Section 2: The Song Dynasty

Origins of the Song Dynasty

The Song dynasty was an era of Chinese history that began in 960 and continued until 1279; it succeeded the tumultuous Five Dynasties and Ten Kingdoms period and saw many technological and cultural innovations.

LEARNING OBJECTIVES

Describe who the Song were and how they rose to power

KEY TAKEAWAYS

Key Points

- The Song dynasty was an era of Chinese history that began in 960, directly after the chaotic Five Dynasties and Ten Kingdoms period.
- It was the first government in world history to issue banknotes and the first Chinese government to establish a permanent standing navy; it saw the first known use of gunpowder and the first recognition of true north using a compass.
- The Song dynasty was divided into two distinct periods, Northern (960–1127) and Southern (1127–1279).
- Social life during the Song was vibrant, and included public artworks, the spread of literature, and the growth of philosophy.
- Zhao Kuangyin, later known as Emperor Taizu (r. 960–976), usurped the throne from the Zhou dynasty with the support of military commanders in 960, initiating the Song dynasty and ending the Five Dynasties period.
- Upon taking the throne, his first goal was the reunification of China after half a century of political division.
Key Terms

- **Emperor Taizu**: Personal name Zhao Kuangyin; he was the founder and first emperor of the Song dynasty in China.
- **Five Dynasties and Ten Kingdoms**: An era of political upheaval in 10th-century imperial China; during this period, five states quickly succeeded one another in the Chinese Central Plain, while more than a dozen concurrent states were established elsewhere, mainly in south China.

Overview

The Song dynasty was an era of Chinese history that began in 960 and continued until 1279. It succeeded the Five Dynasties and Ten Kingdoms period, and was followed by the Yuan dynasty. It was the first government in world history to issue banknotes or true paper money nationally and the first Chinese government to establish a permanent standing navy. This dynasty also saw the first known use of gunpowder as well as the first discernment of true north using a compass.

The Song dynasty was divided into two distinct periods, Northern and Southern. During the Northern Song (960–1127), the Song capital was in the northern city of Bianjing (now Kaifeng), and the dynasty controlled most of what is now Eastern China. The Southern Song (1127–1279) refers to the period after the Song lost control of its northern half to the Jurchen Jin dynasty in the Jin-Song Wars. During this time, the Song court retreated south of the Yangtze and established its capital at Lin’an (now Hangzhou). Although the Song dynasty had lost control of the traditional “birthplace of Chinese civilization” along the Yellow River, the Song economy was still strong, as the Southern Song empire contained a large population and productive agricultural land. The Southern Song dynasty considerably bolstered its naval strength to defend its waters and land borders and to conduct maritime missions abroad.

Social life during the Song was vibrant. Citizens gathered to view and trade precious artworks, the populace intermingled at public festivals and private clubs, and cities had lively entertainment quarters. The spread of literature and knowledge was enhanced by the rapid expansion of woodblock printing and the 11th-century invention of movable-type printing. Technology, science, philosophy, mathematics, and engineering flourished over the course of the Song. Philosophers such as Cheng Yi and Zhu Xi reinvigorated Confucianism with new commentary infused with Buddhist ideals, and emphasized a new organization of classic texts that brought out the core doctrine of Neo-Confucianism. Although the institution of the civil service examinations had existed since the Sui dynasty, it became much more prominent in the Song period. The officials who gained power by succeeding in the exams became a leading factor in the shift from a military-aristocratic elite to a bureaucratic elite.

Founding of the Song Dynasty

The Later Zhou was the last of the Five Dynasties that had controlled northern China after the fall of the Tang dynasty in 907. Zhao Kuangyin, later known as Emperor Taizu (r. 960–976), usurped the throne from the Zhou with the support of military commanders in 960, initiating the Song dynasty. Upon taking the throne, his first goal was the reunification of China after half a century of political division. This included the conquests of Nanping, Wu-Yue, Southern Han, Later Shu, and Southern Tang in the south as well as the Northern Han and the Sixteen Prefectures in the north. With capable military officers such as Yang Ye (d. 986), Liu Tingrang (929–987), Cao Bin (931–999) and Huyan Zan (d. 1000), the early Song military became the dominant force in China. Innovative military tactics, such as defending supply lines
across floating pontoon bridges, led to success in battle. One such success was the Song assault against the Southern Tang state while crossing the Yangtze River in 974. Using a mass of arrow fire from crossbowmen, Song forces were able to defeat the renowned war elephant corps of the Southern Han on January 23, 971, thus forcing the submission of Southern Han and terminating the first and last elephant corps to make up a regular division within a Chinese army.

Consolidation in the south was completed in 978, with the conquest of Wu-Yue. Song military forces then turned north against the Northern Han, which fell to Song forces in 979. However, efforts to take the Sixteen Prefectures were unsuccessful, and they were incorporated into the Liao state based in Manchuria to the immediate north instead. To the far northwest, the Tanguts had been in power over northern Shaanxi since 881, after the earlier Tang court appointed a Tangut chief as a military governor (jiedushi) over the region, a seat that became hereditary (forming the Xi-Xia dynasty). Although the Song state was evenly matched against the Liao dynasty, the Song gained significant military victories against the Western Xia (who would eventually fall to the Mongol conquest of Genghis Khan in 1227).

Emperor Taizu: A court painting of Emperor Taizu of Song (r. 960–976), who founded the Song dynasty and unified China.

The Northern Song Era

During the Northern Song (960-1127), the Song capital was in the northern city of Kaifeng, and the dynasty controlled most of what is now Eastern China.

LEARNING OBJECTIVES

Describe the successes and setbacks of the Northern Song Dynasty
KEY TAKEAWAYS

Key Points

- Emperor Taizu of Song unified the empire by conquering other lands during his reign, ending the upheaval of the Five Dynasties and Ten Kingdoms period and beginning the Song dynasty.

- The Song court maintained diplomatic relations with Chola India, the Fatimid Caliphate, Srivijaya, the Kara-Khanid Khanate of Central Asia, and other countries that were also trade partners with Japan.

- From its inception under Taizu, the Song dynasty alternated between warfare and diplomacy with the ethnic Khitans of the Liao dynasty in the northeast and with the Tanguts of the Western Xia in the northwest.

- During the 11th century, political rivalries divided members of the court due to the ministers’ differing approaches, opinions, and policies regarding the handling of the Song’s complex society and thriving economy.

- After the Jurchen conquest of North China and a shift of capitals from Kaifeng to Lin’an, the Northern Song transitioned into the Southern Song dynasty.

Key Terms

- **New Policies**: A series of reforms initiated by the Northern Song dynasty reformer Wang Anshi when he served as minister under Emperor Shenzong from 1069–1076.

- **Jin dynasty**: This dynasty lasted from 1115–1234 as one of the last dynasties in Chinese history to predate the Mongol invasion of China; they warred with the Song dynasty.

Beginning of the Song Dynasty

Emperor Taizu of Song (r. 960–976) had unified the empire by conquering other lands during his reign, ending the upheaval of the Five Dynasties and Ten Kingdoms period. In Kaifeng he established a strong central government over the empire. He ensured administrative stability by promoting the civil service examination system of drafting state bureaucrats by skill and merit (instead of aristocratic or military position) and promoted projects that ensured efficiency in communication throughout the empire. In one such project, cartographers created detailed maps of each province and city that were then collected in a large atlas. Emperor Taizu also promoted groundbreaking scientific and technological innovations by supporting such works as the astronomical clock tower designed and built by the engineer Zhang Sixun.

Diplomacy and War

The Song court maintained diplomatic relations with Chola India, the Fatimid Caliphate, Srivijaya, the Kara-Khanid Khanate of Central Asia, and other countries that were also trade partners with Japan. However, China’s closest neighboring states affected its domestic and foreign policy the most. From its inception under Taizu, the Song dynasty alternated between warfare and diplomacy with the ethnic Khitans of the Liao dynasty in the northeast and with the Tanguts of the Western Xia in the northwest. The Song dynasty used military force in an attempt to quell the Liao dynasty and recapture the
Northern Song dynasty: The extent of the land holdings of the Northern Song dynasty in 1111.

Sixteen Prefectures, a territory under Khitan control that was traditionally considered part of China proper. Song forces were repulsed by the Liao forces, who engaged in aggressive yearly campaigns into Northern Song territory until 1005, when the signing of the Shanyuan Treaty ended these northern border clashes. The Song were forced to provide tribute to the Khitans, although this did little damage to the Song economy since the Khitans were economically dependent upon importing massive amounts of goods from the Song. More significantly, the Song state recognized the Liao state as its diplomatic equal.

The Song dynasty managed to win several military victories over the Tanguts in the early 11th century, culminating in a campaign led by the polymath scientist, general, and statesman Shen Kuo (1031–1095). However, this campaign was ultimately a failure due to a rival military officer of Shen disobeying direct orders, and the territory gained from the Western Xia was eventually lost. There was also a significant war fought against the Lý dynasty of Vietnam from 1075 to 1077 over a border dispute and the Song’s severing of commercial relations with the Đại Việt kingdom. After Lý forces inflicted heavy damages in a raid on Guangxi, the Song commander Guo Kui (1022–1088) penetrated as far as Thăng Long (modern Hanoi). Heavy losses on both sides prompted the Lý commander Thường Kiệt (1019–1105) to make peace overtures, allowing both sides to withdraw from the war effort; captured territories held by both Song and Lý were mutually exchanged in 1082, along with prisoners of war.

Political Rivalries

During the 11th century, political rivalries divided members of the court due to the ministers’ differing approaches, opinions, and policies regarding the handling of the Song’s complex society and thriving economy. The idealist Chancellor Fan Zhongyan (989–1052) was the first to experience a heated political backlash when he attempted to institute the Qingli Reforms, which included measures such as improving the recruitment system of officials, increasing the salaries for minor officials, and establishing sponsorship programs to allow a wider range of people to be well
educated and eligible for state service.

After Fan was forced to step down from his office, Wang Anshi (1021–1086) became chancellor of the imperial court. With the backing of Emperor Shenzong (1067–1085), Wang Anshi severely criticized the educational system and state bureaucracy. Seeking to resolve what he saw as state corruption and negligence, Wang implemented a series of reforms called the New Policies. These involved land value tax reform, the establishment of several government monopolies, the support of local militias, and the creation of higher standards for the Imperial examination to make it more practical for men skilled in statecraft to pass.

The reforms created political factions in the court. Wang Anshi’s “New Policies Group” (Xin Fa), also known as the “Reformers,” were opposed by the ministers in the “Conservative” faction led by the historian and chancellor Sima Guang (1019–1086). As one faction supplanted another in the majority position of the court ministers, it would demote rival officials and exile them to govern remote frontier regions of the empire. One of the prominent victims of the political rivalry, the famous poet and statesman Su Shi (1037–1101), was jailed and eventually exiled for criticizing Wang’s reforms.

Decline and Transition to Southern Song

While the central Song court remained politically divided and focused upon its internal affairs, alarming new events to the north in the Liao state finally came to its attention. The Jurchen, a subject tribe of the Liao, rebelled against them and formed their own state, the Jin dynasty (1115–1234). The Song official Tong Guan (1054–1126) advised Emperor Huizong (1100–1125) to form an alliance with the Jurchens (the Alliance Conducted at Sea), and the joint military campaign under this alliance toppled and completely conquered the Liao dynasty by 1125.

However, the poor performance and military weakness of the Song army was observed by the Jurchens, who immediately broke the alliance, beginning the Jin–Song Wars of 1125 and 1127; during the latter invasion, the Jurchens captured not only the capital, but also the retired Emperor Huizong, his successor Emperor Qinzong, and most of the imperial court. This took place in the year of Jingkang and it is known as the Jingkang Incident.

The remaining Song forces regrouped under the self-proclaimed Emperor Gaozong of Song (1127–1162) and withdrew south of the Yangtze to establish a new capital at Lin’an (modern Hangzhou). The Jurchen conquest of northern China and the shift of capitals from Kaifeng to Lin’an was the dividing line between the Northern and Southern Song dynasties.

The Southern Song Era

The Southern Song (1127–1279) was the period after the Song lost control of its northern half to the Jurchen Jin dynasty in the Jin–Song Wars and retreated south of the Yangtze, establishing a capital at Lin’an.

LEARNING OBJECTIVES

Compare and contrast the Southern Song era with the Northern Song era
KEY TAKEAWAYS

Key Points

- After the Jins captured the Northern Song capital of Kaifeng, they went on to conquer the rest of northern China, while the Song Chinese court fled south and founded the Southern Song dynasty.

- Although weakened and pushed south beyond the Huai River, the Southern Song found new ways to bolster its strong economy and defend itself against the Jin dynasty, especially through the creation of the first standing navy of China.

- The Jin-Song Wars engendered an era of technological, cultural, and demographic changes in China, including the introduction of gunpowder into weaponry.

- Though the Song dynasty was able to hold back the Jin from their southern territory, a new foe came to power over the steppe, deserts, and plains north of the Jin dynasty—the Mongols led by Genghis Khan.

- The Mongols were at one time allied with the Song, but this alliance was broken when the Song recaptured the former imperial capitals of Kaifeng, Luoyang, and Chang’an at the collapse of the Jin dynasty.

- The Mongols continued to war with the Song, eventually founding the Yuan dynasty under Kublai Khan, thus ending the Song dynasty.

Key Terms

- **Kublai Khan**: The fifth Great Khan of the Mongol Empire and founder of the Yuan dynasty in China as a conquest dynasty in 1271; he ruled as the first Yuan emperor until his death in 1294.

- **Mongols**: An East-Central Asian ethnic group native to Mongolia.

- **Genghis Khan**: The founder and Great Khan (emperor) of the Mongol Empire, which became the largest contiguous empire in history after his death.

Southern Song in 1142: The extent of the land holdings of the Southern Song dynasty, significantly reduced from Northern Song’s holdings by the Jin dynasty.
Founding of the Southern Song

After capturing Kaifeng, the Jurchens went on to conquer the rest of northern China, while the Song Chinese court fled south. They took up temporary residence at Nanjing, where a surviving prince was named Emperor Gaozong of Song in 1127. Jin forces halted at the Yangtze River, but staged continual raids south of the river until a later boundary was fixed at the Huai River further north. With the border fixed at the Huai, the Song government promoted an immigration policy of repopulating and resettling territories north of the Yangtze River, since vast tracts of vacant land between the Yangtze and the Huai were open for landless peasants found in the Jiangsu, Zhejiang, Jiangxi, and Fujian provinces of the south.

Continued War with the Jin

Though weakened and pushed south beyond the Huai River, the Southern Song found new ways to bolster its strong economy and defend itself against the Jin dynasty. It had able military officers such as Yue Fei and Han Shizhong. The government sponsored massive shipbuilding, harbor-improvement projects, and the construction of beacons and seaport warehouses to support maritime trade abroad, including at the major international seaports, such as Quanzhou, Guangzhou, and Xiamen, that were sustaining China’s commerce. To protect and support the multitude of ships sailing for maritime interests into the waters of the East China Sea and Yellow Sea (to Korea and Japan), Southeast Asia, the Indian Ocean, and the Red Sea, it was necessary to establish an official standing navy. The Song dynasty therefore established China’s first permanent navy in 1132, with a headquarters at Dinghai.

Southern Song era ship: A Song era junk ship, 13th century; Chinese ships of the Song period featured hulls with watertight compartments.

With a permanent navy, the Song were prepared to face the naval forces of the Jin on the Yangtze River in 1161, in the Battle of Tangdao and the Battle of Caishi. During these battles the Song navy employed swift paddle-wheel driven naval vessels armed with trebuchet catapults aboard the decks that launched gunpowder bombs. Although the Jin forces commanded by Wanyan Liang (the Prince of Hailing) boasted 70,000 men on 600 warships, and the Song forces only 3,000 men on 120 warships, the Song forces were victorious in both battles due to the destructive power of the bombs and the rapid assaults by paddle-wheel ships. The strength of the navy was heavily emphasized after that. A century after the navy was founded it had grown in size to 52,000 fighting marines.
The Jin-Song Wars engendered an era of technological, cultural, and demographic changes in China. Battles between the Song and Jin brought about the introduction of various gunpowder weapons. The siege of De'an in 1132 was the first recorded appearance of the fire lance, an early ancestor of firearms. There were also reports of battles fought with primitive gunpowder bombs like the incendiary huopao or the exploding tiehuopao, flammable arrows, and other related weapons.

The Song government confiscated portions of land owned by the gentry in order to raise revenue for military and naval projects, an act which caused dissension and loss of loyalty amongst leading members of Song society, but did not stop the Song’s defensive preparations. Financial matters were made worse by the fact that many wealthy, land-owning families—some of which had members working as officials for the government—used their social connections with those in office to obtain tax-exempt status.

The Mongols

Although the Song dynasty was able to hold back the Jin, a new foe came to power over the steppe, deserts, and plains north of the Jin dynasty. The Mongols, led by Genghis Khan (r. 1206–1227), initially invaded the Jin dynasty in 1205 and 1209, engaging in large raids across its borders, and in 1211 an enormous Mongol army was assembled to invade the Jin. The Jin dynasty was forced to submit and pay tribute to the Mongols as vassals; when the Jin suddenly moved their capital city from Beijing to Kaifeng, the Mongols saw this as a revolt. Under the leadership of Ögedei Khan (r.1229–1241), Mongol forces conquered both the Jin dynasty and Western Xia dynasty. The Mongols also invaded Korea, the Abbasid Caliphate of the Middle East, and Kievan Rus’.

The Mongols were at one time allied with the Song, but this alliance was broken when the Song recaptured the former imperial capitals of Kaifeng, Luoyang, and Chang’an at the collapse of the Jin dynasty. The Mongol leader Möngke Khan led a campaign against the Song in 1259, but died on August 11 during the Battle of Diaoyu Fortress in Chongqing. Möngke’s death and the ensuing succession crisis prompted Hulagu Khan to pull the bulk of the Mongol forces out of the Middle East, where they were poised to fight the Egyptian Mamluks (who defeated the remaining Mongols at Ain Jalut). Although Hulagu was allied with Kublai Khan, his forces were unable to help in the assault against the Song due to Hulagu’s war with the Golden Horde.

Kublai continued the assault against the Song, gaining a temporary foothold on the southern banks of the Yangtze. Kublai made preparations to take Ezhou, but a pending civil war with his brother Ariq Böke—a rival claimant to the Mongol Khaganate—forced Kublai to move back north with the bulk of his forces. In Kublai’s absence, the Song forces were ordered by Chancellor Jia Sidao to make an opportune assault, and succeeded in pushing the Mongol forces back to the northern banks of the Yangtze. There were minor border skirmishes until 1265, when Kublai won a significant battle in Sichuan. From 1268 to 1273, Kublai blockaded the Yangtze River with his navy and besieged Xiangyang, the last obstacle in his way to invading the rich Yangtze River basin.

The End of the Southern Song

Kublai Khan officially declared the creation of the Yuan dynasty in 1271. In 1275, a Song force of 130,000 troops under Chancellor Jia Sidao was defeated by Kublai’s newly appointed commander-in-chief, General Bayan. By 1276, most of the Song territory had been captured by Yuan forces. In the Battle of Yamen on the Pearl River Delta in 1279, the Yuan army, led by General Zhang Hongfan, finally crushed the Song resistance. The last remaining ruler, the 8-year-old...
emperor Emperor Huaizong of Song, committed suicide, as did Prime Minister Lu Xiufu and 800 members of the royal clan. On Kublai’s orders carried out by his commander Bayan, the rest of the former imperial family of Song were unharmed; the deposed Emperor Gong was demoted, given the title “Duke of Ying,” but was eventually exiled to Tibet, where he took up a monastic life. The former emperor would eventually be forced to commit suicide under the orders of Kublai’s great-great grandson Gegeen Khan, who feared that Emperor Gong would stage a coup to restore his reign. Other members of the Song imperial family continued to live in the Yuan dynasty, including Zhao Mengfu and Zhao Yong.

Culture Under the Song Dynasty

Social life and culture during the Song was vibrant and diverse, with important achievements in the arts and lively popular entertainment.

LEARNING OBJECTIVES

Explain cultural aspects of the Song dynasty

KEY TAKEAWAYS

Key Points

• The Song dynasty was an era of administrative sophistication and complex social organization that brought rise to a rich and diverse social life and culture.

• Citizens gathered to view and trade precious artworks, the populace intermingled at public festivals and private clubs, and cities had lively entertainment quarters.

• Although women were on a lower social tier than men, they enjoyed many social and legal privileges and wielded considerable power at home and in their own small businesses, and some women became famous artists and writers.

• Ancient Chinese Taoism, ancestor worship, and foreign-originated Buddhism were the most prominent religious practices in the Song period.

• Chinese literature during the Song period contained a range of different genres and was enriched by the social complexity of the period.

• The visual arts during the Song dynasty were heightened by new developments in areas such as landscape and portrait painting.

Key Terms

• antiquarian: An aficionado or student of antiquities or things of the past; or relating to such interests.

• Pear Garden: The first known royal acting and musical academy in China, founded during the Tang dynasty by Emperor Xuanzong.

• Manichaean: Of or relating to a major religion founded in Iran that taught an elaborate dualistic cosmology describing the struggle between a good, spiritual world of light, and an evil, material world of darkness.
Society during the Song Dynasty

The Song dynasty was an era of administrative sophistication and complex social organization. Some of the largest cities in the world were found in China during this period (Kaifeng and Hangzhou had populations of over a million). People enjoyed various social clubs and entertainment in the cities, and there were many schools and temples to provide the people with education and religious services. The Song government supported social welfare programs, including the establishment of retirement homes, public clinics, and paupers’ graveyards. The Song dynasty supported a widespread postal service, modeled on the earlier Han dynasty (202 BCE–CE 220) postal system, to provide swift communication throughout the empire. The central government employed thousands of postal workers of various ranks to provide service for post offices and larger postal stations. In rural areas, farming peasants either owned their own plots of land, paid rents as tenant farmers, or were serfs on large estates.

Women in the Song Dynasty

Empress of Zhenzong of Song: Official court portrait painting of the empress and wife of Zhenzong. Notice the heavy ceremonial facial painting and elaborate clothing, typical of royal women.
Although women were on a lower social tier than men (according to Confucian ethics), they enjoyed many social and legal privileges and wielded considerable power at home and in their own small businesses. As Song society became more and more prosperous and parents on the bride’s side of the family provided larger dowries for her marriage, women naturally gained many new legal rights in the ownership of property. Under certain circumstances, an unmarried daughter without brothers, or a surviving mother without sons, could inherit one-half of her father’s share of undivided family property. There were many notable and well-educated women, and it was a common practice for women to educate their sons during their earliest youth. The mother of the scientist, general, diplomat, and statesman Shen Kuo taught him essentials of military strategy. There were also exceptional women writers and poets such as Li Qingzhao (1084–1151), who became famous even in her lifetime.

Men dominated the public sphere, while affluent wives spent most of their time indoors enjoying leisure activities and managing the household. However, women of the lower and middle classes were not solely bound to the domestic sphere. It was common for women to manage town inns and restaurants, farmers’ daughters to weave mats and sell them on their own behalf, midwives to deliver babies, Buddhist nuns to study religious texts and sutras, and female nurses to assist physicians. Many women kept a close eye on their own financial matters; there are legal case documents that describe childless widows who accused their nephews of stealing their property.

Social Life in the Song

The populace engaged in a vibrant social and domestic life, enjoying such public festivals as the Lantern Festival and the Qingming Festival. There were entertainment quarters in the cities providing a constant array of amusements. There were puppeteers, acrobats, theatre actors, sword swallowers, snake charmers, storytellers, singers and musicians, and prostitutes, and places to relax, including tea houses, restaurants, and organized banquets. People attended social clubs in large numbers; there were tea clubs, exotic food clubs, antiquarian and art collectors’ clubs, horse-loving clubs, poetry clubs, and music clubs. There were regional styles of cooking and cuisine, as well as of performing arts. Theatrical drama was very popular amongst the elite and general populace, although Classical Chinese—not the vernacular language—was spoken by actors on stage. The four largest drama theaters in Kaifeng could hold audiences of several thousand each. There were also notable domestic pastimes, as people at home enjoyed activities such as the go and xiangqi board games.

Religion and Philosophy

Religion in China during this period had a great effect on people’s lives, beliefs, and daily activities, and Chinese literature on spirituality was popular. The major deities of Taoism and Buddhism, ancestral spirits, and the many deities of Chinese folk religion were worshipped with sacrificial offerings. Tansen Sen asserts that more Buddhist monks from India travelled to China during the Song than in the previous Tang dynasty (618–907). With many ethnic foreigners traveling to China to conduct trade or live permanently, there came many foreign religions; religious minorities in China included Middle Eastern Muslims, Kaifeng Jews, and Persian Manichaeans.

Song intellectuals sought answers to all philosophical and political questions in the Confucian Classics. This renewed interest in the Confucian ideals and society of ancient times coincided with the decline of Buddhism, which was then largely regarded as foreign and as offering few solutions for practical problems. However, Buddhism in this period continued as a cultural underlay to the more-accepted Confucianism and even Taoism, both seen as native and pure by
conservative Neo-Confucians. The continuing popularity of Buddhism is evidenced by achievements in the arts, such as the one-hundred painting set of the Five Hundred Luohan, completed by Lin Tinggui and Zhou Jichang in 1178.

A Luohan painting: One of the Five Hundred Luohan, painted in 1207 by Liu Songnian, Southern Song period.

Chinese folk religion continued as a tradition in China, drawing upon aspects of both ancient Chinese mythology and ancestor worship. Many people believed that spirits and deities of the spirit realm regularly interacted with the realm of the living. This subject was popular in Song literature. People in Song China believed that many of their daily misfortunes and blessings were caused by an array of different deities and spirits who interfered with their daily lives. These deities included the nationally accepted deities of Buddhism and Taoism, as well as the local deities and demons from specific geographic locations. If one displeased a long-dead relative, the dissatisfied ancestor would allegedly inflict natural ailments and illnesses. People also believed in mischievous demons and malevolent spirits who had the capability to extort sacrificial offerings meant for ancestors—in essence these were bullies of the spiritual realm.
Arts and Literature

Chinese painting during the Song dynasty reached a new level of sophistication with further development of landscape painting. The shan shui style painting—"shan" meaning mountain, and "shui" meaning river—became prominent features in Chinese landscape art. The emphasis laid upon landscape painting in the Song period was grounded in Chinese philosophy; Taoism stressed that humans were but tiny specks among vast and greater cosmos, while Neo-Confucianist writers often pursued the discovery of patterns and principles that they believed caused all social and natural phenomena. The making of glazed and translucent porcelain and celadon wares with complex use of enamels was also developed further during the Song period. Longquan celadon wares were particularly popular in the Song period. Black and red lacquerwares of the Song period featured beautifully carved artwork of miniature nature scenes, landscapes, or simple decorative motifs.

Song-era painting: A Song-era painting that exemplifies new styles of landscape paintings, depicting humans as small aspects of grand landscapes.

The gentry elite engaged in the arts as accepted pastimes of the cultured scholar-official; these pastimes included painting, composing poetry, and writing calligraphy. Poetry and literature profited from the rising popularity and development of the ci poetry form. Enormous encyclopedic volumes were compiled, such as works of historiography and dozens of treatises on technical subjects. This included the universal history text of the Zizhi Tongjian, compiled into 1000 volumes of 9.4-million written Chinese characters. The genre of Chinese travel literature also became popular with the writings of the geographers Fan Chengda (1126–1193) and Su Shi, the latter of whom wrote the "daytrip essay" known as Record of Stone Bell Mountain, which used persuasive writing to argue for a philosophical point. Although an early form of the local geographic gazetteer had existed in China since the 1st century, the matured form known as "treatise on a place," or fangzhi, replaced the old "map guide," or tujing, during the Song dynasty.

Theater and drama in China trace their roots back to the academy of music known as the Pear Garden, founded in the early 8th century during the Tang dynasty. However, historian Stephen H. West asserts that the Northern Song era capital Kaifeng was the first real center where the performing arts became "an industry, a conglomerate involving theatre, gambling, prostitution, and food." The rise in consumption by merchants and scholar-officials, he states, "accelerated the growth of both the performance and the food industries," asserting a direct link between the two due to their close proximity within the cities. Of the fifty-some theaters located in the "pleasure districts" of Kaifeng, four were
large enough to entertain audiences of several thousand each, drawing huge crowds that nearby businesses thrived upon. The chief crowd that gathered was composed of those from the merchant class, while government officials only went to restaurants and attended theater performances during holidays.

Technological Advancements under the Song

The Song dynasty provided some of the most significant technological advances in Chinese history.

LEARNING OBJECTIVES

Identify some of the technological advancements made under the Song

KEY TAKEAWAYS

Key Points

- Notable advances in civil engineering, nautics, and metallurgy were made in Song China.
- Advances in moveable type made the printing of texts easier and faster, thereby making the dissemination of ideas and learning more widespread.
- The application of new weapons using gunpowder enabled the Song to ward off its militant enemies.
- In Song China, topographical elevation, a formal rectangular grid system, and use of a standard graduated scale of distances were applied to terrain maps.

Key Terms

- **metallurgy**: The branch of science and technology concerned with the properties of metals and their production and purification.
- **Cartography**: The study and practice of making maps.

Overview

The Song dynasty provided some of the most significant technological advances in Chinese history, many of which came from talented statesmen drafted by the government through imperial examinations.

The ingenuity of advanced mechanical engineering has a long tradition in China. The Song engineer Su Song admitted that he and his contemporaries were building upon the achievements of the ancients such as Zhang Heng (78–139), an astronomer, inventor, and early master of mechanical gears. The application of movable type printing advanced the already widespread use of woodblock printing to educate and amuse Confucian students and the masses. The application of new weapons using gunpowder enabled the Song to ward off its militant enemies—the Liao, Western Xia, and Jin—with weapons such as cannons until its collapse to the Mongol forces of Kublai Khan in the late 13th century.

Notable advances in civil engineering, nautics, and metallurgy were made in Song China, and the windmill was introduced in China during the 13th century. These advances, along with the introduction of paper-printed money, helped revolutionize and sustain the economy of the Song dynasty.
Gunpowder and New Weaponry

Advancements in weapons technology enhanced by gunpowder, including the evolution of the early flamethrower, explosive grenade, firearm, cannon, and land mine, enabled the Song Chinese to ward off their militant enemies until the Song’s ultimate collapse in the late 13th century. The *Wujing Zongyao* manuscript of 1044 was the first book in history to provide formulas for gunpowder and their specified use in different types of bombs. While engaged in a war with the Mongols, in 1259 the official Li Zengbo wrote in his *Kezhai Zagao, Xugaohou* that the city of Qingzhou was manufacturing one- to two-thousand strong iron-cased bomb shells a month, dispatching to Xiangyang and Yingzhou about ten- to twenty-thousand such bombs at a time. In turn, the invading Mongols employed northern Chinese soldiers and used this same type of gunpowder weapons against the Song. By the 14th century the firearm and cannon could also be found in Europe, India, and the Islamic Middle East, during the early age of gunpowder warfare.

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**Trebuchet:** An illustration of a trebuchet catapult from the Wujing Zongyao manuscript of 1044. Trebuchets like this were used to launch the earliest type of explosive bombs.

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Advances in Navigation

As early as the Han dynasty, when the state needed to effectively measure distances traveled throughout the empire, the Chinese relied on the mechanical odometer device. The Chinese odometer came in the form of a wheeled-carriage, its inner gears functioning off the rotated motion of the wheels, and specific units of distance—the Chinese li—marked by the mechanical striking of a drum or bell for auditory alarm. The specifications for the 11th century odometer were written by Chief Chamberlain Lu Daolong, who is quoted extensively in the historical text of the Song Shi (compiled by...
In the Song period, the odometer vehicle was also combined with another old complex mechanical device known as the south-pointing chariot. This device, originally crafted by Ma Jun in the 3rd century, incorporated a differential gear that allowed a figure mounted on the vehicle to always point south, no matter how the vehicle’s wheels turned about. The device concept of the differential gear for this navigational vehicle is now found in modern automobiles in order to apply the equal amount of torque to wheels rotating at different speeds.

Mathematics and Cartography

There were many notable improvements to Chinese mathematics during the Song era. Mathematician Yang Hui’s 1261 book provided the earliest Chinese illustration of Pascal’s triangle, although it had earlier been described by Jia Xian in around 1100. Yang Hui also provided rules for constructing combinatorial arrangements in magic squares, provided theoretical proof for Euclid ‘s forty-third proposition about parallelograms, and was the first to use negative coefficients of “x” in quadratic equations. Yang’s contemporary Qin Jiushao (c. 1202–1261) was the first to introduce the zero symbol into Chinese mathematics; before this blank spaces were used instead of zeroes in the system of counting rods.

Geometry was essential to surveying and cartography. The earliest extant Chinese maps date to the 4th century BCE, yet it was not until the time of Pei Xiu (224–271) that topographical elevation, a formal rectangular grid system, and use of a standard graduated scale of distances were applied to terrain maps. Following a long tradition, Shen Kuo created a raised-relief map, while his other maps featured a uniform graduated scale of 1:900,000. A 3-ft squared map of 1137—carved into a stone block—followed a uniform grid scale of 100 li for each gridded square, and accurately mapped the outline of the coasts and river systems of China, extending all the way to India. Furthermore, the world’s oldest known terrain map in printed form comes from the edited encyclopedia of Yang Jia in 1155, which displays western China without the formal grid system that was characteristic of more professionally made Chinese maps.

Moveable Type Printing

The innovation of movable type printing was made by the artisan Bi Sheng (990–1051), first described by the scientist and statesman Shen Kuo in his Dream Pool Essays of 1088. Movable type enhanced the already widespread use of woodblock methods of printing thousands of documents and volumes of written literature, which were then consumed eagerly by an increasingly literate public. The advancement of printing deeply affected education and the scholar-official class; since more books could be made faster, printed books were cheaper than laboriously handwritten copies. The enhancement of widespread printing and print culture in the Song period was thus a direct catalyst in the rise of social mobility and expansion of the educated class of scholar elites, the latter of which expanded dramatically in size from the 11th to 13th centuries.
Woodblock printing: The Bencao on traditional Chinese medicine; printed with woodblock in 1249, Song dynasty.