workers without suffering from a suddenly harsher life (CZBJB, 2011, pp. 158, 411). Unlike in cities where rebellious students and workers visited factories and schools reading posters and emulating militant behaviour, the arsenal workers only returned to Beijing once a month. Thus, they were less radicalised due to fewer peer effects (interview, 6 August 2019). To prevent the factionalised graduates hired in 1968 from fuelling further conflicts among workers, the ARC put them into full-time 'study sessions' to build rapport before assigning them to workshops. The committee appointed PLA veterans and 'neutral' workers to patrol militias to subdue factional skirmishes and attacks on cadres. The arsenal's sports teams and art troupe allowed the restless young workers to expend their energy (CZBJB, 2011, pp. 232–235). All these factors mitigated the intensity of the Cultural Revolution on the base.

Leave the mountains, enter the city, and venture into the world: Dongfang Arsenal from revolution to reform

Dongfang Arsenal experienced the last few years of China's deep involvement to Third World communist movements pushing back American and Soviet influence. After the American and South Vietnamese invasion of Cambodia in 1970, Beijing renewed its commitment to the Democratic Republic of Vietnam, which declined the Chinese offer of volunteer troops but requested increased material aid (Path, 2011, p. 102). In 1971, the arsenal was entrusted to produce 10,000 'specially packed' rifles for Vietnam. They packed each weapon, with its strap and spare parts, in a water-proof bag and sealed the bags in wooden barrels so the Vietnamese could float them downriver to the south (CZBJB, 2011, pp. 162–163, 181).

Nixon's visit to Beijing deteriorated China's relationship with Albania, Beijing's only ally in Europe after the Sino-Soviet split. While Tirana shared Beijing's concern that Moscow was a primary security threat, Chinese support for NATO to deter the Soviet Union enraged their Albanian comrades, who disagreed with Beijing's assessment that the American threat had declined (Biberaj, 1986, pp. 91–92). At the end of 1972, as the Beijing-Tirana partnership cracked, the arsenal received two Albanian interns. While appreciating the warm welcome, unreserved imparting of skills, and the Albanian cuisine that the arsenal chef offered, the interns commented straightforwardly on the problem of absent production quotas and material incentives in reference to the enhanced performance of Albanian factories after establishing those incentives (CZBJB, 2011, pp. 370–373).

Dongfang Arsenal's most costly foreign aid was an aborted project to help Democratic Kampuchea (DK) build an arsenal after the Khmer Rouge came to power in April 1975. In January 1976, Dongfang Arsenal's chief engineer joined an FMMI delegation to Cambodia to seek an ideal site for the new arsenal. Outside the emptied Phnom Penh, it took months for the Chinese to find somewhere that met the minimum requirements for electricity, water, transport, food and other conditions (CZBJB, 2011, pp. 167–168). As Mertha (2014) states, despite the continued commitment of cadres, funds, and weapons, Beijing found it increasingly difficult to wield influence on the Khmer Rouge as a result of 'bureaucratic fragmentation in China combined with an institutional matrix in Cambodia either strong enough to resist Chinese demands or too weak to act on them' (p. 9). The arsenal's aid project reflected that pattern. At the DK's insistence, the new arsenal would produce submachine guns. Unexperienced in automatic firearm manufacture, the arsenal spent from September 1976 to August 1978 drawing the blueprint and process map. The preparation was in full swing in October 1978 when the arsenal ordered equipment and selected staff to send to Cambodia. Vietnam's invasion of Cambodia in December 1978 toppled the murderous Khmer Rouge and put an abrupt end to the aid project, a result which the chief engineer deemed a 'total waste of manpower, money, and material' (CZBJB, 2011, p. 170).

By the second half of the 1970s, the mixed effects of economic reforms began to trickle down to the Front enterprises. In 1975, in response to the government restrictions on the military-industrial use of electricity from the national power transmission network to prioritise civilian needs, Dongfang Arsenal built two generators to power the industrial base (CZBJB, 2011, p. 141). In the same year, the emphasis on the secrecy of Front enterprises slackened. TXY remembered that she and many co-workers took their families to tour the industrial complex for the first time in that year (interview, 27 July 2022). In March 1976, to implement the Municipal Education Commission's plan to recertify middle school graduates during the Cultural Revolution, the arsenal organised a 'night school' programme offering a middle school curriculum (Chinese, Maths, Physics, Chemistry and later English) and technical skills training. The teachers were selected pre-Cultural Revolution high school graduates and experienced workers from various workshops (CZBJB, 2011, pp. 207–208). Advertised to the workers as an opportunity to 'regain the deprived learning time during the Cultural Revolution', the night school was popular (CZBJB, 2011, p. 209). Because the arsenal established the night school before the nationwide restoration of vocational training in the late 1970s, the participants' additional knowledge in natural sciences and mechanical skills prepared them for their upcoming career changes (CZBJB, 2011, pp. 209, 336; interview, 6 August 2019).

During the 1970s, as material incentives gradually regained legitimacy, the arsenal implemented four pay rises. Due to financial constraints, they periodically upgraded a portion of skilled workers to a higher rank with an increased salary. While the pay rise policy was meant to stipulate merit-based upward mobility, the arsenal's decision on promotion was mostly seniority-based to reduce employee tension over the definition of 'good performance' and to compensate workers who had to undergo long wage stagnation (CZBJB, 2011, pp. 176–178). In 1977 and 1978, the arsenal employees started to receive 'transportation subsidies' and 'subsidies for living in the mountains'. A worker with full attendance could boost their income by RMB 18 monthly. The subsidies were viewed as 'long overdue' by many workers because the arsenal had petitioned for them since the

1960s. However, the BMBMI did not approve them until the late 1970s due to the possible accusation of ‘utilising material incentives’ (CZBJB, 2011, pp. 179–180) during the Cultural Revolution.

Although material incentives bolstered the workers’ morale, emerging problems stood in the way of a more rational management system. The ‘National Working Conference on Educated Youth Who Went Up to The Mountains and Down to the Countryside’, held in Beijing from 31 October to 10 December 1978, led to the mass return of youths to cities (Gold, 1980, p. 756). With a tight job market in Beijing, the arsenal recruited many children of its workers, some of whom filled their parents’ unspecialised positions upon retirement. LQH, who supervised a workshop in the late 1970s, found these complicated interpersonal relationships a severe obstacle to a positive workplace environment. His former colleagues and supervisors’ children were now apprentices in his workshop, and he found it ‘difficult to criticise them when they made mistakes’ (interview, 8 August 2022).

The PLA’s modernisation dealt a final blow to the arsenal. In July 1978, Deng Xiaoping required all military-industrial enterprises to prepare for a ‘military to civilian transition’ and enhance the ‘level of automation’ (Xu & Zhang, 2020, p. 112). Presuming that a ‘streamlined, more efficient PLA’ would need fewer conventional weapons, Deng hoped the national economy could benefit from the ‘more sophisticated technology’ from defence production lines (Dreyer, 1988, pp. 220–221). Some arsenal workers realised that their products had lagged behind world technological development via personal experience. After the PLA invaded Vietnam in February 1979, some rifles from the arsenal were rushed to the frontline in Yunnan before testing. During the in-house acceptance test, the officers noticed that the sample’s pistons broke well before the targeted number of shots. The arsenal immediately dispatched technicians to the border to inspect rifles from the same batch. The casualties incurred by the Soviet-produced automatic guns used by the Vietnamese that these technicians witnessed became a wake-up call that their semi-automatic weapons’ rate of fire was ‘too low’ for modern warfare (interview, 8 August 2022). The war soon accelerated China’s military modernisation (Zhang, 2015, pp. 175–180). The National Defense Industry Meeting held at the end of 1979 decided to reduce the production of conventional arms by seventy-five per cent (CZBJB, 2011, p. 88). Deng required the ‘bloated’ PLA to downsize, reform its structure, and upgrade military education at an enlarged CMC meeting in March 1980 (Deng, 1980). That year, the production assigned to Dongfang Arsenal was 18,000 rifles—sixty per cent of the 1979 number. Beijing’s Front enterprises enjoyed a slower reduction of military purchases than arsenals elsewhere thanks to the ‘favourable treatment’ of the capital city’s military industry (CZBJB, 2011, p. 88). However, by 1982, the FMMI no longer received PLA orders for semi-automatic rifles and the arsenal terminated military production the following year (CZBJB, 2011, p. 91).

The defence industry cuts left many factories on the brink of closure and resorting to producing diverse light industrial goods. In the early summer of 1979, the FMMI held a meeting in Shenyang, requiring middle to small-scale military-industrial enterprises to develop plans for civilian products (CZBJB, 2011, p. 219). A naval radar plant in Nanjing shifted to manufacturing electric fans (Dreyer, 1988, p. 221). Front enterprises producing conventional arms encountered more significant challenges in the transition. Dongfang Arsenal’s equipment was incapable of manufacturing light industrial goods that could compete with specialised factories. High transport costs and unreliable market intelligence disadvantaged Front enterprises in the sparsely populated mountains. Burdened with providing more social welfare than urban factories that benefited from public services, Front enterprises often lacked products that had competitive prices (CZBJB, 2011, pp. 273–274).

In the second half of 1979, the arsenal sent an information-gathering team to Beijing and learned from the Beijing Light Industrial Import and Export Company that wealthy Gulf countries with falconry traditions might be a niche market for large calibre airguns. Dongfang Arsenal soon decided to manufacture the export product, allowing it to use existing machines and most rifle components. Reaching a collaborative deal with a civilian airgun factory, Dongfang Arsenal obtained and revised design drawings for a bigger calibre rifle. In return, the arsenal provided better machines so that the other factory could manufacture the same product and share the brand name. From 1980 to 1983, Dongfang Arsenal manufactured 82,500 air rifles, winning a good reputation among importers as

cost-effective falconry rifles, and the arsenal was invited to attend the China Import and Export Fair ('Canton Fair') (CZBJB, 2011, pp. 90–92, 219–220).

Manufacturing civilian guns nevertheless failed to rescue the arsenal. Orders from the Middle East declined after the Iran-Iraq War broke out in 1981 (CZBJB, 2011, p. 171). The already small domestic market also slumped. To deter escalating crime, including armed robbery, in the wake of economic reforms, the CCP launched the Strike-Hard Campaign (*yanda*). From 1983 to 1986, criminal suspects were swiftly and harshly punished (Tanner, 2000). In 1980, China joined the World Wildlife Fund (WWF-China, n.d.), and the Constitution of the People's Republic of China, revised in 1982, stipulated the 'protection of endangered animals and plants' for the first time (The Fifth People's Congress, 1982). Further restrictions on civilian firearm ownership during the Strike-Hard Campaign and the decline of bird hunting crushed the domestic airgun market. The arsenal briefly considered manufacturing sewing machines but gave up due to a lack of competitiveness. The arsenal discontinued fulfilling civilian orders in 1983 (CZBJB, 2011, pp. 90–92, 170–71).

Echoing the declining significance of the Third Front to China's national security, Dongfang Arsenal changed its attitude from restrictive to encouraging for workers who wanted to move back to Beijing. In 1971, to help employees with 'genuine difficulties' working and living in the Front complex to return to the capital, the arsenal coordinated a swap programme with the BMBMI (CZBJB, 2011, p. 183). From 1971 to 1975, the enterprise reassigned twenty employees to Beijing and recruited the same number from urban factories yearly. In 1976, the arsenal also transferred an additional fifty employees to Beijing without swapping them for urbanites. In June 1979, a report from the arsenal to the MONDI quoted prevalent reasons in workers' transfer applications: chronically ill close relatives in Beijing needed care; extremely sick employees were no longer suitable for work in the mountains; single workers in their thirties 'had yet to solve their marital problems'; some employees were the only child of ageing parents; working mothers would like to join spouses who worked and lived in Beijing; employees' parents were formerly persecuted and had returned to Beijing after rehabilitation of wrongly decided cases but their other children were still ostracised to the frontier (CZBJB, 2011, p. 183). The arsenal sent investigation teams to verify applicants' situations and prevent abuse of the policy (interview, 27 July 2022). With more than 400 applications by 1979, the arsenal obtained a government quota to relocate 170 employees to Beijing that year. Due to the substantial number, for the first time, applicants had to secure job offers in Beijing to be considered for transfer, which benefited better-connected applicants (CZBJB, 2011, pp. 183, 191).

The BMG gradually lifted restrictions on Front labour mobility during the Third Front's demilitarisation in the early 1980s; nevertheless, the road back to the city was long and hard for many. Many interviewees cited the period between 1980 and the moment they finally received a job offer in Beijing as one of the most challenging times in their lives due to stagnant income, uncertainty over the future, and the mere fact that they had nothing to do during work days (interview, 6 August 2019). In 1982, Front factories no longer needed the BMG's quota to transfer employees to the city (CZBJB, 2011, p. 184). The arsenal's survival strategy changed from producing civilian goods to relocating the enterprise closer to Beijing. However, a rental contract with a rural county of Beijing in 1982 had to be cancelled due to a government ban on land transactions (CZBJB, 2011, p. 91). Closing the arsenal seemed to be the only option. In 1984, when the CCP abolished the Small Third Front production system (Lüthi, 2008, p. 30; Zhou & Xu, 2021, p. 175), the arsenal sent more than 500 inquiries for vacancies to enterprises and government institutions in Beijing and granted employees extended leave to seek jobs (CZBJB, 2011, pp. 192–93). The BMG hoped to lower the cost of merging or closing Front enterprises by reducing the Front workforce.

The job market welcomed many arsenal workers because they had worked in the military industry, received school certificates, and were party members. Housing was the biggest obstacle on their road back to Beijing. An unmarried job seeker only needed a spot in the workers' dorm from their new employer. Couples who both worked for the arsenal thus lived in its apartment buildings with their children, however, faced the difficult decision between waiting longer for a job offer with subsidised housing in Beijing or accepting a position without housing and renting on the private

market (interview, 27 July 2022; CZBJB, 2011, p. 192). Opting for the latter would significantly drive up the cost of living in Beijing. LDZ, who returned to Beijing with a young family, had to spend nearly ninety per cent of the salary he earned from his first job in the city on renting a tiny room without a private bathroom or kitchen until his employer assigned his family a low-rent apartment six years later (CZBJB, 2011, p. 422).

A virtual site of memory and social engagement: the afterlife of Dongfang Arsenal

Leaving the arsenal was the most significant change in many workers' lives, for better or worse, and their paths diverged afterwards due to their distinct jobs. Most who found positions in public institutions were winners in the post-Maoist reform. Besides enjoying job security, an increased salary, and comprehensive welfare over the following decades, they changed from tenants to owners of their apartments through the subsidised sale of public rental dwellings during the commodification of urban housing in the 1990s (interview, 6 August 2019; Zhang, 1999). The housing price inflation from the early 2000s onwards helped them accumulate considerable wealth. In state-affiliated institutions, their work experience in the military-industrial sector became a political asset that was conducive to promotion and appointment to leadership positions (interview, 6 August 2019; CZBJB, 2011, pp. 276–277, 364–368).

Those who remained in industrial labour encountered more extraordinary twists of fate during the turbulent mass layoffs in the 1990s (Hung & Chiu, 2003). Among them were the 387 workers incapable of finding alternative jobs who were transferred to a civilian metallurgical plant when the arsenal was shut down in 1987. To resolve the housing issue, BMG allocated a special fund to build residence buildings near the plant (CZBJB, 2011, pp. 95–96, 185–186, 194–195, 355–356). A large car manufacturing group annexed the metallurgical plant in 1994 when it struggled on the brink of bankruptcy. While former arsenal workers avoided being laid off and enjoyed higher salaries and better welfare at the new workplace, moving to a new job as annexed outsiders dimmed their promotion prospects. Their new employers sometimes appointed them to lower ranks due to duplicated functions or avoided promoting them to leadership positions (CZBJB, 2011, pp. 276–277, 342–368). Some other former arsenal workers who entered less effective state-owned or collective enterprises received miserable separation packages during privatisation in the 1990s. They were not necessarily the victims of post-Maoist liberalisation. Some laid-off workers became successful entrepreneurs, and others enjoyed improved housing conditions through the 'Old and Dilapidated Housing Redevelopment' scheme or received respectable monetary compensation during 'Demolition and Relocation' (interview, 6 August 2019; CZBJB, 2011, pp. 276–277).³ To a varied extent, former arsenal workers who returned to Beijing benefited from neoliberal reforms. However, they were stratified according to their social status and financial situation by retirement age.

Although all interviewees and memoir contributors spoke of their Front years with enthusiastic pride, none were nostalgic for Maoist socialism, characterised by egalitarianism, ideological obsession, and preference for moral over material incentives (Riskin, 1973), due to their significantly improved living standard during post-Maoist reforms. Instead, they yearned for features of the arsenal community unintendedly created by Front policies: 'close', 'comfortable', and 'harmonious' inter-personal relationships created by small group behaviour in sharp contrast to office politics or cold shoulders many had to endure after leaving the industrial complex. The arsenal population spent their work and leisure time together, blurring the line between work colleagues and friends. They were willing to help each other while hesitant to quarrel with those they met regularly. While their mini-society was sometimes a fertile ground for annoying gossip, the overlapping, intertwined professional and personal networks drove residents to maintain good moral characters and created a community with an extremely low crime rate (CZBJB, 2011, pp. 236–245; interview, 6 August 2019). Having lived in an era when the military was elevated to an elite status, the shared experience of working in a Front arsenal created the identity of being 'military-industrial soldiers' among the workers (CZBJB, 2011,

p. 255). They had a work unit (*danwei*, the term for an urban workplace) based identity that 'was as strong as what the villagers in pre-1949 China had with their community or clan' (Li, 2023, p. 128). Lacking an alternative source for collective identity after leaving the arsenal, ties with the arsenal continued to bind former workers. Arsenal workers also cherished their experiences as witnesses to and participants in history, namely, major domestic movements and important foreign policies, even if their revolutionary zeal proved 'ridiculous' in retrospect and the costly aid to Vietnam, Albania, and Cambodia seemed fruitless to them (CZBJB, 2011, pp. 181–182; interview, 6 August 2019).

In 2010, in preparation for arsenal gazetteers, the editorial committee consisting of former arsenal employees set up a website to gather material. The website became a virtual site of collective memory and social engagement for participating members to reconnect with former colleagues. Within a year, the website registered over five hundred users and compiled a complete list of arsenal employees (CZBJB, 2011, pp. 429–431). From 2010 until the COVID-19 pandemic, an annual get-together was a 'tradition' and attracted several hundred former arsenal workers. Co-workers from the same workshop organised smaller reunions and trips to the abandoned plant. After leaving Dongfang Arsenal, people's workplaces were increasingly distant from the socialist model of encouraging the thorough identification of workers with their work unit via employment-based welfare and *divertissement*. Retired from work and living separately with their grown-up children, former workers maintained a sense of belonging from their shared ties to the arsenal.

In 2015, Beijing and Zhangjiakou became co-hosts of the 2022 Winter Olympics (*Winter Olympics Bring a Mountain Village into the Limelight*, 2022), which boosted the commercial value of the mountainous region designated as Beijing's strategic rear base in the 1960s. In 2019, the arsenal complex's geography (a mountain range on three sides and a river on the fourth) made it attractive to a real estate developer wanting to build and sell retirement apartments to former workers. Remembering the biting cold winters there, they failed to demonstrate much interest in the proposal (interview, 27 July 2022). The developer now capitalises on trending industrial heritage tourism and has redeveloped the complex into a summer resort. The factory plant and other landmarks have become industrial heritage attractions (interview, 8 August 2022).

Conclusion

This article tells the microhistory of a Small Third Front arsenal in the Maoist military industry, its determined yet failed attempt to survive post-Maoist economic changes, and its physical and virtual afterlife. The mostly native-Beijing managers and workers recruited to the mountainous Front actively defended and exploited their institutional and social connections with the powerful state's political centre. That bestowed significant bargaining power on the arsenal community and enabled them to improvise strategies to tackle the challenges of living in the rural exclave. The fate of this industrial population was strongly associated with the country's defence strategy. The enhanced danger of war distributed resources, resettled thousands of industrial workers to the Front, and led to a demanding work schedule. However, China's improved strategic position in Sino-Soviet–U.S. triangular relations diverted funds and material away from the mountainous interior. Undergoing a frustrating period of a broken industrial community and welfare system in the early 1980s, arsenal workers were among the first of their generation to experience occupational mobility during economic transformation. Losing protection yet being freed from the constraints under the state-dominated 'unified contacting and distribution' of labour (Qian et al., 2022, 619), many workers embraced the autonomy and risk of employment choices.

This article presents a complex picture of model shop floor workers during the Maoist era by highlighting the lesser-known story of Beijing's Small Front. First, military-industrial labour in the rural hinterland benefited from and narrowed the urban-rural divide. The alienation of cities from villages was one of the tragic 'unintended consequences' of Mao's 'revolutionary modernisation project' (Brown, 2012, pp. 2, 13). Neighbouring peasants were exposed to some aspects of modern society via access to a small portion of the industrial base's

infrastructure. Second, the military-industrial labour force was heterogeneous despite being recruited from politically reliable families. They were internally stratified by place of origin, former residence, education level, and network broadness. Thus, workers from the politically resource-rich capital possessed augmented social capital collectively. Under the Maoist, authoritarian development model that demanded an unconditional commitment to its abstract cause, the municipal authorities had to rely on a combination of policies that restricted labour mobility, strengthened the links between the supposedly 'secret' industrial base and the city, and improved workers living standards to prevent the outflow of their workforce. Third, as J. Li (2019) states, the industrial labour force resettled by Front projects was not simply a victim of political coercion during the Maoist era or the economic turbulence during the reforms. The workers were determined to grasp opportunities that bettered their situation and push back government decisions detrimental to their fundamental interests.

This article's findings indicate meaningful directions for future case studies of Chinese enterprises and industrial heritage. Researchers can study industrial complexes as microcosms of socialist modernity, sites of everyday negotiation with the state-driven developmental model, and carriers of discursive memories of the society's bumpy road toward modernisation. The Third Front was the creation of an international crisis, a part of the military-industrial system that underpinned China's ambitious foreign aid projects, and a participant of the country's determined exploration of global markets during profound reforms.

Ethics declarations

This project has passed the Research Ethics Review of the London School of Economics and Political Science (Ref: 51660). The author obtained permission to conduct interviews for this research from all interviewees, who were fully informed about the research's purposes and how it would use their responses. The author has anonymised all interviewees to comply with UK Research Ethics regulations. The author has removed all identification information for primary sources and citations to ensure the anonymity of the arsenal and its former employees.

Notes

1. The Big Third Front was set up in Sichuan (including Chongqing), Guizhou, Yunnan, Shaanxi, Gansu, Ningxia, Qinghai as well as the mountainous interior of Shanxi, Hebei, Henan, Hunan, Hubei, and Guangxi (P. Li, 2019, p. 248).
2. From the 1950s to 1970s, China's heavy industry was overseen by eight machinery industry ministries that specialized in civilian machinery, nuclear power, aviation, electronics, conventional weapons, shipbuilding, aerospace industry, and tactical ballistic missile, respectively.
3. For a review of these two programmes, see Shin (2008).

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