CHAPTER 6

Shifting South:

The Five Dynasties and Song 907–1276

The pace of change in Chinese society began to increase in the late Tang period. By early Song times (960–1276), advances in agriculture and industry were contributing to dizzying economic growth. The pace of migration south accelerated, and the Yangzi valley finally became as central to the Chinese economy and to Chinese culture as the Yellow River regions in the north. The civil service examination system came to dominate the lives of the elite, and Confucianism was reinvigorated. Despite these signs of vitality, the Song dynasty was never able to establish dominance of East Asia the way the Han and Tang dynasties had. Advances in Inner Asian statecraft meant Song had powerful northern neighbours that had to be treated as equals, not vassals. Limiting the military threat they posed became a major preoccupation of both the state and the intellectual elite. Success was only partial; in 1127 the Song lost most of north China to the Jurchen's state of Jin, thus dividing the Song into two periods, the Northern Song when the capital was at Kaifeng and the Southern Song when the capital was relocated to Hangzhou.

KEY DATES

907–960	The Five Dynasties and Ten Kingdoms
960–1126	Northern Song dynasty
989–1052	Fan Zhongyan
1005	Peace with Liao
1019–1086	Sima Guang
1021–1086	Wang Anshi
1031–1095	Shen Gua
1033–1107	Cheng Yi
1037–1101	Su Shi
1067–1085	Reign of Shenzong
1069	New Policies are introduced
1092	Mechanical clock is invented
1100–1125	Reign of Huizong
1127–1162	Reign of Gaozong
1123–1202	Hong Mai
1125	Initial Jurchen invasion
1127–1276	Southern Song dynasty
1141	Peace with Jin
1130–1200	Zhu Xi
1234	Mongol attacks in Sichuan
1268–1273	Siege of Xiangyang
1236–1283	Wen Tianxiang

War and peace in a multistate context

During the chaotic century from 860 to 960 following the disintegration of the Tang dynasty, political and military power devolved to the local level. Any strongman able to organize defence against rebels and bandits could become a local warlord and declare himself king, and many of the kings of this period rose from very lowly beginnings; one had even been a merchant's slave.

In the south, no self-proclaimed king ever consolidated much more than the equivalent of a modern province or two, and historians generally refer to the regional states in the south as the 'Ten Kingdoms'. Political fragmentation in the south did not impair the economy there; on the

contrary, rulers of the regional states, eager to expand their tax bases, successfully promoted trade.

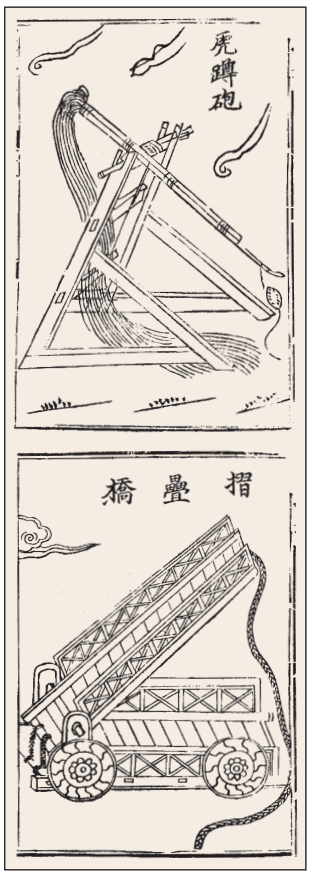
The effects of fragmentation were less benign in the north. Many of the regional warlords there were not Chinese but Shatuo Turks from the garrison armies. Both Chang'an and Luoyang had been ravaged by the wars of the late Tang period, and Kaifeng, located in Henan province near the Grand Canal, came to be viewed as the central city in north China. The rapid succession of Five Dynasties (Later Liang, Later Tang, Later Jin, Later Han, and Later Zhou) reflects how little time any of the claimants of the throne was able to hold on to this capital before being ousted by rivals. In 937, one contender for the Chinese throne turned to the Khitans, the new power in Manchuria, to help him gain control of the city of Kaifeng. In repayment, he recognized the Khitans as overlords and granted them the territory around modern Beijing. When his successor tried to renounce this arrangement in 946, the Khitans raided all the way to Kaifeng, occupying the city for months. After 951, the fifth of the Five Dynasties, the Northern Zhou, began making progress recentralizing military power and extending the realm.

Later Liang is considered the first of the Five Dynasties, but it co-existed with many other states and lasted only sixteen years.

The general finally able to defeat most rivals was Zhao Kuangyin, known as Taizu (r. 960–976), first emperor of the Song dynasty. Previously commander of the palace army of the Northern Zhou, Taizu was elevated to emperor by his troops, who were unwilling to be led by the seven-year-old son of the former emperor. By the time Taizu died sixteen years later, most of the rulers in the south had submitted to the Song. Taizu's overwhelming accomplishment was putting an end to military rule. To solidify his control over all military forces, he got his own commanders to retire on generous pensions and gradually replaced the military governors with civil officials. The best units in the regional armies he transferred to the palace army, which he kept under his personal command, fashioning it into a large, mobile professional army charged with protecting the capital. To prevent the rise of new regional strongmen, Taizu put the army under civilian control and saw that its officers were regularly rotated. This reorganization of the military forces was completed by Taizu's younger brother Taizong (who succeeded to the throne in 976); he dismantled the military provinces and appointed intendants in charge of judicial, fiscal, military, and transportation matters to supervise and co-ordinate overlapping sets of prefectures.

Reuniting north and south under the Song dynasty did not usher in an era of military expansion on the order of the Han or Tang. Not only was there no hope of regaining dominance in Central Asia, but it proved impossible for the Song to

dislodge the Khitans from territory south of the line of the Great Wall, including the area around modern Beijing. Moreover, the Tanguts, a people related to the Tibetans, had consolidated a state in the northwest. Like the Northern Dynasties in the fifth and sixth centuries, the Khitan's Liao state and the Tanguts' Xia state were ruled by non-Chinese who made use of Chinese officials and Chinese methods of government and ruled over mixed populations, including many Han Chinese peasants, merchants, and craftsmen (see Chapter 7). Under peace agreements reached in 1005 and 1044, the Song court agreed to make substantial annual payments to both Liao and Xia, in a sense purchasing peace. But defence remained a constant concern. The size of the Song army was more than tripled between 979 and 1041 to about 1,250,000 men, and the government manufactured armaments in huge quantities, arrowheads by the tens of millions per year, armour by the tens of thousands. Border defences included not only forts but also ditches intended to impede cavalry. Military expenses thus came to absorb over three-quarters of state revenue.



Siege warfare required up-to-date military technology, such as the portable catapult and scaling ladder illustrated here from an early Song manual, *The Essentials of the Military Arts* (*Wujing zongyao*), commissioned in 1040. The Khitan and Jurchen quickly mastered this technology, adding expertise in siegecraft to their previous mastery of cavalry warfare.

The need to defend against such powerful enemies stimulated improvements in military technology. In 1040, during the wars with the Tanguts, Emperor Renzong commissioned a forty-chapter manual on military matters, which includes instructions for the construction and use of a broad range of weapons and siege machines. It provides the first recipe for gunpowder, which at the time was used for incendiary grenades delivered by catapults. Not until later in the Song did military engineers discover that gunpowder could also be used as a propellant, thus inventing true guns and cannons. In its wars, however, the Song's technical superiority generally gave it only temporary advantages, because its enemies would capture craftsmen and engineers and set them to producing comparable weapons and tools.

Military crises also stimulated political centralization. Imperial governance had always involved balances between the central government and the local administrators, and between the emperors, who in theory held all power, and the civil and military officials charged by the emperor to carry out his orders. During the Song dynasty, these balances tipped in favour of central power and civil officials, and in many ways the Song government came closer to matching the Confucian ideal than in any earlier or later period. There were no tyrants among Song emperors, no empresses suspected of anything but good intentions, and no coups staged by eunuchs.

The Song government had many checks and balances, with separation of the military, fiscal, and general administration, and special censorial organs to report abuses of power or other failings on the part of officials. Early Song emperors regularly listened to a range of opinion before making decisions and usually deferred to their leading officials. Taizu, it was claimed, had vowed never to put anyone to death for disagreeing with him, and enjoined his successors to follow his example. Court officials, in turn, generally identified with the dynasty and supported strengthening central control. Many were outstanding men, committed to good government and willing to stand up for what they believed. Fan Zhongyan, a scholar-official who

during 1043 and 1044 attempted to institute a reform of personnel recruitment and local administration, described the duty of the Confucian scholar-official as being 'to be first in worrying about the world's troubles and last in enjoying its pleasures'.

Some Song emperors were ardent Buddhists, others Daoists. Emperor Zhenzong (r. 997–1022), after concluding the treaty with Liao, undertook a series of pro-Daoist measures. In 1008, he reported receiving 'documents from Heaven' and soon was establishing large Daoist temples in the capital and calling for every prefecture to establish Temples of Heavenly Felicity as well. With a large entourage he travelled east to Mount Tai to perform the sacred Feng and Shan sacrifices. In 1012, he learned from a dream that the Song imperial family was descended from the high gods of Daoism, the Jade Emperor and the Yellow Emperor. He gave this ancestor the title 'Holy Ancestor' and had images of him installed at Daoist temples across the country.

Known for his stern demeanour, Sima Guang (1019–1086) was an eminent historian and a leading opponent of the New Policies. The white object that he holds is a symbol of office, held by officials in formal ceremonies and audiences with the ruler.

Emperor Shenzong (r. 1067–1085), coming to the throne young and intent on military glory, undertook a major policy shift toward more activist statecraft. He gave his full support to Wang Anshi, who believed he knew how to enrich the country and bring more of the wealth into state coffers. His New Policies had many parts: restructuring the fiscal administration, a local militia to aid in national defence, new schemes for collecting and transporting special tribute taxes, interest-bearing loans to peasants to keep them from becoming dependent on landlords, conversion of labour service obligations to money taxes, reforming the local clerical service, setting up government pawnshops, and much else.

Trying to do so much so quickly, Wang Anshi quickly antagonized much of the bureaucracy. Because leading officials such as the historian Sima Guang and the poet Su Shi denounced his programmes as un-Confucian, Wang sought to bring in his own men. To do this he revised the examinations for entry to office, which only incensed his critics. Intense factional struggle resulted. Personal antagonism, differences of regional and class interest, and opposing philosophies of government all contributed to the mounting hostility between those for and against Wang's New Policies. Wang ousted from office many of those who opposed him, and when they got their turn in 1085, after Shenzong's death, they acted in like fashion. Factional hostility persisted long after Wang and his original supporters and opponents had died, marring relations among scholar-officials for half a century. Because there were no legitimate means to resolve political conflicts, disputes among officials seeking to influence the emperor could easily escalate, with each party lining up allies and focusing their energies on devising ways to oust their opponents.

The commercial economy

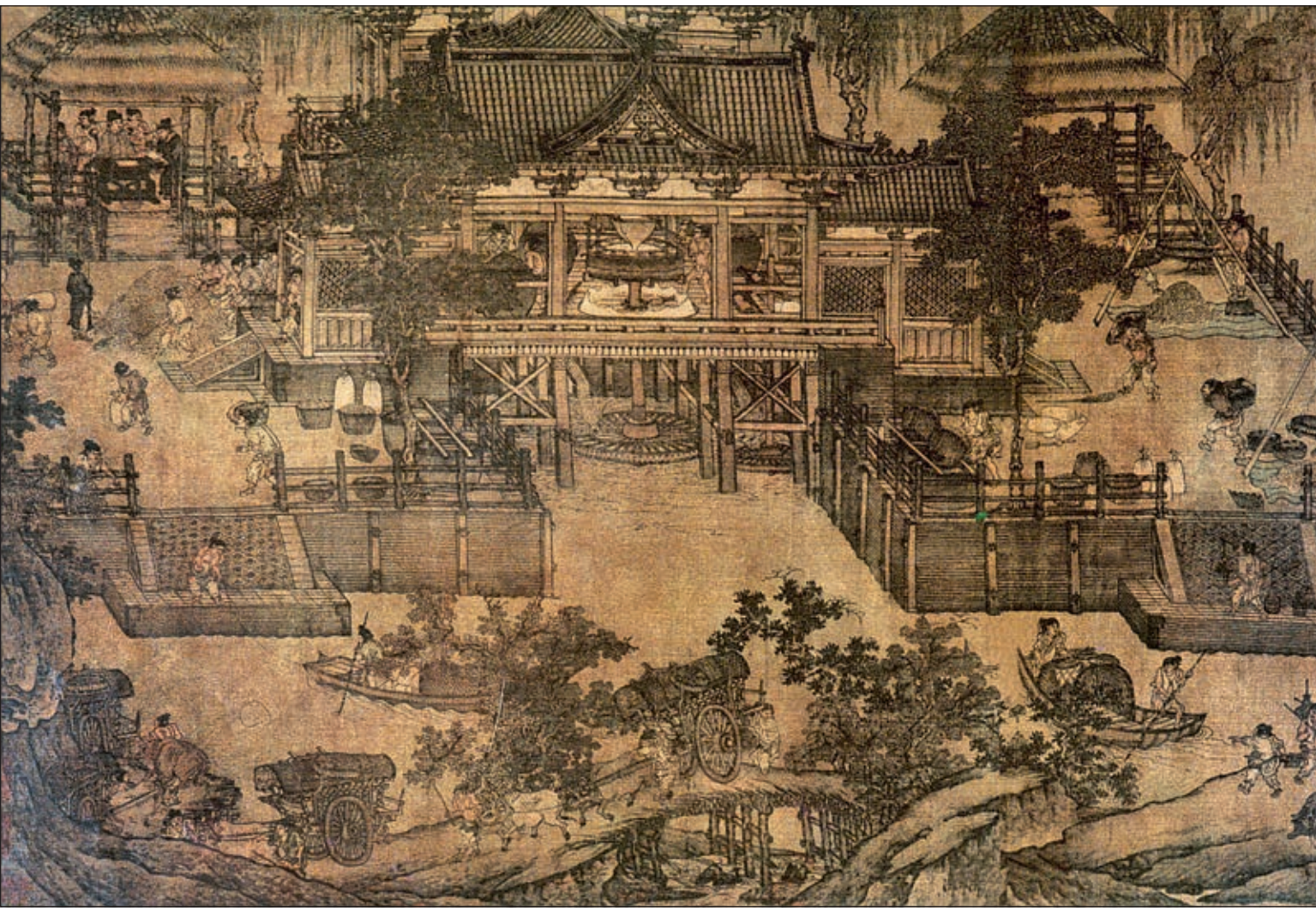
As mentioned in the last chapter, the late Tang's relaxation of central control, so lamented by political thinkers, seems, if anything, to have stimulated economic growth. One of the clearest signs of this is the doubling of the population between 750 and 1100. In 742, China's population was still approximately 50 million, about what it had been in Han times. Over the next three centuries, with the expansion of rice cultivation in central and southern China, China's food supply steadily increased and so did its population, which reached 100 million by 1100.

Agricultural prosperity and denser settlement patterns both aided commercialization. Peasants in more densely populated regions were drawn more deeply into commercial networks, selling their surpluses and buying charcoal, tea, oil, and wine. Frequently, farming families whose main crops were grain could also engage in small-scale sideline production of products like wine, charcoal, paper, and textiles, which they could sell through brokers. Some farmers found specialization profitable. Local farmers near Suzhou, for instance, often devoted themselves to raising silkworms and producing silk thread. In Fujian, Sichuan, and Guangdong, many farmers devoted their land to sugar cane. Other commercial crops included tea, vegetables, oranges, timber, bamboo, oil seeds, hemp and ramie for cloth, and, by the late Song, cotton.

Carrying this piece of paper money, issued in Hangzhou during the Southern Song, would certainly have been less burdensome than carrying the 'string' of 1,000 bronze coins that it represented.

The need to transport the products of interregional trade stimulated the inland and coastal shipping industries, providing employment for ship builders and sailors and business opportunities for enterprising families with enough capital to purchase a boat. Marco Polo, the Venetian merchant who wrote of his visit to China in the late thirteenth century, was astounded at the boat traffic on the Yangzi River: 'I tell you that this river goes so far and through so many regions and there are so many cities on its banks that, truth to tell, in the total volume and value of the traffic on it, it exceeds all the rivers of the Christians put together plus their seas.'

As trade increased, demand for money grew enormously. The late Tang government had abandoned the use of bolts of silk as currency, which created increased demand for coins. By 997, the Song government was minting 800 million coins a year, two and a half times the largest output of the Tang. By 1085, less than a century later, the output of coins had increased almost another eightfold to more than 6 billion coins a year. The use of silver was increasing concurrently; in 1120, the government collected 18 million ounces of silver as taxes.



The connections between water transport, water-powered mills, and the production of grain are captured well in this detail from an anonymous early Song painting on silk.

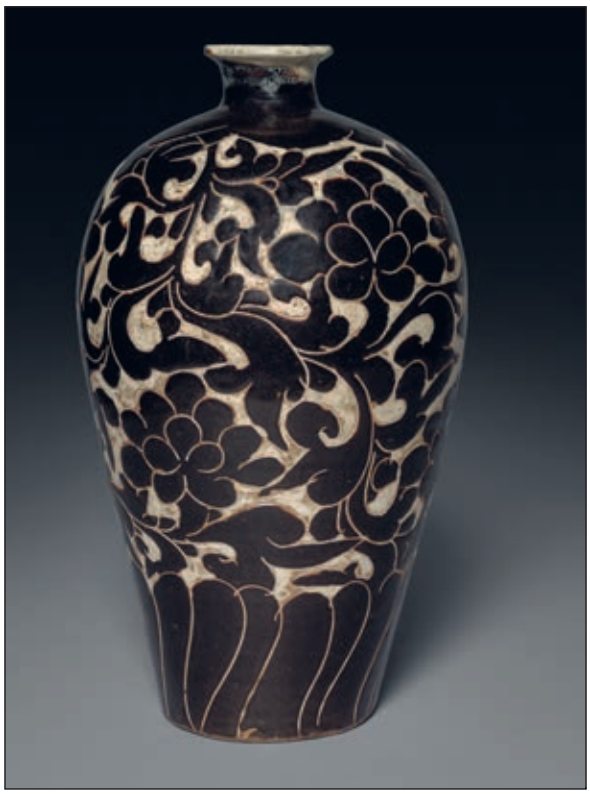
Indeed, the demand for currency was so great that paper money came into existence. The initial step was a byproduct of the peculiar coinage situation in Sichuan, where coins were made of iron rather than bronze. To avoid the weight and bulk of iron coins for large transactions, local merchants in late Tang times started trading receipts from deposit shops where they had left money or goods. The early Song authorities awarded a small set of shops a monopoly on the issuing of these certificates of deposit, then took over the system, issuing the world's first government paper money. In the Southern Song, less access to sources of copper meant that paper currency was relied on even more for both tax payments and private commerce. Because they could trade the paper money for silver, people had faith in it.

As interregional trade intensified, merchants became progressively more specialized and organized. Contracts and partnerships were common, and commercial ventures were sometimes organized as stock companies, with a separation of owners

The Northern Song was a time of cultural and economic advance but not one of territorial expansion, as it faced northern neighbours who had occupied territory that the Han and Tang had controlled.

(shareholders) and managers. Those with money to invest could do very well; one author claimed that it was possible to double capital in three years by investing in a pawnshop. Other profitable investments were urban real estate and leasing oxcarts and ships. Credit was widely available, not only through moneylenders, but also through brokers, wholesalers, and warehousemen. In the large cities merchants were organized into guilds, such as the rice guild which arranged sales from wholesalers to shop owners. Guild heads represented all the merchants when dealing with the government in matters of taxation or requisitions.

Trade was not confined to the domestic market. Along the northern and western borders tea was often traded for horses. From the beginning of the dynasty the government encouraged maritime trade. Court officials were sent on missions to Southeast Asian countries to encourage their traders to come to China. In Song times, Chinese merchants sailing Chinese ships carried most of the Chinese cargo.

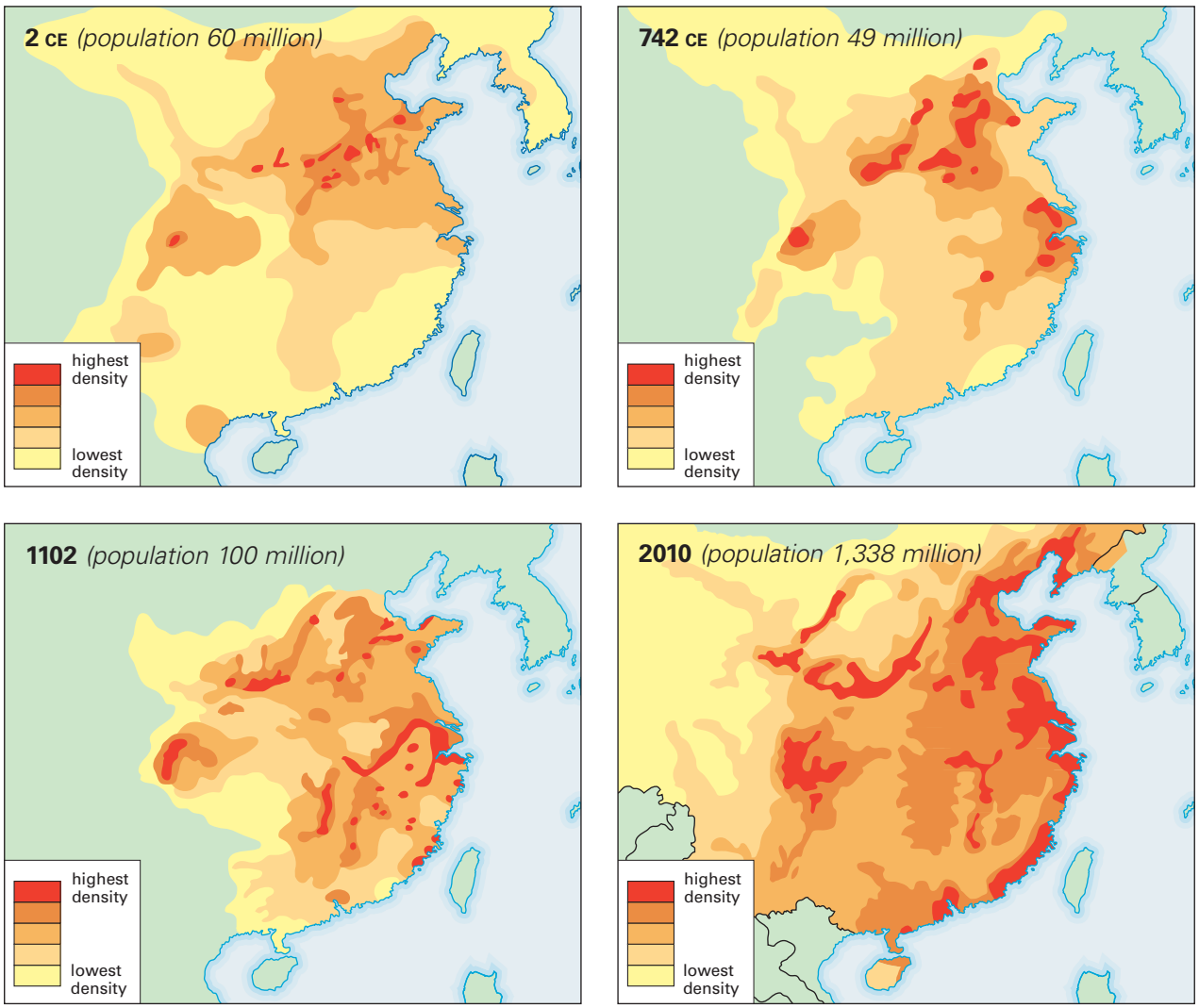


The finest ceramics were produced not in the capital, but in regional pottery centres, where techniques of mass production were perfected. Merchants then transported the pots all over the country and through much of Asia. This 12 inch/30.5 cm-tall stoneware vase has designs of peonies carved into the surface. The most famous kiln making this sort of stoneware was at Cizhou in Hebei, but similar black and white pieces were made many places in north China during the Song period.

Beautiful objects could be made by carving designs into thick layers of lacquer. This box decorated with camelias may have been intended to hold cosmetics. It measures 5 inches (12.5 cm) in diameter and is 1½ inches (4 cm) in height.

Maritime trade was aided by the development of huge ships powered by both oars and sails and capable of holding several hundred men. Such ships could make the trip from the port at modern Ningbo to Japan in five to seven days. Another aid to ocean-going travel was the invention of the magnetic compass, first reported in Chinese sources in 1119. The growing trade with Japan saw timber and gold from Japan exchanged for ceramics, silk, iron, books, and large quantities of copper coins, used as the standard money in Japan at that time. The expansion of maritime trade helped fill government coffers, especially during the Southern Song, as the Song government had learned effective ways to tax commerce. Just as important, this new orientation toward the sea contributed to the unprecedented creation of a powerful ocean-going navy.

Industrial development was no less impressive in Song times. Traditional industries such as silk, lacquer, and ceramics reached their highest levels of technical perfection. Many of the finest silks continued to be made in government workshops, but small-scale family-based enterprises were not uncommon. Rural families might grow mulberry trees and raise silkworms, selling reeled silk to weaving households in the cities. Ceramics also prospered under workshop conditions, with a few major regional centres acquiring reputations for high-quality wares. With the rise in demand for books, documents, money, and wrapping paper, paper-makers flourished as well.



SHIFTS IN POPULATION DISTRIBUTION
Because of extensive migration and acculturation, settlement patterns in China shifted over time. The Yellow River regions were nearly as dominant in 742 as in 2 CE, but by Song times something closer to the modern distribution had been attained, with much of the population living in the Yangzi River valley and further south.

Iron production also grew astoundingly, perhaps even as much as sixfold between 800 and 1078. At first charcoal was used in the production process, leading to deforestation of parts of north China. By the end of the eleventh century, however, bituminous coke had largely taken the place of charcoal. Other important technical advances allowing the expansion of the iron industry were the use of hydraulic machinery to drive bellows that provided a constant flow of oxygen and explosives to excavate mines. The iron produced was used in industrial processes (the production of salt and copper, for instance) as well as for tools, weapons, nails for ships, chains for suspension bridges, and even for Buddhist statues.

Loss of the north

Probably the most cultivated Song emperor was Shenzong's son Huizong (r. 1100–1126). A talented painter and calligrapher, Huizong used the resources of the throne

to build up the imperial art collections, and had them catalogued. He developed new styles of calligraphy and bird and flower painting, and gave personal instruction to the painters employed at the court. He was also passionate in his commitment to Daoist religion. In 1113, he initiated a large project to collect Daoist texts for a new edition of the Daoist canon, the first to be printed. From 1116 to 1119, he generously patronized Lin Lingsu, an expert on Thunder Rites (a ritual that may have used gunpowder) and an exponent of Divine Empyrean Daoism. He lavishly used imperial resources to promote Daoism and to persuade his subjects of its truths.

In the popular imagination, Huizong's absorption in aesthetic and religious matters explains the catastrophe that befell him and his court. In the early 1110s, the Jurchens, an agricultural, herding, and hunting people based in eastern Manchuria, rose up against their overlords, the Khitans' Liao state. In 1115 their ruler, Aguda, declared the founding of the Jin dynasty (see Chapter 7). The Song thought they had found a new ally against Liao and soon concluded an alliance with the Jin that called for a division of Khitan territory. Within three years this alliance collapsed and in 1125 two Jurchens armies invaded, heading for Kaifeng. Before they arrived Huizong abdicated in favour of his eldest son and the Song was able to placate the invaders with an enormous ransom. The next year the Jurchen invaded again, Kaifeng was set siege and fell a month later. After a few months extracting treasure from the city, the Jurchen returned north with about 15,000 captives, including Huizong, his successor, most members of the imperial clan, and thousands of craftsmen, musicians, and other city residents.

After the Jurchens withdrew, Song loyalists regrouped and enthroned a younger son of Huizong as emperor, known as Gaozong (r. 1127–1162). The Jurchens returned and pursued Gaozong's court, which at one point even had to board boats and head out to sea to escape capture. By1138, the situation had stabilized, with the Song court at Hangzhou controlling most of the area south of the Huai River, including Sichuan. After a treaty of 1142 the Song government made annual tributary payments to Jin, much as it had earlier bought off the Liao, but peace was not unbroken and a few times one or the other side launched military efforts to conquer the other.

Gaozong's decision to placate the Jin was controversial in its day. Many objected strongly to giving up the effort to regain what they still saw as the heartland of China, the land where all major dynasties had based their capitals and where the tombs of all prior Song emperors were located. Later historians have nearly uniformly condemned the various peace parties as appeasers and found a hero in Yue Fei, a general who tried to regain the north and who in fact reached the Luoyang area before being recalled and executed. Critics of the Southern Song court especially deplored the recurring dominance of autocratic chief ministers; factionalism was another persistent problem.

The loss of the north had little if any negative effect on the Song economy; in fact, having the capital in the south seems to have further stimulated the development of the region. The transport of goods to the capital had always formed a large share

Emperor Huizong (r. 1100–1125) wrote out in his own hand an account of an auspicious even that occurred in 1122 when a flock of cranes arrived at a palace building. He added a poem he composed and a picture he claimed to have painted himself.

of total trade and could be accomplished more cost-effectively with the capital in the south. Goods could be brought to Hangzhou economically by boat, through the many streams and canals criss-crossing the region. Moreover, the political border between the Song and Jin proved no obstacle to trade, as the north continued to import vast quantities of tea, rice, sugar, and books from the south. Song's formidable northern neighbours continued to stimulate remarkable innovation in military technology, especially in gunpowder weapons, as the Song progressed from gunpowder arrows used to start fires to fire lances, proto-guns, and by the end of the dynasty, true guns.

Even though China south of the Yangzi had never been conquered by an Inner Asian state, the arrival of the Mongols in the thirteenth century (see Chapter 7) forced the Song to confront new dangers. Soon after destroying Jurchen's Jin in 1234, the Mongols attacked the Song from the west, taking all but four of the fifty-eight districts in Sichuan. The Mongol ruler ordered the total slaughter of the one-million-plus residents of the city of Chengdu, a city the Mongols had taken easily with little fighting. Even where people were not slaughtered, they were frequently seized as booty along with their grain stores and livestock. Refugees from Sichuan began streaming into other parts of the Song, bringing word of how fearsome the Mongols were. The Song knew that it needed to do everything it could to strengthen its defences. Fortunately for the Song, the Mongols turned much of their attention westward for the next two decades.

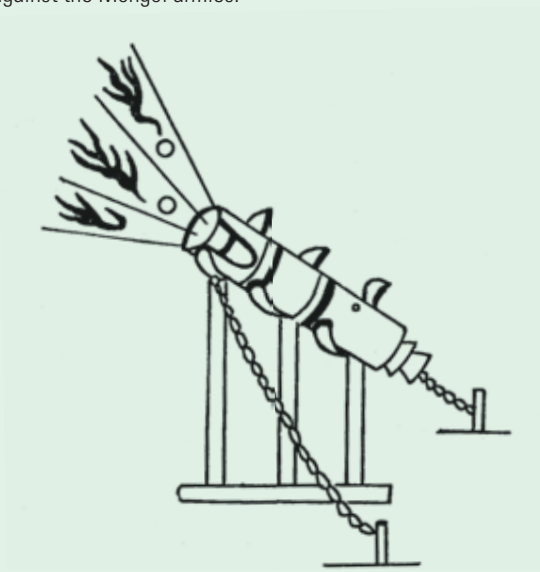
Once the Mongols were ready to throw their full might into attacking the Song, they first set about building a river fleet. In 1268, they set siege to Xiangyang, a city on the Han river in Hubei recognized by both sides as the key to control of the Yangzi valley. Both sides were equally determined to win, and the siege lasted five

Gunpowder Weapons in the Song-Jin Wars

Although it has long been known that gunpowder was invented in China, it used to be thought that it was not until gunpowder reached Europe that its potential as a weapon was realized. Recent research has shown this is not true. By the early Song, the government was rewarding inventors who developed military uses for the compound, first discovered by alchemists. The government-issued manual of 1044, *The Essentials of the Military Arts*, records several early gunpowder formulae (of varying amounts of sulphur, nitrate, and charcoal) and the government was already producing gunpowder on a large scale for use as an incendiary compound. Defenders of a city could shoot arrows with sacks of gunpowder attached in order to set on fire the attackers' siege ladders, and attackers could use similar weapons to set fire to wooden city gates. Gunpowder arrows were similarly used in naval warfare to set boats alight.

The propulsive potential of gunpowder was discovered by the early twelfth century after experimenting with higher proportions of nitrates and different types of containers and projectiles. Gunpowder, once ignited, produces gases that, when confined, build up sufficient pressure to force a projectile such as a bullet or bomb out of a tube with considerable force. Evidence of experimentation along these lines can be seen in the series of military engagements between Song and Jin during the century from 1125 to 1221. In the battle for Kaifeng in 1125, the defenders used 'thunderbolt bombs', which caused injury to people, not just structures. An eyewitness reported that they threw the enemy into great confusion and sent them screaming in fright. The next year, when the Jin returned, they had mastered the technology themselves, launching gunpowder bombs with huge catapults, and Song forces reciprocated.

A detailed account of a siege of a much smaller city in 1132 records a new weapon, called a 'fire-lance', which used a long bamboo tube to shoot projectiles, an ancestor of the gun. By 1163, in another Song-Jin encounter, the Song commander had carts built for men operating fire-lances, their barrels protruding through the protective cover, a kind of armoured mobile firearm platform. By 1207, in the defence of the city of Xiangyang, the explosive power of gunpowder had great effect, as thunderbolt bombs threw Jin cavalry into panic, eventually causing their retreat. The account of the Jin siege of the Song city of Qizhou in 1221 marks a new stage, when Jin used bombs made of cast iron, which caused such large explosions that the city walls shook and houses were blown apart. The Song army naturally began making such bombs themselves and would later use them against the Mongol armies.



An early cannon that fired cast-iron shelled gunpowder bombs, some of which would explode only on contact, hence its name, the 'flying-cloud thunderclap eruptor'.

years. Thousands of boats and tens of thousands of troops were involved on both sides. The Mongols employed Chinese, Korean, Jurchen, Uyghur, and Persian experts in naval and siege warfare. Muslim engineers designed artillery that sent a barrage of rocks weighing up to 100 pounds (45 kg) each. The Chinese started with substantial food stores, but had to run the blockade to get in supplies of salt and other essentials, leading to many naval engagements on the river. The Song did not lack officials and generals devoted to the cause of stemming the Mongol onslaught, but

After the Jurchen took north China, they tried but failed to also take the south. With its capital at Hangzhou, the Southern Song maintained its economic vitality, as the extensive cultivation of tea, shown here, reflects.

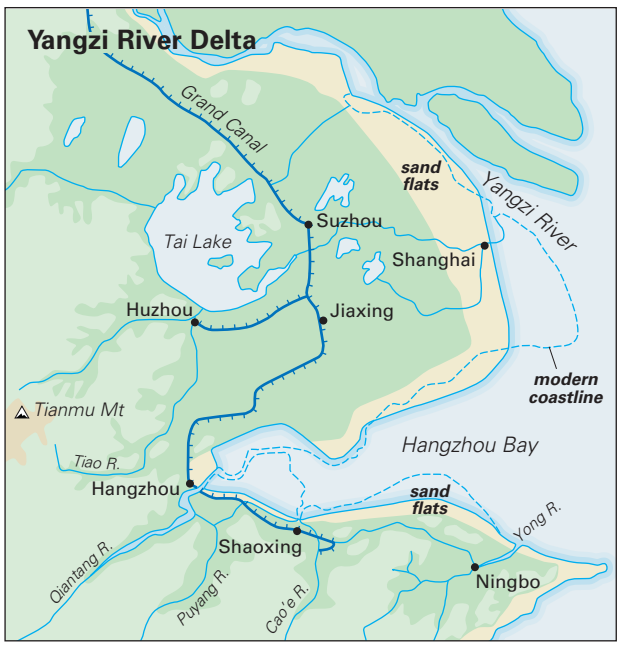
co-ordination of their efforts was poor. The emperor at this time was a child, and the highest officials got caught up in opposing each other's plans. In 1275, after the Mongol armies crossed the Yangzi, Empress Dowager Xie issued an appeal to the populace to rise up and fight the barbarians, and within a couple of months 200,000 soldiers had been recruited. But even this force could not counter the Mongols' scare tactics; during their advance toward Hangzhou they ordered the total slaughter of the population of the major city of Changzhou. Empress Dowager Xie surrendered in hopes of sparing the people of the capital of a similar fate. Still, fighting continued. Wen Tianxiang, the most famous of the literati-turned-generals, gave

everything he had to the cause. Long after there was any real chance of driving out the Mongols, he continued to fight, withdrawing further and further south, hoping to keep the Mongols from the two Song princes the loyalists had rallied behind. Even after the Mongols were able to defeat the last of the loyalists in a naval battle off the coast of Guangdong in 1279 and Wen himself was captured, he resisted all inducements to serve in the Yuan government, right up to his execution three years later.

The physical environment

The Song period was marked by major changes in the environment, involving deforestation, the shifting of major rivers, and much re-sculpting of the landscape.

By the end of the Tang dynasty, deforestation of north China had reached the point where elephants no longer lived north of the Yangzi River. This deforestation contributed to a major environmental crisis. The lower reaches of the Yellow River filled with silt, and as its current slowed, the silt settled and the riverbed slowly rose, threatening to flood the countryside and forcing local officials in nearby communities to build ever higher dykes. In 1048, however, the river broke through its northern bank about 50 miles (80 km) east of the capital and surged out into a nearly flat plain, bringing destruction to nearly a million people and forcing those who escaped with their lives to flee. About 30 per cent of the river continued to flow along its old route, but the 70 per cent that flowed further north did not have a clear channel and changed course several times as officials tried to decide what to do.



Rice could be planted twice a year throughout the Yangzi River delta, making possible dense settlement patterns and prosperous cities.

Most of the attempts to fix this situation resulted in environmental degradation. To confine the northern branch of the river to a single channel, officials had the local population cut down brush and trees from nearby hills to form mud-encrusted bundles for creating new dykes. By the 1070s, according to reports, the Taihang hills to the west had become bald from the demand for brush. Because the floodwaters could not drain away, the land became waterlogged and filled with salt, preventing plants from growing. As a result, erosion accelerated, and over time the soil turned to sand. In the end, a once fertile region could no longer support farmers.

In rice-growing regions another sort of environmental change was taking place: the levelling of earth to make more paddy fields suitable for growing rice. Expanding production of rice made sense because it is a nearly ideal food crop. It tastes good, is highly digestible, and when eaten along with soy products offers good nutrition. When milled, it stores well. Moreover, it is easy and economical to cook, the only cereal that can simply be boiled and eaten without disintegrating into mush. But

probably most important, rice almost always yields more calories per unit of land than other crops. In the most suitable climates, two crops can be grown in the same field, or rice can be alternated with other crops.

In Song times, the discovery and selection of new seed strains – including early-ripening, drought-resistant Champa rice from Southeast Asia – made it possible to grow rice in previously unsuitable places, which, however, often first required clearing, draining, or levelling. Technical improvements in damming methods and water pumps facilitated reclamation of land at the edge of lakes, marshes, and seas and the terracing of mountain slopes, an activity the Song government encouraged through tax incentives. By the early twelfth century, several million acres of land were created in the Yangzi delta by building polders to enclose it. Fujian was another area where settlers began to rebuild the environment, constructing drainage systems, embankments, and reservoirs. Books promoting up-to-date agricultural techniques were written and local officials often helped circulate them.

Economic opportunities and a growing population led to further 'filling up' of much of south China in this period. Fujian provides a good example of this process. In the early Tang, an official had claimed that half the people in Zhangzhou were not Chinese but 'barbarians who button their coats on the left and have unkempt hair', and in the late Tang, an observer commented on the presence in Fujian of indigenous people unable to speak the local version of Chinese who lived in caves or on rafts. Yet by mid Song, population pressure in Fujian had resulted in the terracing of hills for cultivation and migration to less developed areas such as Guangdong. One observer claimed that nine out of ten pawnbrokers in one prefecture in Guangdong came from Fujian.

Printing could be done in a small workshop with only a few workers. After the carver had copied the text onto wood blocks, a worker brushed ink over the block, then placed a piece of paper on it, then brushed over it with the dry side of the brush. Using this method one person could print up to 1,000 pages in a day. Since blocks could be saved and used to make on average 20,000 copies, the cost of each copy could be kept low. This illustration of a printing workshop, from a Qing period book, depicts the father of the Cheng brothers printing a morality book as a charitable act.

Printing, knowledge, and authority

The Song period was a time of exceptional interest in the physical world. The government and the educated class played active roles in advancing knowledge on many fronts: from mathematics to navigation, weapons, medicine, archaeology, and astronomy. Knowledge of the heavens had always been a concern of governments, and in Song times led to both more accurate observations and the casting of much larger instruments, such as a huge hydraulic clock. Medicine also saw many advances. The first recorded autopsies were performed and books were published with illustrations of the internal organs. Other advances included better understanding of occupational illnesses that afflicted silversmiths, coppersmiths, bakers, and miners.

The development of printing was clearly a key element in the changes taking place. The Song government sponsored the printing of books used to spread knowledge of law, ritual practice, medicine, mathematics, astronomy, botany, pharmacy, military technology, and related fields. Private commercial printing also expanded. Books for sale included aids to studying for the examinations, works on divination, Daoist rituals, and general reference works. Illustrated books were published which

laid out the principles in fields ranging from architecture to identifying ancient bronze vessels. Traditions of knowledge that had previously been transmitted primarily through oral means came to be fixed in print, a change that opened them up to both criticism and appropriation. The well-educated could now point to inconsistencies, or identify unverifiable 'superstitions', in order to undermine the authority of these traditions. At the same time ordinary people gained access to bodies of knowledge formerly restricted to experts. They could thus organize their own funeral services, dabble in geomancy, or prescribe medicines for their family members, all with more confidence.

Several well-known literati took a keen interest in scientific and technical matters. Su Song, a successful official who served in many high posts, had an interest in astronomy and published five maps of stars using up-to-date information. He led a team to compile a new illustrated *Material Medica* with much new material. On an official visit to Liao he discovered that the Liao and Song calendars differed by a day, which motivated the creation of a 40 foot/12 m-tall, water-powered, astronomical clock tower with a hydro-mechanical, rotating armillary sphere crowning the top level and weighing at least 10 tons. It had a bronze celestial globe located in the middle, a sophisticated use of oblique gears and an escapement mechanism, as well as mechanically-timed mannequins that came out from miniature doors with signs announcing the time. Su Song wrote a treatise with forty-seven illustrations explaining the mechanical workings for this clock tower.

The author who left the fullest record of his interests and speculations is Su Song's contemporary, Shen Gua. From an official family, Shen had travelled widely, even to Liao as an envoy. Technical tasks did not daunt him. As an official, he designed drainage and embankment systems that reclaimed vast tracts of land for agriculture; he served as a financial expert skilled at calculating the effects of currency policies; he headed the Bureau of Astronomy; and he supervised military defence preparations.

It is from his book of miscellaneous notes that we know of the breadth of his interests. Besides discussions of painting, poetry, music, history, divination, and Buddhist meditation, he reported many observations about the natural world. He was the first to mention the use of a magnetic needle as a compass, and also explained the deflection of the compass from due south. He had served in the astronomical bureau and made many suggestions for improvements in their record keeping. He proposed switching from a lunar calendar to a solar one of 365 days, saying that even though his contemporaries would reject his idea, 'surely in the future some will adopt my idea'. He argued that the sun and moon were spherical, not flat, and that the moon did not give off its own light but reflected that of the sun. He said that this could be demonstrated by putting powder on one side of a ball, to represent the light shining on one side of the moon, then turning it gradually. At certain points the powdered part would look like a crescent, much like the moon. He often took a mathematical approach to issues that his contemporaries did not

A printed illustration of the bronze model of a man used for teaching acupuncture. Some of what would have been explained orally is here given in captions. For instance, one caption explains that because people vary in size, the distances between acupuncture points should be measured not in standard inches but in ones based on that person's measurements, calculated on the basis of the distance between the joints of the middle finger.

consider in those terms. He once computed the total number of possible situations in the Weiqi board game (known as 'Go' in Japanese), and another time he calculated the longest possible military campaign that depended on human porters, who had to carry their own food as well as food for the soldiers.

Su Song and Shen Gua acquired much of their technical knowledge while serving in office. The government contributed to the spread of medical knowledge in other ways as well. It employed court physicians, set up medical schools, and published both old and new medical books. In the 1020s, the court physician made two life-sized front and back bronze models of a man with holes for 365 acupuncture points. The internal organs were marked on the inside and the acupuncture points on the outside. By covering the model in wax, it could be used to test medical students' mastery of the location of points. The second version was placed in a Kaifeng temple, so that physicians outside the court could also benefit from it. The creator of the model wrote an illustrated book about it and about acupuncture more generally, which the government had printed and distributed.

This was far from the only medical book that the government printed. In its first two centuries, the Song central government printed authoritative editions of sixteen medical classics and eighteen new medical texts. Local governments printed an additional twenty-four medical books. Private printing of medical books also contributed to the extension of medical knowledge. The first book on women's medicine was written and printed in the Song. So too was the first book on forensic medicine, a guide for officials charged with conducting inquests explaining what to look for when trying to decide the cause of death.

Printing is relevant not only to the creation of knowledge, but also to the assertion of state power. Perhaps because printing made it so easy, bureaucratic regulations came to be issued in enormous quantities. Rules about use of one imperial ritual hall filled 1,200 volumes and rules concerning reception of envoys from Korea, 1,500. The government even used printing to communicate with ordinary people. By Southern Song times, it was regularly telling prefectural governments to print notices to inform the local residents of some policy or new danger and instructing them to post them at places ordinary people would see them, such as markets or temples.

Printing played a significant role in the government's efforts to assert authority over religion. The government worked with the Buddhist and Daoist establishments to standardize their canons and get them printed. The Song state was equally active in outlawing the printing of texts it disapproved of. In the case of cults judged illicit, officials were repeatedly told to confiscate their books along with the printing blocks that had been used to duplicate them, then send the book to the central government authorities for final decisions on them. In 1104, the prefect of Lianzhou submitted a text he wanted to have proscribed because 'its language is full of falsehoods designed to delude the masses.' He argued that the government should seize copies in people's hands and have them burned.

The literati elite

Song economic and political changes contributed to the emergence of one of the most distinctive features of Chinese civilization, the scholar-official class certified through competitive literary examinations, an elite unlike that of any other major civilization. Although members of this elite called themselves *shi* or *shidafu*, terms used since classical times to mean 'scholar-gentleman' and 'scholar-official', they differed from their predecessors in several key regards. The decline of aristocratic habits and ideals, the increase in wealth, the intellectual excitement caused by the revival of Confucian teachings, and the great growth in the importance of the examination system for recruitment to office all resulted in an elite both broader and more schooled than any of its predecessors.

The civil service examination system, used only on a small scale in Sui and Tang times, played a central role in the fashioning of this new elite. The early Song emperors, concerned above all to avoid domination of the government by military men, greatly expanded the examination system and the government school system. The number of those passing the highest examinations soon averaged four to five times the number in Tang times. Great efforts were put into perfecting the examinations as a tool for discovering the most qualified candidates. To assure that examiners were

Spring Festival along the River depicts life in and near the Northern Song capital of Kaifeng. Among the many figures in the section shown here are draymen and porters, pedlars and shopkeepers, a professional storyteller, a fortune teller, a public scribe, a woman in a sedan chair, and scholars and monks conversing. Painted by Zhang Zeduan in the twelfth century, the full work is 9¾ inches (25 cm) tall and more than 17 feet (5 m) long.

not influenced by their personal knowledge of the candidates (something not considered objectionable in Tang times), the papers were recopied by clerks and identified only by number. Through this system a large proportion of officialdom was recruited from families living in central and southern China, for the first time in Chinese history, thus ending the dominance of the north. The prestige of success in the exams was very high. Even men who could enter the government through the privileges extended to the sons and grandsons of higher officials often chose to take the exams because success there offered a much better chance of rising to a policy-making post at court. Men who entered government service without passing the most prestigious examinations were usually forced to start their careers as sheriffs in remote places and might well spend their entire careers in county-level positions, never managing to rise above the post of magistrate.

Given these incentives, more and more men attempted the civil service examinations. In the early eleventh century less than 30,000 candidates took the prefectural examinations each year. This rose to nearly 80,000 by the end of the century and perhaps 400,000 before the dynasty's end. Because the number of available posts did not change, each candidate's chances of passing plummeted, reaching as low as 1 out of 333 in some prefectures. To prepare to take such competitive exams, candidates needed to memorize the classics so that they could recognize even the most obscure passages. They also needed to master specific forms of composition, including poetic genres. Fortunately for them, the spread of printing made books much more widely available. Scholarly families and aspirants for office could much more easily buy or borrow the Confucian classics, the dynastic histories, collections of poetry and prose, and reference books of many sorts. Wealthy families were now in a position to amass thousands of books for their private libraries.

Leading members of this new scholar-official elite were often men of remarkable intellectual breadth. Ouyang Xiu, besides serving in some of the highest offices in the land, composed excellent poetry and essays, edited two major histories, and compiled an analytical catalogue of rubbings on stone and bronze, a pioneering work in the fields of epigraphy and archaeology. Su Shi had similarly broad interests, with more emphasis on the arts. Sima Guang, besides serving as prime minister and leading the opposition to Wang Anshi, undertook to write a narrative history of China covering more than 1,300 years from the late Zhou to the founding of the Song in 960.

Families able to educate their sons were generally landholders, established as members of the local elite in their home area. Once a family got one member into

Producing silk involved many steps. In this detail from a thirteenth-century handscroll on silk, both men and women are involved in a range of tasks, such as picking mulberry leaves, sorting leaves to feed the silk worms, moving the frames on which the worms will spin their cocoons, and packing cocoons into baskets and weighing them.

government service, it was easier to get others to follow, not only because office-holding generally helped a family's economic standing, but also because the sons, grandsons, and sometimes more distant relatives of mid-rank or higher officials had a variety of privileges and advantages, ranging from access to examinations with better success ratios to direct entry into the lowest posts through the 'protection privilege'. Therefore, when the elite is looked at from the local, rather than the national, level, established families are more striking than new men. In a county with a population of perhaps 100,000, a dozen or so families might produce virtually all the prominent figures over the course of a century or two. Especially in the Southern Song, such local elite families played leadership roles in their community and often collaborated with the local government on projects such as schools, local defence, and charitable ventures.

Downward mobility out of the elite was always possible as family property was divided among complacent sons. Success in the examinations could not be counted on. Family heads who hoped to preserve their families' economic base, one writer warned, had to know how to manage tenants and agents, buy and sell land, lend money, and invest in business; otherwise their family might well lose its property and decline into poverty.

Song sources provide many glimpses of women in literati families. With printing and the expansion of the educated class, more women were taught to read and write and might well tutor their young children. One woman, Li Qingzhao, even attained fame as a poet. Prosperous families gave their daughters large dowries to attract sons-in-law with good prospects for official advancement. Families that had channelled significant property through their daughters wanted to see it used to their benefit, and probably as a consequence in the Song period women's legal

Men of wealth and taste often held banquets in their homes, sometimes even hiring female entertainers from the courtesan quarters to help. Elegant furnishings with painted screens and fine porcelain wine ewers added to the feeling of luxury. Note the use of chairs with backs. Detail from a Song copy of the tenth-century handscroll by Gu Hongzhong.

claims to property were strengthened. Judges assigned orphaned daughters shares of family property for their dowries, even landed property. Moreover, control by wives and widows over the use of their dowries was widely recognized.

These changes can all be classed as favourable for women, opening new possibilities to them and offering them more avenues for influence both within the family and outside it. But there were concurrent changes in Song times which are generally classed as detrimental to women, particularly footbinding and more rigid notions of ethically acceptable female demeanour. In Song times, standards of beauty shifted to favour the delicate and restrained woman. Notions of female modesty became more narrow; women veiled their faces more often and rode in curtained sedan chairs when travelling through the streets. By the twelfth century, medical authorities were reporting that doctors who called on women in elite households could neither view the woman nor question her; all they could do was take the pulse of a hand extended through the bed curtains.

These shifts in notions of what was attractive and becoming in a woman must have had something to do with the spread of footbinding during the course of the Song. This practice apparently began among dancers in the tenth or eleventh centuries, but in time it spread to upper-class homes. By the Southern Song, mothers were binding the feet of their five- or six-year-old daughters painfully tight to prevent them from growing normally. Tiny narrow feet were considered to enhance a woman's beauty and to make her movements more dainty.

Intellectual trends

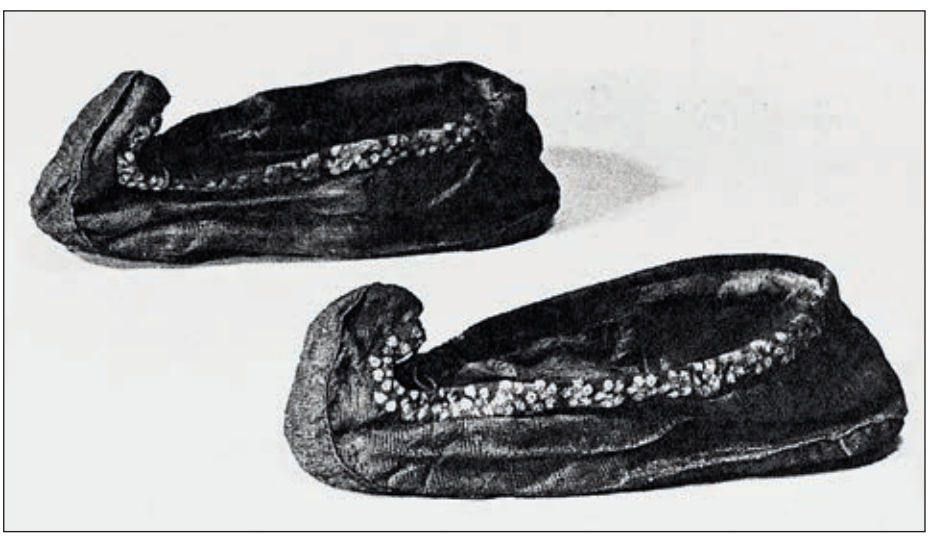
The inability of the otherwise impressive Song government to achieve the sort of military dominance the Han and Tang had attained at their heights was profoundly

disturbing to Song writers, thinkers, and officials. It stimulated both sharper senses of ethnic and cultural identity and a determination to revitalize Confucianism.

Ever since the Northern Dynasties, northerners had used the term 'Han' to refer to their Chinese subjects. In this period, Chinese literati began to use the term more frequently themselves. Since several hundred Song high officials traveled to Liao as envoys, they may have picked up this usage from them. The term gave them a new way to think about geography and history. They came to think that areas controlled by Liao but settled by Han Chinese really should be part of China (Zhongguo, 'the central country'), an entity that persisted as dynasties came and went. These views of what we might term ethnic and national consciousness were in tension with long-established Confucian universal claims: the Son of Heaven ruled over All-Under-Heaven and had the moral power to attract barbarians and transform them.

Some Song writers expressed what can be considered xenophobic sentiments. Like Han Yu in the late Tang, they sometimes rejected Buddhism – on Chinese soil nearly a millennium – on the sole ground that it was not indigenous. Sun Fu declared that allowing a 'teaching of the barbarians' to bring disorder to 'the teachings of our sages' was a great humiliation to Chinese scholars. Shi Jie wrote that it was perverse for Chinese 'to forget their ancestors and abandon sacrifices to them, serving instead barbarian ghosts'. In the Southern Song, with the loss of the north to the Jurchen and later the looming threat of the Mongols, anti-foreign passions were equally strong. When the country was threatened by foreign enemies, as happened repeatedly in Song times, it was difficult not to blur hostility to them as enemies with hostility to them as ethnically and culturally foreign.

The sense of cultural and political crisis contributed to the determination of many Song thinkers to revitalize Confucianism. The most inspiring Confucian teachers set high standards for their students and discussed with them not only the Confucian classics but also a wide range of moral, metaphysical, and even political



Shoes for bound feet excavated from the tomb of Huang Sheng (1227–1243), the young wife of an imperial clansman. This tomb contained several pairs of shoes for bound feet, each measuring 5 to 5½ inches (12.5 to 14 cm) in length. Unearthed at Fuzhou, Fujian province.

issues. They debated the merits of the examination system and the ways Confucian ideas could be applied to current problems. Some Confucian thinkers concentrated on developing philosophical frameworks for understanding the world which could stand up to the challenges of Buddhism. Two brothers, Cheng Yi and Cheng Hao, developed metaphysical theories about the workings of the cosmos in terms of *li* (principle, pattern, coherence) and *qi* (vital energies, material force, psychophysical stuff). The *li* for something could be moral or physical; thus, for example, the *li* for fatherhood is essentially moral in nature, that for mountains, physical. For either to exist, however, there must also be *qi*, the energy and substance that makes up things. The theory of *li* and *qi* allowed Song philosophers to accept Mencius' theory of the goodness of human nature and still explain the evidence of human waywardness; people had good *li* but their more or less impure *qi* accounted for their selfish desires. The sages had perfectly clear *qi*, but ordinary people have turgid *qi* and have to work to improve themselves.

In the Southern Song, Confucian scholars gave more and more attention to what people could do themselves at the local level. These scholars were frustrated with the failure of the government to regain the north and aware of the drawbacks of the large-scale New Policies reform programmes of the Northern Song. Thus they proposed ways to build a more ideal society by starting from the bottom, reforming families and local communities, establishing academies, and spreading their message through publishing.

The greatest of these Southern Song masters was Zhu Xi. Immensely learned in the classics, commentaries, histories, and the teachings of his predecessors, Zhu Xi managed to serve several turns in office and still write, compile, or edit almost a hundred books, all the while corresponding with dozens of other scholars and regularly teaching groups of disciples, many of whom stayed with him for years at a time. Zhu Xi considered himself a follower of the Cheng brothers and elaborated on their metaphysical theories. He gave particular weight to the 'investigation of things', intensive study that would allow the learner to discover the *li* of any matter at hand. Zhu Xi's interests were broad, and his recorded conversations range widely over subjects such as how to analyze and evaluate passages in the classics, what to make of ghost stories, how to engage in quiet sitting, and how to rid themselves of selfish thoughts.

Zhu Xi played an active role in developing the institutional basis of a revived Confucianism, helping establish academies as private gathering places for teachers and their disciples. These academies were sometimes located in cities, but also often in quiet mountain settings, much like Buddhist monasteries. When he taught at the White Deer Grotto Academy, Zhu Xi offered its students both moral exhortation and scholarly exegesis, hoping they would become both virtuous and erudite. Zhu Xi was a proponent of instructing the common people through writing and posting notices, 115 examples of which have been preserved. His disciples recorded many of their conversations with him, showing not only what he believed but also how he taught.

Paintings of Cai Wenji's story – commissioned by the Southern Song court – accentuate the differences between the material culture of the barbarians and the Chinese: the tents in the wilderness contrasted to the elegant buildings of Wenji's hometown. Detail from a fifteenth-century copy of a twelfth-century handscroll.

> Zhengchun said, 'I'd like to survey a great many books.'
>
> 'Don't do that,' Zhu Xi said. 'Read one book thoroughly, then read another one. If you confusedly try to advance on several fronts, you will end up with difficulties. It's like archery. If you are strong enough for a five-pint bow, use a four-pint one. You will be able to draw it all the way and still have strength left over. Students today do not measure their own strength when reading books. I worry that we cannot manage what we already have set ourselves.'

Zhu Xi's insistence on the correctness of his own interpretations offended many as pretentious, and for a few years near the end of his life his teachings were condemned by the government as 'spurious learning'. Candidates for office were barred from the examinations unless they denied any faith in Zhu Xi's teachings. Still, within a few decades of his death, his learning received unprecedented political support. In 1241, the emperor credited Zhu Xi with 'illuminating the Way' and government students were ordered to study his commentaries on the Four Books (the *Analects*, *Mencius*, *Doctrine of the Mean*, and *Great Learning*). This shift in the government's position probably reflected its political needs. By this time the Mongols had conquered north China and the survival of the Song dynasty was in jeopardy. To bolster support, the Song government had to demonstrate that even though it did not occupy the Central Plains, it was still the guardian of Chinese culture

Su Shi

Identifying oneself as Chinese has meant, over the centuries, taking pride in association with symbolically charged figures from the past. Of the great figures from the Song, perhaps none has inspired greater admiration than Su Shi (1037–1101). Ranked among the greatest of poets and essayists in the Chinese tradition, Su was also deeply enmeshed in the politics of his day. From shortly after his death up to our own day, people have sought out pieces of Su's calligraphy, paintings depicting him, inscriptions on stone marking his visits, and shrines dedicated to his memory.

From Sichuan in western China, Su passed the civil service examinations in 1056/57 and quickly entered leading literary circles. During his lengthy career in the bureaucracy, he was an outspoken policy critic and became a leader of the opposition to Wang Anshi and other reformists. He was once arrested and thrown into prison on the grounds that his poems slandered the emperor and his appointed officials. Su expected execution, but instead was banished to Hubei, an area he came to love and where he wrote some of his best poetry. Years later, after returning to office, he was banished once more, ending up at Hainan island, the southernmost extremity of the realm. He died on his way back from this second period of exile.

Su Shi wrote prodigiously. Some 800 of his letters survive along with more than 2,700 poems. His poetry is characterized by a remarkable variety of subject matter and minute attention to detail. Some poems have a playful tone, others exude warmth and tenderness. During his exile, for instance, he wrote a playful but biting poem to celebrate the first bath of his month-old son, in which he claimed, 'All I want is a son who is doltish and dumb. No setbacks or hardships will obstruct his path to the highest court posts.' The visual quality of Su Shi's poetic descriptions may owe something to his mastery of both calligraphy and painting. In his writings on the theory of painting, he argued that the purpose of painting was not to depict the appearance of things but to express the painter's own feelings, making it much more like poetry.

In his writings Su upheld Confucian ideas of public service, but he was drawn to Daoist and Buddhist philosophical ideas as well. Two of his best-loved poetic essays were occasioned by his visits to Red Cliff, the spot on the Yangzi River where a famous battle took place in 208 CE. In the first, he and his friend discuss the shortness of life and the joys to be had from enjoying the breeze along the river. In the second, he described hiking along the rocks with friends, then drifting in the river on a boat, letting the current determine their direction.

For twenty-five years after his death, Su's writings were proscribed because of his association with the anti-reform faction. Once the ban was lifted, however, commercial publishers, private patrons, and Buddhist monasteries began publishing his works, at least nine separate editions appearing in Song times.

Su Shi at Red Cliff, by Li Song (*c.* 1190–1225).

and the greatest patron of Confucian scholars. In subsequent dynasties as well, rulers found it to their advantage to recognize this school of Confucian learning as the correct or orthodox teaching.

Developments in Confucian thought also reinforced trends toward a more restricted sphere for women in literati families. Confucian thinkers such as Sima Guang and Cheng Yi were firm in the conviction that social harmony depended on individual moral actions. When discussing family ethics, Sima Guang stressed the need for men and women alike to identify with the interests of the family. In the case of women, this meant identifying with the family of their husbands and sons. Women should have no desire to have their own property, feel no jealousy if their husband took a concubine, show no bias against the children of concubines, and remain to care for their parents-in-law and children if their husbands died. Learning to read and write was fine, but they should not indulge in frivolous pastimes like writing poetry. Confucian scholars found nothing objectionable about the growing tendency toward stricter seclusion of women, and encouraged clear separation of the men's and women's quarters in the house. They also reiterated in the clearest possible terms the impropriety of widows remarrying, Cheng Yi even asserting that starving to death was a lesser evil.

The Shrine to the Holy Mother near Taiyuan, Shanxi province, was built in the eleventh century. The central figure is the mother of the Zhou prince who founded the state of Jin. Over the centuries she came to be worshipped as a water-providing goddess. Very few buildings of this date still survive.

Town and village life

Ordinary people are better documented for the Song than for earlier periods, letting us see some of the ways larger historical developments had an impact on their lives. Commercial and industrial expansion spurred urbanization, so more people lived in urban settings. Kaifeng, the capital of the Song until 1126, was as populous as the Tang capital at Chang'an, but it was much more a commercial city, dominated more by markets – open all hours – than by palaces and government offices. Multi-storey houses, situated directly on the streets rather than behind walls, became common and were often let out for rent. After the north was lost, the new capital at Hangzhou quickly grew to match or even surpass Kaifeng in population and economic development. In both cities the government introduced measures to mitigate the hardships of the poor, such as orphanages, old people's homes, hospitals, and paupers' graveyards, often calling on Buddhist establishments to manage them. Epidemics were recognized to be a particular problem in crowded cities and the government arranged for distribution of drugs to fight them.

The liveliness of life in the capital became a popular topic for writers, who described not just the profusion of goods and services available, but also the

processions through the streets when the emperor left the palace to perform ceremonies, accompanied by thousands of soldiers and officials in colourful costumes. Descriptions of Hangzhou reveal that catering companies would provide customers with not only food, but tables, chairs, tents, and decorations when they wanted to invite guests. Brokers had girls and young women available to hire or purchase as maids, concubines, or prostitutes. There were 14 fire stations, staffed with 2,000 soldiers to respond quickly to fires. Then there was beautiful West Lake, just outside the city, perfect for an afternoon outing on a boat. Marco Polo described Hangzhou as without doubt the finest and most splendid city in the world. 'Anyone seeing such a multitude would believe it impossible that food could be found to feed them all, and yet on every market day all the market squares are filled with people and with merchants who bring food on carts and boats.'

Cities in the provinces also grew at an unprecedented pace during the Song period, dozens attaining populations of 50,000 or more. In 1120, the governor of Quanzhou, a coastal city in southern Fujian, claimed the city and its hinterland had 500,000 residents. In addition, market towns began springing up everywhere. Many of these towns began as periodic markets where trading occurred on a regular schedule, such as every fifth or tenth day. These markets soon attracted tea houses, then shops that sold daily necessities, and in time new residents. Eventually, the government would notice these emerging towns and establish tax-collection offices in them.

Farmers living in villages were not immune to the effects of economic growth, but much depended on where in the country they lived. The size of farms, the crops grown, the type of landlord-tenant relations, the possibilities for sideline income all varied by region. Generally speaking, though, contractual tenancy was on the increase, personal bondage on the decline. In some areas crime could be a problem. Yuan Cai, author of a book of advice to family heads, bluntly warned the well-to-do not to let their children out unaccompanied for fear that they would be kidnapped and held for ransom. He also urged families to have servants patrol their property at night to prevent theft and repeatedly warned of the possibility of being sued. In fact legal casebooks show law courts clogged with neighbours and relatives suing each other over rights to land and other property.

In both cities and the countryside, religion was a central feature of ordinary people's lives. Besides Buddhist and Daoist temples, shrines to local gods were very common and an important part in community life. Cults often spread from one part of the country to another. By the end of the Song, for instance, cities all over the country had temples dedicated to the god of the city wall. Many also had temples to Wenchang, a deity who began as a fearsome serpent spirit in Sichuan, but by Song times had taken on the identity of patron of the examinations.

The Song government tried to keep track of local shrines and decide which ones were acceptable. It allowed local communities to petition the government to grant their god a noble rank and an imperially inscribed name plaque for their temple.

Consumer goods were not to be found only in the great cities, as shown in this silk painting by Li Song (*c.* 1190–after 1225) dated 1212. A pedlar making his rounds through the countryside finds himself surrounded by children, some too young yet to wear trousers, all of them eager to look at the wares he is offering.

Some officials not only rejected such petitions, but went much further in trying to curb what they saw as unacceptable religious practices. In 1023, a prefect in Jiangxi destroyed the shrines of 1,900 shamans involved in faith healing, ordering them to take up farming or become orthodox physicians who prescribed drugs rather than exorcize evil spirits. He complained that these shamans kept relatives away from the sick and refused them food or drink. Officials were even more horrified when they came across evidence of human sacrifice. In 985, Taizong, after reading an account of customs in the far south, issued an order that prefects and magistrates in the region work to gradually change such practices as killing people as sacrifices to ghosts. A few years later when there was a report of a rich man offering money to anyone who would bring him a victim to sacrifice, penalties were announced for anyone involved, including officials who did not report cases. In 1153, an official complained that the practice of human sacrifice was spreading from Hunan and Guangzhou to Zhedong, where people were sacrificed as offerings to the god of the sea, and Sichuan, where they were sacrificed to the gods of salt wells.

A much more sympathetic witness to local religion is Hong Mai (1123–1202). His 200-plus chapter *Record of the Listener* recorded things he had learned about first-hand or from friends, relatives, and colleagues. From his accounts it would seem that most people understood that both blessings and misfortunes could be

Landscape Painting

Fan Kuan's *Travellers amid Mountains and Streams* was monumental in size as well as subject matter, measuring around 6¾ feet (2 m) tall.

Chinese painting falls into two large divisions: painting on walls and painting on the portable media of paper and silk. Paintings discovered on the walls of excavated tombs and the rare surviving temple give us hints of how magnificent the interior of palaces and temples must have been, but paintings on paper and silk have survived in much larger quantities. These portable paintings include vertical scrolls that could be hung against a wall, horizontal scrolls that could be unrolled little by little on a table, and small round or square pictures that could be used as the face of a fan or collected in albums. Whatever the format, the painting was done with brushes and ink much like those used for writing, supplemented often, but not always, with water-based coloured washes applied with the same sorts of brushes.

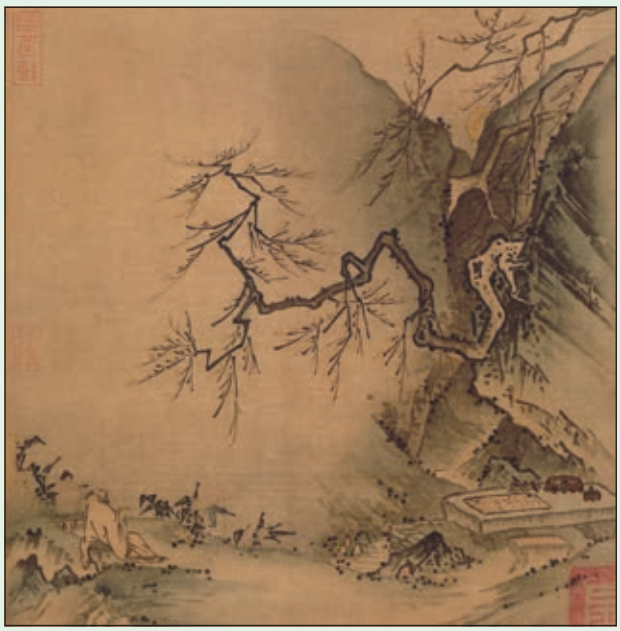
Many paintings depicting people have been reproduced in this book because they help convey a sense of Chinese social life. In the estimation of Chinese art critics, however, the greatest glory of the Chinese art of painting was not figure but landscape painting. Centuries before Western artists began to see natural scenery as anything more than background, Chinese artists had developed the depiction of landscape into a great art. Mountains had long been seen as sacred places – the homes of immortals, close to the heavens. Philosophical interest in nature could also have contributed to the rise of landscape painting, including both Daoist stress on how minor the human presence is in the vastness of the cosmos and neo-Confucian interest in the patterns or principles that underlie all phenomena, natural and social.

Three masterpieces of Song landscape painting are illustrated here. Majestic mountains are the focus of the earliest of these, a hanging scroll nearly 7 feet (2 m) tall by Fan Kuan (active *c.* 990–*c.* 1020). The foreground, presented at eye level, is executed in crisp, well-defined brushstrokes. Jutting boulders, tough scrub trees, a mule train on the road, and a temple in the forest on the cliff are all vividly depicted. There is a subtle break between the foreground and the towering central peak behind, which is treated as if it were a backdrop, suspended and fitted into a slot behind the foreground. There are human figures in this scene, but it is easy to imagine them overpowered by the magnitude and mystery of their surroundings.

Little is known of Fan Kuan other than that he loved the mountains of his native region in north China. By the late Northern Song, prominent literati like Mi Fu (1051–1107) achieved fame as both calligraphers and painters. Mi Fu and his son Mi Youren (1086–1165) had successful official careers and mixed with eminent men, who

often gathered to appreciate each others' art objects. As painters, the Mis developed a distinct style of brushwork and composition; they made extensive use of washes and overlaid horizontal dabs and represented depth by showing mists between layers of mountains.

These two Northern Song works can be contrasted to a Southern Song one on a smaller and more intimate scale. Much as leading scholar-officials of the Northern Song set out to 'order the world', tackling the largest questions of the organization of state and society, Northern Song painters often painted huge scenes. In the Southern Song, Confucian scholars preferred working from what was close at hand – improvement of oneself and small units like the family and village where one could have significant hope of success – and artists often painted small, intimate scenes that suggest contemplation of what was close to the viewer. This was true even of the painters at the imperial academy, where many of the most influential painters worked in this period. The album leaf by the court painter Ma Yuan is in the evocative 'one-corner' format popular in this period. The gaze of the viewer is drawn from the vividly sketched material world in the foreground to the empty space beyond, a realm without substance. Small paintings like this one were often collected into albums and paired with poems or poetic couplets, both poets and painters seeing commonalities in the ways they depicted the juxtaposition of scene, season, and human activity.



In a space less than 10 inches (25 cm) on each side, Ma Yuan shows a scholar gazing at the scenery, his brushes, ink, inkstone, and paper set out on a nearby rock.

Mi Youren uses wet ink dots to create an evocative landscape in this handscroll on paper that measures about 23 inches (57 cm) long.

caused by all sorts of gods and spirits, including not only Buddhist and Daoist gods known throughout the realm but also gods and demons particular to a locality. Illness could be caused by an unhappy ancestor or by a god or demon. Malevolent spirts might extort offerings, acting like local bullies. Gods could belong to hierarchies, holding an office in an otherworldly government. Gods were not seen as omnipotent and might inform a petitioner that he would have to get the approval of a higher god before he could fulfil the request. To gain the god's favour, people would pray and make offerings of incense, food, and drink. But success was not guaranteed. In one account, a man pestered by a ghost first hired a local exorcist. When that failed to solve his problem, he called on a visiting Daoist priest to perform an offering ceremony. He next called on Buddhist monks from the local monastery to recite incantations and conduct an exorcism, which finally achieved results.

Women in ordinary families appear frequently in *Record of the Listener*, legal casebooks, and books of advice for family management. They figure as widows who ran inns, maids who ran away from abusive masters, midwives still delivering babies into their seventies, nuns who called on upper-class families to preach to their women, singing girls and courtesans who entertained in urban taverns, female mediums adept at communicating with spirits, farmers' daughters skilled at weaving mats, elderly widows who accused their nephews of stealing their property, to provide a far from complete list. These women were certainly not all confined to the home, but neither were they very powerful outside it. Inside the family, however, women were central figures. They did much of the child rearing, usually played a role in selecting spouses for their children (often trying to find one among their own relatives), and continued to have strong ties to their sons after they were grown and married, since their sons generally stayed at home.

One of the ways ordinary people's lives intersected with those of the literati elite was through kinship groups who shared descent from a common patrilineal ancestor. A common activity bringing together patrilineal relatives was making offerings at the grave of a common ancestor on designated days in the spring and the fall. The first individual to settle in an area was seen as the founder of the kin group and his grave received special attention. Leading literati encouraged local kin groups to record their genealogies and thus keep track of their membership. Mutual assistance was also encouraged. Fan Zhongyan was credited with inventing the idea of the corporate lineage estate, a type of permanent property that could cover the expense of joint rites to ancestors and assistance to kinsmen in need. Zhu Xi, in his guide to family rituals, promoted holding ancestral rituals in designated halls. By the end of the Song, lineages had become major forces in local social and political life in Fujian, Zhejiang, Anhui, Jiangxi, and other provinces in the south.

In the eleventh, twelfth, and thirteenth centuries China was the most advanced society in the world. By the eleventh century, Europe was certainly out of the shadows of the Dark Ages, but improvements in its economy were not occurring at anywhere

near the rate they were in China. At the end of the thirteenth century, when Marco Polo crossed Asia, neither Venice where he came from nor any of the countries of Europe or Asia through which he passed could compare to China in agricultural productivity, industrial technology, commercial organization, urbanization, levels of education, and circulation of books.

Many scholars have pondered why these harbingers of modernity did not cause as rapid social, cultural, or political change in China as they did when they reached Europe a few centuries later. For instance, the rapid development of commerce and appearance of commercial cities did not play the same political or intellectual role in China as it did in Europe slightly later. Chinese cities did not become places identified with personal freedom. They were not communities of merchants at odds with the lords in the countryside. In Song China, merchants penetrated rural areas, and both cities and rural areas were under the political control of representatives of the central government.

Printing also offers an interesting point of comparison. In European history printing is often seen as a principal agent of change, accelerating the circulation of ideas and revolutionizing both learned and popular culture. In China, the print revolution occurred more gradually. The technology was developed in Tang times, the first major printing of the Confucian classics occurred in the tenth century, and private printing of popular books, such as collections of poetry, increased fairly steadily through the Song. Printing stimulated the reproduction of existing texts and the compilation of new ones for larger markets. The decline in the cost of books contributed to the growth in the size of the educated. By late Song, new types of books were circulating and that circuits of knowledge had changed in such fields as medicine and geomancy.

In the case of printing, a key difference between its impact in Europe and China is probably the nature of the elite. Unlike the elites of most other pre-modern societies, China's late imperial elite was not military in character, nor was it a hereditary aristocracy, nor a priestly caste. Its stature was buttressed by its ideology of duty and service, and by the ostensibly fair and objective ways in which its members gained access to ranks and honours. Given the importance of book learning to the elite, printing was in no sense a threat to its access to power.