

CHAPTER 6

Military Capabilities: Weaponry and Tactics

MILITARY modernization constituted an important part of the late Ch'ing reform programs in response to Western challenges. The Ch'ing court spent considerable sums of money on foreign equipment and aspired eventually to produce its own. The court relied equally heavily upon foreign, especially German, assistance to train Chinese officers and soldiers. It is clear, however, from the quick defeat of the Chinese forces suffered during the first Sino-Japanese War and the Boxer Rebellion that the Ch'ing government failed to achieve its objectives.

In the waning years of Ch'ing, some improvement occurred. On the whole, however, military technology and tactics advanced very little, and even this modest gain was probably more than vitiated by the political chaos of the ensuing years. This situation had a profound impact on the military in the 1916-28 period. In a sense, military technology and tactics imposed a set of constraints upon all Chinese militarists. Additional constraints were imposed by China's communications system and geography. Eventually, these constraints affected the distribution and transformation of political power. This chapter, then, attempts to describe these constraints and to assess their significance for the Chinese political system.

Weapons

Although spears, swords, and shotguns were widely used in some units, the infantrymen's most important modern weapon was the rifle. But the rifles were not of uniform quality or standard specifications, for three reasons.¹ First, most Chinese arsenals had been established and managed under regional auspices. Second, the for-

eign supply of arms came from many different countries. Third, procurement was the personal problem of each militarist; he had to take whatever weapons he could get and afford. The consequence was near-chaos; it was quite common for an army to be equipped with different types of rifles whose parts and ammunition were not interchangeable. In addition, the rifles were often obsolescent and poorly maintained. Most important, the number of rifles of any kind was usually inadequate.²

The most powerful weapons employed in the field were the artillery pieces. Here, too, the weapons were of diverse descriptions.³ Again, the diversity did not reflect technological sophistication, but rather decentralized procurement policies. According to one investigation, in early 1918 there were only 1,480 small pieces and 46 heavy pieces of artillery in the entire country; the possession of artillery was the privilege of a limited number of militarists and a matter of great envy.⁴ After the mid-1920's, fairly large quantities of mortars were produced by domestic arsenals.

Machine guns were not used in Chinese armies on a large scale until after they had demonstrated their value in the First World War, although the exact time of their introduction has not been determined. From the beginning, there was a wide variety of models and calibers.⁵ In 1920 there were reported to be 1,394 machine guns in use throughout all of China; many of them were Chinese products patterned after Western models that had long been discarded as impracticable or even dangerous. After 1920, machine guns became increasingly popular in Chinese armies and their number increased substantially.⁶ The exceedingly high price of machine guns, however, was a powerful deterrent to most militarists. (In 1923, a machine gun sold for \$450, while a rifle cost only \$17.)⁷ Consequently, the number of machine guns used by Chinese militarists probably never exceeded a few thousand pieces, most of them owned by the leading militarists, during the entire 1920's.⁸

Together, these three types of weapons constituted the essential equipment for the Chinese armies, although some new weapons were introduced from time to time. Airplanes were first used in military engagements during the anti-restoration campaign of 1917.⁹ At this time, there were very few airplanes in the whole country. On the eve of the Chihi-Fengtien war of 1924, the num-

TABLE 4
Monthly Output of Armaments, China
and Manchuria, 1923 and 1928

	Type	1923	1928
China proper:			
Rifles		8,500	8,500
Cartridges	5,500,000	9,500,000	9,500,000
Pistols	750	1,250	1,250
Machine guns	33	72	300
Artillery	6	300	300
Shells	1,200	96,000	96,000
Manchuria:			
Rifles	—	—	7,500
Cartridges	—	—	9,000,000
Pistols	—	—	—
Machine guns	—	—	70-80
Artillery	—	—	Large quantity 120,000
Shells	—	—	—

SOURCES: *China Year Book*, 1923, pp. 502-94; *China Year Book*, 1929-30, pp. 751-53; "Feng-Chih ping li dhi pi chiao," *Tung fang lsa chih*, 21, 19 (October 10, 1924); 160-61; Donald G. Gillin, *Warlord: Yen Hsi-shan in Shensi Province, 1911-1949* (Princeton, N.J., 1967), pp. 26-29.

the early 1920's almost every provincial capital had an arsenal equipped to manufacture small quantities of pistols, rifles, machine guns, and some artillery pieces. Furthermore, lesser militiamen also resorted to every possible means of self-help, such as using local blacksmiths to make weapons.¹³

Since the vast majority of these arsenals were makeshift operations and did not affect national total output to any significant degree, we can regard the figures cited in Table 4 as approximating the total arms output by domestic sources in China in 1923 and 1928. These figures allow us to make several further observations about China's armaments industry in the 1920's. Insofar as China proper is concerned, the increase of output in all areas except artillery pieces and shells was less than threefold. The modest nature of this increase becomes obvious when we compare the production figures of China proper with those of Manchuria. Although their combined total represented a definite increase over the early years, the fact that the Manchurian output almost equals the output of China proper conclusively shows that the development was an extremely uneven one.

Of all the arsenals in China, three—Mukden (Manchuria), Tai-

per of planes had increased to about 170, with more than 100 of them in the hands of the Chihli militarists.¹⁰ The total number probably reached 240 by 1928.¹¹ Other new weapons included tanks, armored railway cars, poisonous gas, and grenades.

A review of the state of military technology of the 1916-28 period shows that although differences existed among militarists at a given time, they were greater between different time periods. In keeping with the expansion of the size of the army during these years, there was a continuous expansion and improvement in weapons. This continuous, and in some cases phenomenal, progress in the armaments of the rapidly expanding Chinese armies raises an important question: How were these armies able to meet the increasing demands of expansion and modernization? To answer this question, we must examine the domestic and foreign sources of supply of military hardware.

The domestic armament industry rested on a very feeble foundation. The Ching government made very little headway in its program to expand the armament industry to meet the needs of the proposed New Army program, except for the creation of the Kiangnan and Hanyang arsenals. In all of China in 1916, there were only eight arsenals with any capacity for producing armaments.¹² There were 21 other so-called "arsenals" under national and provincial management, but they were mainly concerned with storage and simple repair and should more appropriately be called "armories."

The operating budgets of the arsenals reveal that even the larger arsenals had a very small output. Only Hanyang Arsenal had an annual operating budget of over one million dollars; three others had budgets between \$500,000 and \$600,000. The rest operated with very small funds.

All the arsenals with productive capabilities were located in six provinces (Hupeh, Shantung, Szechwan, Kwangtung, Kiangsu, and Honan), leaving the vast majority of provinces without their own arsenals. When the central government collapsed in 1916, the arsenals became the private property of the militarists in control of these areas; a large number of armies were left with no assured sources of supply. Many militarists responded either by expanding the facilities of existing arsenals or by creating new ones. By

yuan (Shansi), and Hanyang (Hupeh)—could produce adequate quantities of small arms to meet the needs of the local militarists. Hanyang could even supply other Chihli faction armies as well as sell small quantities to neighboring provinces.¹⁴ The other arsenals, however, present a different picture. Many of them originally had old machinery imported from abroad; as time went on, their obsolescence increased. Many arsenals also deteriorated as a consequence of wars between militarists, even when they were not directly exposed to war damages.¹⁵ Production became irregular and output declined.

As the total number of Chinese soldiers quadrupled from half a million in 1916 to over two million in 1928, the production of about 200,000 rifles per year (the peak figure for 1928) hardly sufficed to meet the needs of more than a tiny fraction of the armies. In fact, production was probably not sufficient to replace battle losses as wars became both more frequent and more devastating toward the latter part of the period.¹⁶ Under these circumstances, the militarists found that the only alternative was to seek foreign supplies.

Foreign arms had played a prominent role in China since the beginning of the programs for military modernization. Their importance steadily mounted, reaching a peak during the heyday of militarism. However, an accurate assessment of the importance of foreign arms is difficult.* The best we can do is to describe some of the practices and tentatively suggest the proportions and political consequences of foreign arms deals.

Japan seems to have been the only country whose government had a clear record of deep involvement with the Chinese military prior to the 1920's. While the West was preoccupied with the First World War, Japan established a close relationship with the Peking

* There are several reasons for this. First, foreign governments wanted to prevent full exposure of arms transactions between them (or their agents) and the Chinese militarist-buyers. Second, when transactions were purely commercial and private, they usually involved a large number of agents and operators without coordination or centralized control, thus making it difficult to track them down. Third, the parties involved shared a common interest in shielding their deals from the public view; the Chinese did so to protect military secrets and their reputation, and the foreigners to avoid prosecution under the laws of their own countries. Not infrequently, transactions were conducted on a cash basis, with no written records. Even when banks and credit were utilized, the banks protected the anonymity of their clients.

government, then under the domination of Tuan Ch'i-ju and his Anfu Club. Through the Sino-Japanese Mutual Defense Pact (May 1918) and its extension (February 1919), Japan became the sole foreign government to supply and train Chinese troops.¹⁷ With the defeat of the Anhwei faction, Japan's official involvement in arms supplies began to decline. After 1920, there was little evidence of further massive governmental arms support to any Chinese militarist.

In fact, Japan was one of the signers of the Arms Embargo Agreement reached on May 5, 1919, in which the signatory powers formally pledged to halt all arms supplies to Chinese militarists so as to discourage further civil strife.¹⁸ Implementation of the document encountered obstacles almost from the very beginning, however. In the first place, the embargo's enforcement was undercut by reservations and interpretations individually attached to the agreement by some countries. Japan, for example, claimed that the embargo should not forbid the importation of arms into the Japanese territory at Port Arthur; the French claimed the right to import arms for the police force and volunteers in the French concessions at Shanghai and elsewhere.¹⁹ These governments thus were able to ship large quantities of arms to China on the pretext that the arms were meant for their own forces.

In the second place, the nationals of the signatory powers were allowed to engage in arms transactions without legally violating the terms of the agreement. Airplanes and arsenal machinery, for instance, were sold openly by the nationals of the powers most eager to enforce the spirit and letter of the agreement.²⁰

In the third place, some of the world's leading arms producers—Germany, the Soviet Union, Austria, Norway, Denmark, and Czechoslovakia—had not signed the agreement. Consequently, the nationals and governments of these countries could engage in arms transactions openly with their Chinese clients without fear of reprisal or punishment.

These shortcomings prevented the embargo from fulfilling its original intentions, although the agreement might have had some limiting effects on the amount of foreign arms shipped to Chinese militarists during the first few years. After 1924, however, violations became so frequent and flagrant that the embargo ceased to exist for all practical purposes.²¹ Since all parties involved in arms

smuggling or transactions jealously guarded their business secrets, we may never be able to gauge the full scope of such activities in China. However, several general observations can be made on the basis of the available information.

First, the supply of foreign arms figures prominently in any explanation of China's civil strife. Most certainly, foreign countries were a more important source of supply than domestic production. It is no exaggeration to say that most Chinese armies were confronted with two alternatives: they could remain poorly equipped or they could rely heavily on foreign arms. The heavy depletion and attrition in the later years of the period often compelled even militarists with their own arsenals, such as the Fengtien faction, to import foreign arms. The deciding factor in the arms race among Chinese militarists was their ability to procure foreign arms. The sudden shift in power relationships brought about by one side's acquisition of large quantities of arms was often viewed with great alarm and often triggered a chain of reactions that eventually led to war.²²

Although the exact proportions of the foreign supply of arms are not readily assessable on a year-to-year basis, the general trend is unmistakably one of steady increase over the years. As conflict among the militarists became more intense, their need for arms also soared. Their scramble for foreign arms reached a frantic pace, especially after the spring of 1927 as the KMT forces were about to carry the war into North China. By 1927, according to a report published in *The North China Star*, a total of over a hundred million dollars worth of foreign arms had been imported into China.²³

The question of which country was the most to blame for the arms trafficking has never failed to arouse interest. While there has never been a lack of controversy, there have been very few hard facts. In the absence of reliable statistics, no one can determine with any degree of confidence which country was the chief culprit. Both the Nationalists and Communists maintained that the leading imperialistic nations like Japan and Great Britain were the major exporters of arms to support their favorite militarists in their respective spheres of influence. Their argument assumed that foreign governments and private individuals worked in collusion and should be lumped together for practical purposes. Available evidence, however, does not support the thesis that the

foreign arms dealers operated as a front for their governments; nor was there a client-sponsor relationship between Chinese militarists and a particular foreign power insofar as arms supplies were concerned. It is generally assumed, for example, that Chang Tso-lin depended on Japan for arms because Manchuria was in the Japanese sphere of influence. There is no doubt that Fengtien bought Japanese arms, since the source of supply was close by and the transaction was facilitated by the numerous Japanese commercial firms and banks in Manchuria. But Fengtien also purchased extensively from other countries, and the Mukden arsenal was equipped with European machinery and supervised by European experts.*

The transactions show no pattern of preference or dependence between the Chinese buyers and the foreign suppliers. It is fair to suggest that under normal circumstances the profit motive was the most important factor in the transactions. All the Chinese militarists wanted to buy foreign arms when they could afford them. Foreigners of many nationalities were equally eager to sell arms to the Chinese. The record seems to suggest that arms dealers were as diverse in national origin as the merchandise they peddled. Although foreign governments certainly were concerned about their rights and interests in China, they did not openly intervene on behalf of a particular militarist. Before Japan changed its policy in 1927-28, it did not intervene to prevent the defeat of Tuan Ch'i-ju in 1920 or Chang Tso-lin in 1922, although both were supposed to be "pro-Japanese" militarists. It is also hard to cite any evidence of the British helping Sun Ch'u-an-fang and Wu Pei-fu, or the French helping Tang Chi-yao. It is very possible that many more weapons were made available to these Chinese militarists through private transactions than through any secret official channels.²⁴ Together, the arms dealers and the militarists sustained China's civil wars.

It is against this background that we must evaluate the role of

* Chang Tso-lin bought a large shipment of German arms manufactured at the Krupp plants in 1923-24. Then in the midst of the 1924 war, he bought 18 airplanes from France. In May 1925, he also bought from Italy arms and ammunition valued at 6 million Mexican dollars. He even tried to buy arms from the United States, but without success. See Jowett, "Who Sells the Guns to China's War Leaders?"; *CWR*, Oct. 11, 1924; *FTIC*, 21 (Oct. 2, 1924): 147; Report of the American Consul in Mukden dated May 1925, in 893.24/26 of *Records of the Department of State*.

the Soviet Union, whose behavior constituted an important departure from the general pattern delineated above. The Soviets provided the KMT with a considerable quantity of arms, although the exact contribution of these arms to the KMT's success is not easy to assess.

In its early years, the KMT commanded no arsenal of its own; when Sun Yat-sen waged a punitive war against Ch'en Chiung-ming, he had to rely heavily on foreign gunrunners.²⁵ By the end of 1925, the KMT had more than 85,000 men organized into six army corps, but their combat preparedness was still very low. At that time, the chief Soviet adviser, Kisanko, complained that the entire National Revolutionary Army had only 13 cannons of various models and calibers, some of them obsolete; rifles and machine guns were also insufficient, and there was a general shortage of ammunition of all kinds, particularly for artillery weapons.²⁶ Thus, in this initial stage of army-building, the injection of Soviet military assistance assumed added importance, because it helped the KMT to put the new forces on their feet.²⁷ Among the documents seized during the raid on the Soviet Embassy in Peking on April 6, 1927, there were indications that the value of Soviet supplies handed over to Canton in the first eleven months of 1925 amounted to 2.5 million rubles, and that another 2 million rubles' worth of hardware was concentrated at Vladivostok for shipment to Canton during the spring of 1926.²⁸ It is possible, as F. F. Liu contends, that after the March 1926 purge of communist elements within the KMT, Soviet assistance in arms became meager in quantity, low in quality, and high in price.²⁹ But the exact amount of reduction is not clear. In July 1926, the Soviet military attaché in Peking transmitted to General Galen the Soviet government's policy on arms delivery to the KMT: the KMT must pay immediately for the transportation from Vladivostok to Canton, make payments for the supplies already delivered or to be delivered on a fixed time schedule, and must henceforth pay in cash as far as possible.³⁰ These were undoubtedly unfavorable terms. Nonetheless, they still left open the possibility of arms deliveries so long as the KMT could pay cash. And some Soviet ships loaded with military supplies continued to call on the port of Canton.³¹ In sum, the facts clearly indicate that Soviet arms played a critical role in hastening the birth of the KMT army and continued to play an important, albeit somewhat reduced, role in

helping the army to launch its drive northward. We cannot say, however, that Soviet arms alone enabled the KMT to defeat its northern enemies. In fact, the distribution of Soviet arms benefited only a small portion of the armies engaged in the Northern Expedition.³² With the seizure of larger territories and better arsenals, the KMT was able to become more self-sufficient.

Soviet arms were also instrumental in reviving another army, the Kuominchün, which made significant contributions to the Northern Expedition. This assistance was particularly important because Feng Yü-hsiang never controlled a large arsenal of his own and his territories had no access to the sea for importing arms. The Soviet shipments to Feng, from Siberia across Mongolia, began in early 1925, and by June 1926 Feng probably had received almost 6.5 million rubles' worth of Soviet arms.³³ After its Nankow defeat, the Kuominchün lost most of its equipment and retreated to the northwest, with no local source of arms supply. But Feng managed to obtain additional Soviet supplies.³⁴ With these replacement supplies, Feng was able to regroup his soldiers quickly, in time to attack the northern militarists from their western flank. The re-entry of the Kuominchün into the battlefield, which would have been difficult without substantial Soviet assistance, took considerable pressure from the KMT front and brought the campaign in the northern plains to a speedy conclusion.

The uneven geographical distribution of domestic arsenals and the heavy reliance on foreign arms put some militarists in some areas in an unfavorable competitive position. The few provinces with large arsenals of their own, and the coastal provinces with easy access to foreign shipping, usually had little trouble getting at least some supplies of arms and ammunition. The interior provinces, on the other hand, had great difficulties. Provinces like Hunan, Szechwan, Yunnan, Kweichow, Shensi, western Honan, and Kwangsi, western Kwangtung, and the other northwestern areas were at a particular disadvantage. Their great distance from the coast hampered dealings with foreign arms smugglers. If they turned to the few arsenals in China that had the capacity to produce surplus arms for sale, they not only had to cultivate friendly relationships with the militarists who owned the arsenals; they also had to pay exorbitant prices for small quantities and inferior quality.

When militarists in these areas attempted self-sufficiency, they

encountered equally insurmountable obstacles. Foreign machinery and raw materials had to face the same transportation problems as finished products.³⁵

The primitive nature of arms procurement and arms production during the 1920's had considerable influence on the structure of political power. Our information provides support for three general observations. First, the crucial importance of foreign arms gave the coastal provinces a decided military advantage; second, the few provinces with their own arsenals were also well armed; third, the interior provinces that were denied access to either of these two sources were the worst armed. Geographical differences in the distribution of armaments were important variables in explaining the tactics used by the militarists, the pattern of conflict among them, and thus the transformation of political power within the system.

Tactics and Strategy

The increased number of weapons and the introduction of new and better weapons into China substantially altered the mode of warfare. Before examining these changes, let us briefly establish the relative importance of the main types of weapons used during this period.

The total number of airplanes was too small to bring about any change in the strategic concepts of the time. Even on the tactical side, their impact was quite modest, for a number of reasons. The planes imported by Chinese militarists often were of inferior quality, and mechanical troubles were common. Spare parts were difficult to obtain, and maintenance facilities and mechanics were inadequate.³⁶ The bombs were too small, and many of them failed to explode at all. Pilots were poorly trained (there was no qualified flying school), and they tended to fly too high for accurate target observation or bombing.³⁷ When planes were first used, they at least had terrorized the soldiers; after a few years, even this effect wore off.³⁸ Consequently, the combat value of airplanes was very low. Their primary value was limited to reconnaissance.

The machine gun likewise had no substantial impact on the character of Chinese warfare. This contrasts quite sharply with the weapon's impact in Europe in the First World War. There, its introduction destroyed fighting in a close disciplined order and

necessitated heavy reliance on trenches, transforming the war into battles of attrition and long periods of stalemate. In China, despite the use of machine guns and trenches, no such stalemate ever took place, primarily for economic reasons. To be strategically significant, machine guns had to be used in large numbers, and few militarists could afford to buy very many. Nor could they afford to provision and maintain the large armies required for trench warfare. Moreover, even some of the best trained troops were unfamiliar with the revolutionary nature of the machine guns.* In the majority of cases, machine guns were just another weapon for the infantrymen, certainly increasing their firepower, but not achieving a revolutionary change in warfare.

Compared with machine guns, artillery figured more importantly in Chinese warfare. During the anti-restoration campaign in 1917, only a few rounds of artillery shells were fired, causing negligible damage. At the height of the first Chihli-Fengtien war in 1922, however, Fengtien forces were reported to have lobbed thousands of rounds over one Chihli target in a single day.³⁹ The widespread use of artillery made untenable the traditional strategy of city defense. Mud and brick walls were no longer sufficient to withstand the pounding of heavy artillery shells. Constant bombardment and severe shortages of food and ammunition quickly demoralized the civilian and military populations. In 1917, Chang Hsien held the city of Peking for merely five days before capitulating, although the artillery fire at that time was only intimidating, not really damaging. Toward the end of the period, there were no more than two or three instances when important cities were held for a prolonged period of time, and in these cases special circumstances prolonged the siege. By and large, city defense had by the 1920's been rendered valueless as a strategy wherever artillery was employed in quantity.

* For instance, in an inspection of Feng Yü-hsiang's troops, Soviet advisers found that machine guns were moved with the men instead of being used to produce a screen of fire to cover their advance, and that machine gunners were inefficient in assembling and dismantling their weapons. Sheridan, p. 166. Lawrence Impey, who witnessed much of the fighting of the 1924 war between Chihli and Fengtien, observed that "the higher command appeared to have no idea of the value of the Maxim from a strategic angle," and did not know how to utilize them to enfilade the enemy troops or to harass their lines of communication. "Chinese Progress in the Art of War," *CWR*, Dec. 27, 1924.

TABLE 5
Highway Mileage in China, 1928

Province	Mileage	Province	Mileage
Anhwei	1,010	Kiangsu	1,036
Chahar	1,562	Kwangsi	1,336
Chekiang	559	Kwangtung	2,440
Fukien	336	Kweichow	—
Hunan	687	Manchuria	—
Chihi	1,742	Shansi	1,307
Human	291	Shantung	1,535
Hupch	808	Shensi	107
Jehol	733	Szechwan	735
Kansu	1,787	Yuman	267
Kiangsi	312	TOTAL	20,973

SOURCE: Estimate made by the Good Roads Association of China, quoted in *China Year Book*, 1931, p. 217.

Thus, there evolved a pattern of warfare in which communica-

tion networks—especially the railways—not only became the most hotly contested military objectives, but also determined the location and size of the battlefields. Names of cities of historic fame gave way to those of obscure towns (such as Ch'ang-hsin-tien, Lang-fang, Ting-ssu-ch'iao, and Jung-t'an) on or near vital communication lines as the sites of the bloodiest battles. In fact, in some cases much of the fighting was actually done within a few miles of the railway tracks. The restricted area of fighting helped make armored trains, equipped with heavy machine guns and artillery, an extremely potent implement of war. Mobility and concentrated firepower were the two greatest assets. Armored trains were "decisive weapons" in some cases precisely because both antagonists had to rely heavily on the railways and thus had to risk concentrating their troops in the immediate vicinity of these lines.⁴⁰

Good communication facilities also greatly expanded the area that could be affected by military power. Conflicts of a strictly local nature tended to diminish in proportion to their proximity to major communication routes. Communications increased the militarists' ability to reach trouble spots more swiftly and forcefully. Other things being equal, the better the communication facilities a militarist commanded, the larger the territory he could govern. In order to understand the effect of China's communications network on military strategy and tactics, let us first briefly describe the development pattern of the transportation system.

The construction of modern highways did not begin until after 1916.⁴¹ Conditions improved after the launching of the Good Roads Movement in May 1921; by 1923, at least 1,800 miles of roads had been built. Most of these roads were built in the provinces of North China—Chihi, Shantung, Shansi, and Honan. Some roads existed in Kiangsu and Szechwan, and none at all in Yunnan, Fukien, Kweichow, or Kwangsi.⁴² As Table 5 shows, this pattern of development was followed until 1928, with few exceptions.

In addition to the shortage of modern highways, there was an equally serious lack of motor vehicles. According to Silas Strawn, the American representative on the Chinese Tariff Conference and on the Commission of Extraterritoriality, there were only about 8,000 motor vehicles in all China in 1926, compared with 20 million in the United States at the same time.⁴³ Most of the motor vehicles were concentrated in or near the major port cities in the eastern section. Motorized traffic in the interior was extremely inconvenient.

The railroads in the early twentieth century were also inadequate, both in terms of length and distribution. The preoccupation with defense and the heavy reliance on foreign capital resulted in a highly uneven distribution pattern which largely ignored China's domestic economic needs.⁴⁴ By the end of the 1920's, only approximately 5,000 miles of railway were owned by the Chinese

TABLE 6
Mileage of Government-owned Railways, 1930

Province	Length (main line, miles)	Province	Length (main line, miles)
Chihli	790	Hupeh	210
Honan	790	Human	160
Kiangsu	487	Kiangsi	80
Shantung	510	Chahar	235
Shansi	200	Suiyuan	125
Anhwei	175	Manchuria	1,100
Chekiang	125	TOTAL	5,237
Kwangtung	250		

SOURCE: Bureau of Railway Statistics, Ministry of Railways, report released in June 1930, in *China Year Book*, 1931, p. 178.

government. A comparison of Tables 5 and 6 reveals the interesting fact that all the provinces with low mileage in highways also had little or no railway mileage. In fact, railways were even more concentrated in the plains of northern China than were highways. The military significance of the communication systems can best be illustrated by comparing selected areas in these two regions, the interior and the northern coastal provinces. For instance, Chihli province had a total of 790 miles of railway and 1,742 miles of highway in 1928. Altogether this frequently contested area could be approached from four major railway lines: Peking-Hankow, Peking-Mukden, Tientsin-Pukow, and Peking-Suiyuan. In 1924, these four lines radiating from Peking contained more than 70 percent of the total rolling stocks in all of China proper (excluding the southern Manchurian railways).⁴⁵ The distances between the terminals and Peking could all be covered in from two days to less than a week's time. And the amount of personnel and war matériel that could be mobilized along these lines would be adequate to meet any logistic demands for fighting a major war in the Peking-Tientsin area.⁴⁶ In addition, the terrain was flat enough to allow travel on foot with relative ease; even heavy artillery pieces could be hauled by draft animals where no road existed. These conditions made it possible to concentrate fairly large numbers of troops and heavy equipment to fight a war.

If we examine logistic conditions in the interior, we find a totally different picture. In Kwangsi, for example, land communications were virtually impossible, since there was no railway at all and only about sixty miles of highway prior to 1925.⁴⁷ Rivers consti-

tuted the only important means of communication. Because most rivers run from the northwest to the southeast, travel between the northeastern and southwestern parts of the province was extremely difficult. Even traffic along the rivers between northwestern and southeastern portions was unreliable, because the water level fluctuated radically between seasons.⁴⁸ Furthermore, while it was easy to travel in a southeasterly direction with the current, sharp increases in altitude made it difficult to travel in a northwesterly direction against the current. Even on the main tributaries, the average speed was painfully slow; more than three weeks were required to cover 700 *li* when traveling against the current.⁴⁹ Consequently, although Kwangsi's navigable rivers totaled about 11,700 *li*, and reached 80 of its 99 *hsiens*, the traffic volume was very small.*

The situation in Kwangsi's neighboring provinces was even worse. Almost all of Yuman was cut up by mountain ridges running in parallel in a north-south direction, with deep valleys in between. Traffic was extremely difficult, and many parts of the province were simply inaccessible. More than half of Kweichow was hilly country 2,000 meters above sea level. Here, even water traffic was nearly nonexistent, not to mention railways or highways. Whatever traffic there was occurred mainly on narrow foot trails. The relatively wealthier province of Szechwan was hardly in a better position. Prior to 1928, there was not a single mile of railway. There was no highway linking the two most important cities of the province, Ch'engtu and Chungking, which were separated by a distance of about 250 miles. Most traffic was conducted along the Yangtze River and its navigable tributaries within the small basin, while the borderland on all sides and the vast western part of the province were inaccessible because of high mountains.

The sharp differences in communication facilities that existed between the eastern and interior parts of China gave rise to different modes of warfare in the two areas. We shall begin our comparison with a description of the type of warfare that prevailed in the interior.

* We do not have any figures for the 1920's, but as late as 1938 a survey shows that there were 6,084 boats of all descriptions in the whole province, with a total loading capacity of only 62,985 tons. The river section between Wu-chou and Kuei-jin, the most important city in the north, was the most heavily traveled section in the province, but there were only 553 boats in operation, with a total loading capacity of 5,580 tons. Ch'en Hui pp. 36-37.

In provinces like Shensi, Szechwan, Yunnan, Kweichow, Kwangsi, western Kwangtung, and Fukien, where modern communications were grossly inadequate, we find small armies fighting each other in a highly concentrated area. Lack of railways, highways, and motor vehicles made it necessary for soldiers to approach a battlefield by water in some areas, or on foot in others. Usually, therefore, most battles involved only a few hundred men, or at most a few thousand. The reliance on boats and draft animals made it exceedingly difficult to maneuver heavy field equipment. Even the transportation of a few million rounds of rifle ammunition presented a major logistical problem that many a militarist could not solve. Reconnaissance perimeters were restricted, and coordination between friendly units was difficult.

Geographical factors alone excluded large areas from the scene of combat. Generally, battles tended to take place in the few level areas of relatively low altitudes. Since armies of even modest sizes could move only along navigable tributaries and a few footpaths and cart trails, the points of military contact were also few. In this region, city defense was more common, because cities were usually also centers of communications. Ch'engtu, Chungking, Wuchow, Kueilin, all figured importantly in military strategy during this period.

Another concomitant of the interior location and harsh terrain of this region was the general backwardness of its military technology. Both domestic and foreign arms were difficult to obtain. The same weapons were used for years without substantial replacement or renovation. These obsolete weapons were unable to inflict irreparable damage on the enemy. Sesaw battles were commonplace throughout this whole region.

The logistical obstacles tended to discourage militarists from conducting long-distance campaigns. When we review the history of this period, we find that the militarists in these provinces seldom pursued military ventures beyond the neighboring provinces. For brief periods, Yunnan forces were in Szechwan, Kwangtung troops were in Fukien, and Kwangsi troops were in Kwangtung. Such troops were often placed in a predicament; logistics made it difficult to supply a large expeditionary force far from home. Living entirely off the conquered land, however, inevitably aroused the hatred of the local populace.

As long as militarists were separated by an adequate distance, and as long as the weapons remained below a certain technological level, defense held an advantage over offense. Points of contact existed only at the narrow open spaces between the warring parties, along a river valley, or at a mountain pass. Under such adverse circumstances, battles were fought inconclusively, and the victor was usually unable to follow his initial success by mopping-up activities. The defeated militarist seldom had to fear total annihilation, because he was able to retreat to a secluded area to nurse his wounds and rebuild his forces.* Such geographical features and inadequate communication systems tended to enhance the status quo among the militarists in these areas and thus were conducive to political fragmentation.

In this connection, we must note that the low level of military technology also provided a favorable climate for the existence of many small forces. Since a militarist with modest means could raise and maintain a force on that unsophisticated level, a large number of militarists sprang up in that area. Furthermore, since all the soldiers used practically the same kinds of crude instruments of war and since the skills required were either directly transferable from civilian life or very easily acquired, there was little need for a host of intervening ranks between the commander and his men. The relationship between commander and men could be reduced to a simple and direct relationship without impairment of the strength of the military unit. Under the commander, almost all men performed the same task with the same instruments. This situation was hardly conducive to military centralization or the formation of large units. By the same token, it was difficult for ambitious militarists to integrate and incorporate lesser armies by force because such simple weapons made it difficult to achieve decisive victories.

Thus many of these provinces had two, three, or sometimes six

* In Szechuan, for example, the local militarists had trouble for years in trying to dislodge the Yunnan army. In late September 1920, when the Yunnan army of about 10,000 men was finally forced to evacuate Chengtu, it simply went into the hills east of the city. Although the coalition of Szechuan generals gathered no fewer than 45,000 men, they could not dislodge the Yunnan troops from their securely fortified heights. After a week of unsuccessful assaults, the Szechuan troops were exhausted and went back to Chengtu, whereupon the Yunnanese immediately followed them and laid countersiege. *NCH*, Oct. 1920.

or seven militarists contending with each other for hegemony. The frequency of wars was high in these areas precisely because the cost of waging wars was relatively low. The ease with which a modest army could be raised, maintained, and equipped and the meager consumption of war matériel made it possible for militarists to indulge in frequent tests of strength without bleeding themselves to death either militarily or financially. Therefore, on the superficial level, the impression one gets is that these areas experienced more years of war than of peace. Indeed, in the news-papers of this period, it is hard to find a month passing without some report of war activities in Szechwan.* To a lesser extent, the same was true in Shensi, Fukien, and Kwangsi.

The high frequency of wars and the general difficulty in military and political control in this region merit some explanation. Although we have no statistical data, available evidence indicates that the warring parties probably spent more time in maneuvering for position than in joining battle. From reading contemporary accounts, one gets the impression that the militarists more often made threats and counterthreats, mutual denunciations, and other dramatic gestures than actually fighting. Furthermore, even when militarists actually did fight, the wars were usually of low intensity.

Most of the time wars affected only the immediate vicinity of the battlefield and the direct participants, and there were few casualties. Thus, "skirmishes" described the situation more accurately than "wars." Under these circumstances, it is not surprising that a large number of relatively weak militarists managed to survive and continue to engage in hostilities.

But this situation required that the status quo with respect to the level and quality of armaments and military training and leadership be maintained at all times. No local militarists could suddenly acquire large increases in these capabilities. The civil wars in Szechwan provide an illustration of what could happen when the local balance of power was upset. For years, the province was divided among six or seven military groups, all equally handi-

capped by poor technology and insufficient attention to logistics. But in 1923 Yang Sheng secured the support of Wu P'ei-fu and entered Szechwan with a large army much better equipped and supplied than those operating under local generals. Yang followed the Yangtze, rapidly dislodging his enemies from the cities along the river and appearing capable of unifying the province. But when one of his two steamers shipping supplies from Hupeh was captured and the other was sunk, his fortunes ran out. Denied access to the main communication line and outside assistance, his forces were bogged down in the overland fighting, and eventually they were forced to abandon their previous gains.⁵⁰ With that, the internal division of Szechwan was preserved.

In sum, a low level of military technology, relatively mild fighting among many militarists with small armies, and general political stability prevailed in this region with poor communication and logistics. In sharp contrast, the region with superior communications and logistics witnessed rapid progress in the art of warfare, fewer but more devastating wars, and an extremely volatile political situation. Here, the wars involved increasingly larger armies, wider areas of conflict, and greater casualties.

At the beginning of the period, no militarist could exercise assured control over a large number of troops. The first modest improvement came during Tuan Ch'i-jui's Hunan campaign. Altogether, Tuan probably mobilized between 60,000 and 80,000 soldiers during the entire span of the campaign. The Humanese had about 20,000 soldiers, plus some contingents from Kwangsi.⁵¹ It would not be too wide of the mark to suggest that some 100,000 troops were involved during this campaign. But this increased mobilization was brought about by intense political bargaining and compromise, rather than by the existence of a sound and powerful command system. Although the militarists now found greater need for cooperation, the manner in which the campaign was executed left little doubt that the level of mobilization was still very low, since the numerical superiority of the northern forces was not exploited to its full potential.

With the crystallization of the factional line-up and the advent of a progressively intensifying arms race, military mobilization became more effective. The first demonstration of this was the

* One source suggests that between 1912 and 1933, there were more than 700 wars in China, of which 500 took place in Szechwan. Teng Yünn-t'e, p. 102. Another source estimates that over 400 large and small civil wars were fought in the province after 1911. Ho Ping-ti, *Studies on the Population of China*, pp. 248-49.

TABLE 7
Number of Troops Mobilized for Major Wars, 1916-1928

Year	Number of troops	Index
1917	55,000	100
1918	100,000	181
1920	120,000	218
1922	225,000	409
1924	450,000	818
1926	600,000	1,090
1928	1,100,000	2,000

SOURCE: Wu-Jiao-tzu, *Ti erh ts'u Chih Feng ta chan chi* (Shanghai, 1924), chap. 2, p. 5; Wen Kung-chih, 2: 53; 3: 119, 167-68, 185-88; 1: 226; Chang Chun-ku, *Yu Pei-fu*, pp. 358-59; *China Weekly Review*, Sept. 1924; *Feng Chih chian shih*, pp. 20-23; Tao Chi-yin, *Wu Pei-fu*, pp. 100-101; *Tung tang Isa chih*, 21 (Oct. 10, 1924), pp. 152-57; *China Year Book*, 1925, pp. 836-40; *Pei fa chien shih*, 2: 321; James F. Sheridan, *Chinese Warlord: The Career of Feng Yu-hsiang* (Stanford, Calif., 1966), p. 191.

TABLE 8
Size of Major War Zones, 1916-1928

Year	Name of war	Provinces in war zone	Other provinces affected	Total provinces involved
1917	Anti-Restoration	1	—	1
1918	Hunan Campaign	1	4	5
1920	Chihi-Anhwei	3	3	6
1922	Chihi-Fengtien	4	6	10
1924	Chihi-Fengtien	5	9	14
1926	Fengtien-Khominchün	8	5	13
1926-28	Northern Expedition	12	8	20

SOURCE: Wen Kung-chih, 2: 19, 53; 3: 168-78; Chang Chun-ku, *Yu Pei-fu*, pp. 358-59.

This trend continued down to 1928 and beyond. It is clear from the data that civil wars in China were radically escalated, in the sense that more and more combatants participated in them. In fact, our figures in Table 7 suggest that their magnitude increased nearly twenty-fold within this time period. This phenomenal expansion in combat manpower was made possible only because the logistical system could support such a mobilization system. It is no accident that progress in military mobilization occurred only in the eastern region, where the best communication facilities existed.

The existence of these facilities also made it possible to expand the area of conflict and allowed militarists to exert their influence over remote areas. Unlike the militarists in Szechwan or Yunnan, who fought skirmishes in areas not exceeding several counties, the militarists in the east extended their operations into several provinces simultaneously. If we review the major wars, we can see a clear progression from conflicts involving one province to those involving many provinces. The expanding size of the war zones over the years is summarized in Table 8.

So far we have demonstrated that during the 1916-28 period there was a clear trend for wars to involve a greater number of participants and to cover ever-larger areas. It remains to be de-

termined what kind of fighting was actually done. Some journalists and scholars have characterized Chinese civil wars as "comic operas."⁵³ In fact, many of them were neither "civil" nor "comic."⁵⁴ As the years went on, the fighting became increasingly fierce, as is demonstrated by the escalating numbers of casualties suffered by the warring parties (see Table 9). The Anti-Restoration campaign against Chang Hsien does indeed appear to have been a comic opera. As soon as contact was made, Chang Hsien's soldiers quickly abandoned their positions and withdrew to the safety of Peking. Although the war lasted officially for six days, actual fighting occurred on only two days. When the city gates finally fell, Chang Hsien's soldiers readily cut

TABLE 9
Casualties in Major Wars, 1916-1928

Year	Participants	Total strength	Casualties
1917	Chang Hsüan	55,000	100
	Tuan Ch'i-jui	100,000	1-2,000
1918	Anhwei faction	100,000	3,600 (high)
	Hunan		? (low)
1920	Anhwei faction	120,000	30,000 (high)
	Chihi-faction	225,000	10,000 (low)
1922	Chihi-faction	225,000	20,000 (high)
	Fengtien-faction	320,000	15,000 (low)
1924	Chihi-faction	147,000	6,000
	Fengtien-faction		
1926-28	Kiangsu	70,000	20,000 (high)
	Chekiang		10,000 (low)
	Sun Ch'üan-fang (Lung-t'an)	70,000	14,000
	KMT Wuhan govt. (East Honan)		
	KMT 3d Army Group (Fang-shun-ch'iao)	70-80,000	19,840

SOURCE: *North-China Herald*, July 21, 1917; Dec. 15, 1917; March 18, 1918; Aug. 9, 1920; June 18, 1927. *Lai-chiang-chu-wu, Chin tai shih tsu hao*, no. 2 (1926), pp. 99-101. *Wen Kung-chih*, 3: 132, 192-38, 274-81, 33-40, *China Year Book*, 1923, pp. 573-76. *China Weekly Review*, Nov. 29, 1924. *Wu Pei-fu, hsien sheng nien p'u, Feng Chih chan shih*, p. 94. James E. Sheridan, *Chinese Warlord*, pp. 184, 224, 346n45. *Ko ming wen hsien*, 11: 212; 16: 843; 20: 1498-1509. Mao Ssu-cheng, p. 988. Huang Hsü-chiu, "Kuo min ko ming chian ti chiin shih shih," *Chi'un chiu*, no. 247 (October 16, 1967), p. 20. Kao Yin-tsui, *Ching-hua min-kao ta shih chi* (Taipei, 1957), p. 207. Ch'en Hein-cheng, 3: 214-15, 722. Tang Leang-Il, *The Inner History of the Chinese Revolution* (London, 1930), p. 278. Feng Yu-hsiang, *Wo ti sheng ho* (Shanghai, 1947), 3: 202-3.

their queues, dropped their rifles and opium pipes, and fled. Total casualties amounted to one hundred killed and wounded, mostly civilians.⁵⁵

The Hunan campaign lasted officially from August 1917 to August 1918, but fighting was only intermittent. With the exception of Wu Pei-fu's 3d Division, most northern troops showed little disposition to engage the enemy, and many units simply disintegrated after skirmishing with the less numerous and poorly equipped Hunanese armies.*

During the Chihi-Anhwei war of 1920, the Chinese soldiers be-

* The lack of interest in fighting among northern troops is evidenced by the fact that in less than four months before the end of 1917, the north lost 10,000 rifles and 8,000 soldiers taken prisoner. *NCH*, Dec. 15, 1917.

gan to show some capability for serious fighting. The warring parties now had more effective command of their own troops, and did not have to rely exclusively on the good faith of their allies. Although there were still instances where whole units ceased to fight because of low morale and inept leadership, the general tenor of fighting was serious, and some engagements were considered "the fiercest fighting since 1911."⁵⁶

By all standards the first Chihi-Fengtien war dwarfed the Chihi-Anhwei war of two years earlier. Both the number of troops and the war matériel committed by both sides far exceeded the quantity of the 1920 war.* Fengtien relied heavily on artillery power, but its commanders had little understanding of strategy and thus its artillery had only minor effect.⁵⁷ The poor performance of Fengtien soldiers on the battlefield prompted a number of foreign military observers to suggest that the commanders were completely ignorant of the rudiments of modern military strategy. The war did indeed show that Chinese soldiers and commanders still had much to learn about modern warfare, but considerable human and material sacrifices occurred. Although exact battle losses cannot be ascertained, partly because commanders on both sides were inclined to underestimate their own losses and exaggerate the enemy's losses, probably a total of at least 10,000 casualties were sustained by both sides. In addition, on the Fengtien side, four high-ranking officers (regiment commander or above) were killed, and seven were wounded.⁵⁸ These casualties among officers at the higher levels indicate the ferocity of the fighting, since Chinese generals did not usually participate directly in front-line activities unless absolutely necessary.

The 1924 war proved to be a replay of 1922, involving the same antagonists but on a much grander scale. Fengtien's army was much better trained and equipped. Mine fields were extensively laid, and electric barbed-wire fences were set up to protect fortifications. Armored trains and tanks were employed, and artillery fire was extremely heavy. The fighting itself was occasionally fierce. Some key points changed hands several times a day, and both sides

* It was estimated that the Fengtien force of 120,000 men was equipped with 150 field guns and 200 machine guns, while the Chihi force of 100,000 men was equipped with 100 machine guns and 100 artillery pieces. *Wen Kung-chih*, 3: 132.

used machine-gun corps to kill their own troops who retreated without orders. Furthermore, victorious forces pursued defeated units and covered as many as forty or fifty *li* a day to mop up the remnants.⁵⁹

After 1924, it became increasingly difficult to estimate casualties, because wars were fought continuously among a larger number of militarists. It was hard to determine when a war started or ended. Fengtien and Kuominchüin were enemies from late 1925 until 1928. From 1926 on, the KMT also enlarged its active participation, which further complicated matters. Hence, it is more realistic to view these years as one period of prolonged war consisting of many different battles. The size of armies increased, weapons improved, and battles were often marked by personal animosities among the militarists and by ideological overtones.

The qualitative and quantitative changes in war after 1925 brought mounting casualties to all parties involved. Heavy losses occurred among officers as well as among the rank and file. Before 1920, it had been very unusual for commanding officers to be wounded or killed in action; after 1925, casualties among high-ranking officers showed a conspicuous rise. This trend accelerated after the advent of the Northern Expedition, when the KMT troops often forced enemy commanders to fight or face total annihilation. During the two years of the Northern Expedition (June 1926–June 1928), 55 of the KMT's commanding officers with the rank of colonel or above (which included commanders of regiments, brigades, divisions, and army corps) were killed in action.⁶⁰ During the Kiangsi campaign alone, nine regiment commanders and one division commander were killed in battles, mostly in the month of October, 1926, when the fighting was most intense.⁶¹ While there is no comprehensive figure for the KMT's enemies, there is no doubt that their higher ranks suffered dearly. At the battle of Ting-ssuch'iao, the brigade under Liu Yü-ch'un suffered very heavy losses: all three regiment commanders and 24 of his 39 company commanders were killed. In fact, the fighting became so fierce that in a desperate move to stem the imminent collapse of his defense, Wu P'ei-fu dispatched teams of soldiers to block all escape routes and executed nine battalion and regiment commanders who had retreated without permission.⁶² Such enforcement of battle-field discipline had never been exercised in previous wars. Thus, wars had vastly changed during the twelve years. In 1916,

every province in the country (except Manchuria) was carved up by two, three, or more militarists, none of whom commanded a force larger than 20,000 soldiers. By early 1928, the KMT probably had as many as 700,000 men on the front line, while the northern militarists had no fewer than 400,000. Whereas war casualties in the early years never amounted to more than a few hundred, after 1928 it was common for a single battle to claim several thousand lives.⁶³ Fighting also became a continuous phenomenon, and fierce battles followed each other in quick succession. When so many casualties were inflicted so often, war necessarily became more decisive.*

Conclusion

Warfare in the eastern portion of China increased dramatically because logistic conditions made possible the concentration of ever larger numbers of troops and the employment of ever more sophisticated weapons. The rapid introduction of more destructive and more widely applicable weapons had certain effects on the political system. For one thing, the character of military organization changed. After 1920, most armies in areas with good communication systems employed rifles, machine guns, light and heavy artillery, armored vehicles, and even airplanes. As the weapons became more variegated and sophisticated, some minimal measure of coordination was necessary for their maintenance and use. Specialization of skills and differentiation of tasks became imperative. The simple and direct commander-to-men relationship gave way to a more complex hierarchy of military command.

The complexity of weapons also paved the way for greater integration of larger military units. Small units found it increasingly more difficult to lead an autonomous existence, because they lacked the variety of weapons needed to fight more versatile enemies. Unlike rifles and shotguns, artillery pieces and armored cars could be manufactured only in modern arsenals by highly skilled labor, or procured abroad only with large sums of money. Both resources were concentrated in the hands of the few most powerful milita-

* For example, the battle of Lung-t'an totally annihilated Sun Ch'u-an-fang's army and foiled his attempt to regain his power base in the lower Yangtze delta. Likewise, the battle of Fang-shun-ch'iao dashed Fengtien's hopes of defending the Paoting area, thereby making Chang Tso-lin's position in Peking untenable. Ch'en Hsin-cheng, 3: 722, 734–35.

rists, and these individuals thus had greater power over their subordinates and over lesser militarists. In the final analysis, only militarists who controlled large arsenals or had access to foreign supplies could control a large standing army; the militarists who had to depend on other militarists for arms had to be subservient to them as well.

In addition, machine guns and artillery made it feasible for an army to rule over a larger territory than before. In contrast to the division of one province by several militarists of meager but equal strength, one finds in the advanced military areas the tendency for several provinces to coalesce around one militarist. At the zenith of their careers, Chang Tso-lin, Feng Yü-hsiang, Wu P'ei-fu, and Sun Ch'uan-fang each controlled five or six provinces and directed the affairs of these spheres of influence as they saw fit. This tendency toward concentrated political and military power kept the number of primary contenders down to a small number at all times.

To sum up, notwithstanding the fact that the potentiality of some weapons was vitiated by the militarists' inability to appreciate them and the soldiers' inability to handle them properly, the general trend toward increasing sophistication and larger quantities of weapons introduced enough revolutionary features into warfare to upset the prevailing equilibrium. Our comparison of the two distinct geographical regions with different levels of communication systems and military technology showed that the militarists in the more advanced areas, aware that the stakes were high, had to fight harder in each battle. The accelerated pace of conflict and its usually decisive resolution, coupled with its increasing destructiveness, gravely undermined the stability of the political system in which these militarists played the leading parts. The system was disturbed by the emergence of the KMT, a new power with a great deal of military vitality and an eagerness to engage other militarists in ever bloodier and more costly battles. It is little wonder that under these circumstances the mercenaries finally lost out.

A Note on the Importance of Geography

The patterns of communication, logistics, and weapons distribution we have described are all related implicitly to geographical

factors. It is regrettable that few analysts of modern Chinese political history have chosen to dwell on the country's geography, which is one of the most significant and stable aspects of China's national life. This omission may stem from the belief that geographical factors are too static and too obvious to need elaboration. It may also reflect a desire to avoid "geopolitics." But the complex geography of China cannot be ignored. These features are not static; they assume different meanings under different conditions. They necessarily had a bearing on the development of political events. Here, we shall consider only those aspects of geography that are immediately related to the larger question of political stability. As we have shown, geography certainly affected the initial composition of military factions by influencing the militarists' choices of allies. At the initial stage, one visible pattern was for militarists to combine with distant militarists to deal with a common threat. The upshot was the emergence of military factions with fragmented territories, of which the Anhwei faction was doubtless the prime case. Although Tuan Chi-jui's base of power was in Peking, he had the support of Lu Yung-hsiang and Ho Feng-lin, whose territories (Chekiang and Shanghai) were separated from the faction's core area. The Chihli faction also suffered from fragmentation. Before 1920, the territories in the Yangtze valley and Chihli provinces formed two distinct and incontiguous parts. Even at the zenith of its power, the Chihli faction never effectively controlled Shantung and Anhwei. This initial fragmentation left indelible marks on the factions, for even later conquests did not wholly succeed in rectifying the situation. Up to the eve of the Northern Expedition, only the Fengtien faction enjoyed a high degree of territorial cohesion.

Territorial fragmentation necessarily entailed certain disadvantages. For one thing, serious logistical problems occurred when a faction's separate parts came under military pressure simultaneously. In addition, a faction with fragmented territories usually lacked depth and therefore had to halt enemy attacks at the frontier or expose its core area to grave danger. In 1920, for example, as soon as Anhwei's front line was penetrated, the whole defense collapsed and all its northern territories fell into enemy hands. The defeat came so abruptly that militarists in Shanghai and Chekiang had neither the means nor the time to send reinforcements. Thus,

the various militarists within a faction were often compelled to set up independent defenses when they controlled separate territories. This fact sometimes undermined the unity of the faction. In contrast, a territorially integrated faction possessed ample flexibility in defense policy as well as advantages in administrative consolidation. It was more resilient in the face of enemy pressure. Its ability to absorb enemy penetration into its own territory allowed it to fight a prolonged rear-guard war and offered it a good chance of mounting a counterattack. Even after the front line was broken, it was still possible to wear the enemy out inside its own territory.

The difference between territorially fragmented and integrated factions carried wider implications with regard to the policies they might pursue in the system. Since the fragmented faction lacked a territorial resilience against enemy penetration, the most urgent and minimum defense prerequisite at all times was the security of the frontier. The frontier was, in effect, both the first and the last lines of defense; it had to be protected at all costs. But such a policy involved a great deal of uncertainty. A bolder and more rewarding policy was an attack, especially a surprise attack, that would carry the war into enemy territory and away from home. The faction had to be sensitive to changes in relations among other factions and to be decisive and aggressive in meeting challenges. Procrastination might lead to irreparable loss of time and thus to disaster.

The fragmented faction also had to plan its defense with little prospect of coordination. In most cases, the transfer of troops from one part to another was exceedingly difficult. Whenever the fragmented faction entered a war, it expected to fight on several fronts. Therefore, although the fragmented geographical configuration of the faction was originally a product of the political pressures felt by many of its components, these components were never able to become parts of a fully integrated defense system. By joining the faction, each component had expected to bolster its defense posture; in the final analysis, however, the chance of obtaining mutual support was more illusory than real. The fragmented faction was highly vulnerable to piecemeal aggression, especially when its outlying parts were the targets. It had to face the perennial dilemma of either allowing these parts to be chipped off one at a time while

preserving sufficient force to defend the core area or coming to their rescue and thus exposing the core area to enemy pressure. Thus a fragmented faction was ill-equipped to deal with either large-scale or limited but selective aggression.

In contrast, the ability to sustain a prolonged war was an invaluable attribute of the external policy of a territorially integrated faction. The faction did not have to attack or to remain ever on the offensive as the only way of ensuring its security. It could afford to be calm when tension was mounting, because it had many alternatives for defense. This facilitated peaceful resolution, because delay would not mean disaster. An interesting comparison is provided by the two major wars among the factions. In the 1920 war between Anhwei (a fragmented faction) and Chihli (a more integrated one), Anhwei gave a very quick and decisive response after its position was challenged. In the 1922 war between Chihli and Fengtien, both integrated factions although not equally so, a long period of preparation preceded. During the first phase of preparation, when Fengtien seemed successful in gaining allies in the south, Chihli did not feel compelled to strike out immediately. In fact, Ts'ao K'un made every effort toward a peaceful settlement. This might seem a little overcautious for a faction that had just won a resounding victory over Anhwei barely two years before. But the most significant policy implication of Chihli's geographical character is that it could afford to show restraint and to keep open all policy options precisely because it did not have to fear a sudden breakdown of its defenses. It could fight a protracted war and minimize the effects of an enemy surprise attack. If the tripartite alliance among Fengtien, Anhwei, and the KMT had worked out, Chihli might still have had time to decide whether to compromise or to resist.

In time of war, the territorially integrated faction was usually more capable of coordinating all efforts. It had shorter lines of communication which were well protected within its territory, and consequently easier logistical problems. Whether an integrated faction could be attacked at more than one point depended on its relations with its neighbors. For instance, Chihli had to guard against the threat of invasion from the KMT, Anhwei, or Fengtien, while Fengtien had only to guard against its southern neighbor.

However, when compared with a fragmented faction, territorial integration provided a much more propitious environment for more integration in other aspects, political or economic.

A look at a map instantly reveals that all the powerful factions were congested in the eastern part of the mainland, each sharing a section of the coastline. All the lesser factions were landlocked. In order to understand how the location of the factions constrained their behavior, it is necessary first to describe their geographical characteristics.

Fengtien, the northernmost faction, with only one side bordering China proper, had the most defensible boundary. In the south, the KMT was separated from Kiangsi and Fukien by mountains. The other two neighbors to the north, Hunan and Szechwan, were anxious to maintain their neutrality and took special care not to offend the north or the south. The KMT's borders with them were also well defined.

Thus, both Fengtien and the KMT enjoyed a measure of geographical seclusion, which allowed them to stay away from the larger political conflicts and to concentrate on their own internal affairs if they so chose. This advantage was crucial to Fengtien between 1922 and 1924. Had Fengtien been contiguous with Chihli on more than one side or sandwiched between two factions, it would have been extremely difficult to maintain its independence and undertake major reforms without Chihli's intervention. The KMT benefited from its geographical location to no less an extent. The repeated threats of invasion by northern militarists never materialized, perhaps partly because of the strategic difficulties involved in such a long-distance overland expedition. This fact proved to have far-reaching ramifications for the whole system. The KMT used these precious years to consolidate its grip on the southern provinces, and then to use them as a springboard for launching the Northern Expedition. If, instead of being located at the southern pole of the mainland, the KMT had been in central China, it is hard to imagine how it could have managed to pursue a provocative program and still survive.

Thus the geographical attributes of both Fengtien and the KMT offer clues to their behavior.

These geographical attributes gave

them a great deal of leeway in their policy maneuvers. At the least,

they were able to exercise a greater control over the scope and

extent of their interaction with other militarists in the Chinese system.

In sharp contrast, both Anhwei and Chihli were located in central China and shared entangled borders with each other as well as with at least one other faction. Such a border situation provided many points of potential conflict. It is hardly surprising, then, that they were the first to engage in a major clash. From the geographical point of view, it could hardly have been otherwise. They were both placed in a setting from which neither could recoil. In order to carry out either an integration program within its own domain or an expansionist program into the deep south, Anhwei's first task was to clear Chihli from its advancing path. From Chihli's point of view, the most efficient way to deal with the threat of Anhwei would be to launch a strike directly at the source of provocation—Peking—which it did.

This analysis is borne out not only by the relations between Anhwei and Chihli, but by all subsequent events. As the history of this period shows, almost all the major wars took place in the area between the southern border of the Fengtien faction and the northern border of the KMT. Thus the central part of China must be identified as the area where military activities took place and where political decisions were made. Within that area, the Peking-Tientsin area could be regarded as the geographical "pivot" of the Chinese system. This was where the factor of geographical location came into full play. Had Fengtien, Anhwei, Chihli, and the KMT been arranged in a unilinear order with simple border relations, and had there been no Peking-Tientsin area, the two middle factions would still have had more complicated external relations than the two polar ones. But at least they might have been much freer to develop their external policies. In reality, however, their external relations were compounded not only by the entangled nature of their common zigzag borders but also by the fact that they were close to and were drawn toward the Peking-Tientsin area. The pattern of wars among the factions suggests that the faction controlling the Peking-Tientsin area was always alone in facing an alliance of other factions. It was Anhwei vs. Fengtien and Chihli in 1920, Chihli vs. Fengtien and its abortive alliance with Anhwei and the KMT in 1922, Chihli vs. Fengtien and Anhwei in 1924, and the Kuomintang vs. Chihli and Fengtien in

1926. In these wars alliances were concluded among factions far apart against the one in between.

From this train of events, some further observations can be made. First, the faction that possessed the Peking-Tientsin area had the highest frequency of wars, and in most cases had to be prepared to fight alone. Second, in all wars, whether localized or involving many factions, it was most advantageous to isolate one's opponent, or better still, to find allies and fight the opponent collectively. Since there was potential conflict between factions that were territorially contiguous, and since conversely there was little likelihood for conflict with remote factions, an alliance among the latter seemed most logical. It had the added advantage of forcing the opponent to face a two-front war. (This was exemplified by the relationship between Fengtien and Chihli before 1920 and that between Fengtien and the KMT before 1927.) But if the relative geographical positions changed, the political relations tended to change correspondingly. Therefore, as soon as Chihli replaced Anhwei as Fengtien's southern neighbor, it also inherited Anhwei's role vis-à-vis Fengtien. Even the KMT, which had been Fengtien's ally on many occasions, came into direct conflict with Fengtien when its territory extended to Fengtien's border.

The geographical location of the Peking-Tientsin area and of the factions is important to the stability of the system in two more ways. In the first place, it was the geographically central position of Peking-Tientsin that enabled the factions to adopt the policy of aligning with a distant actor to fight the one in between. Otherwise, the pattern of conflicts might have been more dispersed and more evenly distributed. Or if the political center had not been at the geographical center, but had been at, say, Canton or Mukden, then the policy of two against one would not have worked. A more equal distribution of capabilities among the opponents would have been possible. And the system as a whole would have been more stable, or transformed into a bipolar situation.

In the second place, it is apparent that there was a great advantage in possessing a polar location, as both the KMT and Fengtien did. It was more isolated, more defensible, and it allowed them more flexibility. On the other hand, this location by no means hampered their prospects of making encroachments upon the territories in the middle. The full strategic implications of

such a geographical position are shown by the fact that by the end of 1928, only the territories of the KMT and Fengtien remained unviolated. The final political unification of the country was achieved not by military conquest, but by political bargaining between the KMT and Fengtien. On the basis of these observations, I would like to offer the conjecture that had the KMT occupied a nonpolar position (say either in the Yangtze valley or on the northern plains), the Chinese system might well have ended in a quite different way.

CHAPTER 7

Economic Capabilities

MATERIAL resources affect the capabilities, performances, and goals of the actors in any political system, and the Chinese militarist groupings were no exception. First of all, the important figures in the factions, the commanders of divisions and brigades, had to be paid handsomely for their allegiance. The allocation of resources could be a delicate business, especially in cases where self-interest constituted the cornerstone of a group's solidarity. Second, militarists needed money to maintain vast standing armies, to pay, feed, and equip them. Third, they needed money to meet the mounting cost of fighting wars and replenishing battle losses. Fourth, they needed money as a diplomatic instrument, to buy the cooperation of their rivals or to induce their rivals' subordinates to defect. It was always cheaper to engineer a coup within the enemy camp than to fight it out on the battlefield. And finally, militarists needed money for personal enrichment. Frugality was a virtue rarely found in the military profession during these years. Professionally insecure, military leaders were also anxious to seize any opportunity to accumulate personal wealth as insurance against the loss of office and power. All these needs called for money, and the militarists had to find the means to tap the financial resources of Chinese society.

By and large, a centralized fiscal system operated during much of the nineteenth century. The provinces collected various taxes under the explicit authorization of the central government. After all authorized provincial and local expenditures were deducted, the rest was remitted to the central government or to designated

neighboring provinces as subsidies from the central government. Thus the system made the central and local governments interdependent. After the middle of the century, however, the prolonged internal upheavals denied the central government revenues from the southern provinces; the rise of the Hsiang-chün brought about a further decline in the central government's authority by shifting the financial power to the provinces. As time went on, provincial officials were able not only to increase existing taxes and add new taxes, but also to mint copper coins, collect *likin* (internal transit taxes), circulate currency, and finally to keep the revenues that should have been remitted to the central government. By the beginning of the Hsüan-tung reign (1908), the court had practically lost control of the nation's finances and had to rely heavily on foreign loans.¹

The financial authority of the central government suffered another serious setback when the Ch'ing government was overthrown in 1911. It was slightly improved after the suppression of the Second Revolution in 1913, when Yüan Shih-k'ai dispatched some of his loyal Peiyang troops into southern provinces.² But when the anti-Yüan revolt broke out in 1915, many provinces simply halted their remittances, and some even seized the proceeds of the special taxes that should have belonged exclusively to the central government.³ Order was partially restored after Yüan's death, when some provinces renewed their remittances, but these were mostly token amounts. Even these remittances ceased altogether after 1918, when civil wars engulfed the country.

Therefore, the central government's financial power reached its nadir at the time when the militarists became most powerful. The traditional fiscal relationship between the center and the provinces was destroyed. In order to understand how the militarist regimes were able to survive and flourish, let us turn to a more detailed examination of the sources of their revenues. Their regular sources of income included the revenues yielded by land taxes, the customs service, and the salt gabelle. Special sources of income included bonds, loans, currency manipulation, opium profits, and various forms of emergency exactions. After we have described these revenue sources, we shall then evaluate the impact on political stability and integration of the financial weakness of the Peking government, the rising costs of war, and the financial policies of the militarists.