

## (B) Group Study Guide: Economic Development in Tang & Song China

### 1) Fast-Ripening Rice and New Agriculture Techniques (pp. 271-272) [Gabriela Colagioia, Lauren Ray]

#### ○ Fast Ripening Rice

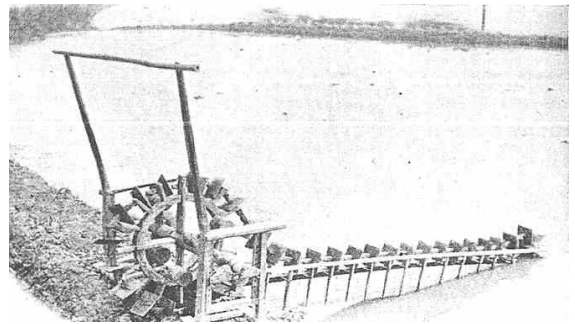
- Sui and Tang armies prepared the way for increased agricultural productivity when they imposed their control over southern China and ventured into Vietnam
- In Vietnam, fast ripening rice that enabled cultivators to harvest two crops per year.
- In southern China, fast ripening rice resulted in an expanded supply of food.



#### ● **Agricultural Techniques**

##### ○ Irrigation Systems

- The use of different types of water facilitation led to an easier process for cultivation, providing more fertile land, and control over waterways/ the flow of water. These included:
  - Reservoirs, Canals, Dikes, Dams
  - Pumps and Waterwheels
- Artificial Irrigation made it possible to extend cultivation to varied terrains (i.e. mountainsides, terraces...)



##### ○ Plows, Oxen, Water Buffaloes

- The advent of the iron plow increased productivity greatly, allowing for a quicker preparation for the cultivation process.
  - The plows were powered by Oxen in Northern China
  - Plows powered by Water Buffaloes in Southern China



##### ○ Composts, Manure

- The use of manure is a traditional mainstream farming practice in China ever since the Shang dynasty in 3000 B.C.
- Manure enriched the soil along with composted organic matter. Which included human and animal waste.

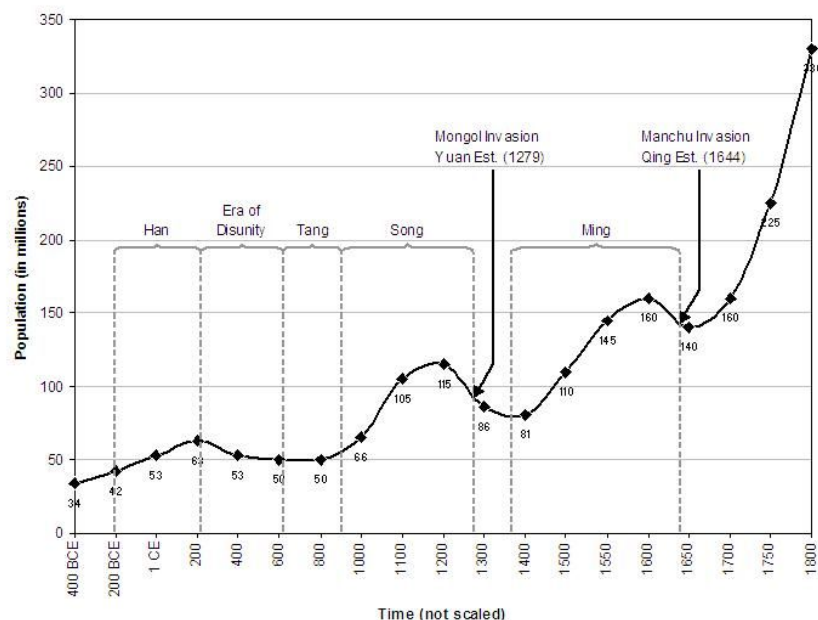
## 2) Population Growth and Urbanization (pp. 272-273) [Shaowen Poon & Nayyirah Wood]

### Population Growth:

- After the fall of the Han Dynasty, the population was at its lowest with about 45 million (600 C.E).
- The population went up to 50 million around 800 C.E and continue to rise to 60 million after 200 years.
- Jurchen conquered in 1127 C.E and the population increased to 100 million and than 115 million by 1200 C.E.
- This shows that the agricultural economy production was well organized and how well they distributed the food to people through transportation.

### Urbanization:

- Urbanization increased food supplies encouraged the growth of cities. The Tang Dynasty the capital of Chang'an was the world most populous city around two million residents.
- During the Song Dynasty China was the most urbanized land in the Southern Song Dynasty had around one million residents in the capital of Hangzhou.
- Most cities were supported on restaurants, noodle shops, taverns teahouses and etc
- Taverns often had several stories for lower tend to be used for short visits while others who planned an extended evening would be on the higher stories
- Li Bai (701-761 C.E) was the most popular poet in the Tang era. He wrote pleasing verse about celebrating life, friendship and wine.
- The spring festival was very important to the urban resident. They would go down the streets and into shops to buy new things, food, and have their fortunes told.
- Commercialized agricultural economy was also a result in the increased of food production.
- Vegetables, fruits, and rice were for sale because the rice were fast-ripening rice which they had a lot of.
- The 12th century where the wealthy southern province of Fujian imported rice and devoted their lands to oranges and etc.



### 3) Patriarchal Social Structures, Foot Binding, and Wu Zhao (p. 273)

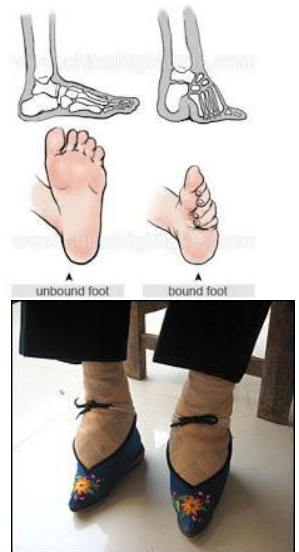
[Anais de Caumette and Isabel Nishida]

#### Patriarchal Social Structures:

- Tang and Song China experienced a tightening of patriarchal social structures do to a concern to preserve family fortunes through enhanced family solidarity.
- In the Song dynasty veneration of family ancestors became elaborate.
- People began to not just honor ancestors within their homes and through small ceremonies but rather began traveling far to their earliest traceable forefathers graves and honored them there through celebration.
- This strengthened identity.

#### Foot Binding

- Foot binding was the act of binding and wrapping young women and girls feet tightly in order to deform the foot and impact the growth of the foot so that it would curve.
- It was seen as attractive and was also used to increase control over woman's behaviors.
- Placed women under severe supervision of their husbands.
- The process made it impossible for women to walk by themselves, many were carried around or had to use canes or other forms of assistance.



#### Wu Zhao (626-706 CE):

- First and only female ruler in Chinese history that publicly ruled and claimed the throne for herself.
- She first became a concubine at age 13 and eventually made her way to the Imperial Court because of her intelligence, wit, and beauty.
- She eventually became the wife of Tang Taizong's successor
  - Once he died of a stroke in 660, Wu Zhao seized her opportunity to rise to power and become administrator of the court.
- In 690, she declared herself Emperor.
  - Faced conflicts with the Confucian principles and patriarchal system that only men were able to access power.
  - Wu Zhao took advantage of her power and ordered protection for herself and ordered brutal deaths to those that did not stand with her.
  - She made treaties with social and religious groups such as the Buddhists and patronized them, and in return they would legitimize her rule.
- Wu Zhao was an effective ruler
  - She defeated rebellions, strengthened and organized the military, and opened the imperial administration to commoners who rose within the civil service system.
- Toward the end of her reign, she was forced to abdicate for her son's ruling. She ruled until the age of 80.



#### 4) Porcelain and Metallurgy (p. 274) [Bell, Raheen]

##### Porcelain:

- Techniques were discovered during the Tang Dynasty to produce high quality porcelain.
- Lighter, thinner, could be used for more than just pottery.
  - Like utensils or art
- Foreign demand for porcelain was high. Other people, like the Abbasid produced porcelain in large quantities. It was not as popular as Chinese porcelain.
- Chinese porcelain was owned by the wealthy people from Asia, India, Persia, and the port cities of East Africa.
- It was also known as Chinaware.
- Made of a type of clay called kaolin. Includes ingredients like glass, bone, ash, quartz, and alabaster.
- Jingdezhen is China's porcelain capital. There you can find a ceramics museum.
- Porcelain got trade route promotion for China and people bought Chinese porcelain as well as other chinese goods with it.



##### Metallurgy

- The Song developed techniques that resulted in stronger and more useful metal for weapons and agricultural tools
- Iron used for weapons, implements, coins, architectural elements, musical bells, artistic statues, and components for machinery such as the hydraulic-powered trip hammer,
- The Song produced 200 million + pounds of iron a year
- 1-2 thousand Iron cased bomb shells in war against the mongols
- During song 16.5 million iron arrowheads per year
- Song experienced military difficulties because nomadic people easily learned their manufacturing techniques
- High demand for coal that resulted in a period of deforestation until replaced with coke in the late 11th century
- Economic historian Robert Hartwell noted that Chinese iron and coal production in the following 12th century was equal to if not greater than England's iron and coal production in the ear



The Iron Pagoda built in 1049

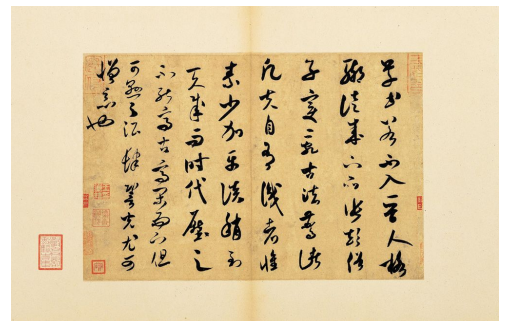
## 5) Gunpowder (p. 274) [Jasmine Pointer and Kaya Ryant]

- Gunpowder was invented by Tang and Song craftsmen.
- Daoist alchemists tested many experimental mixtures while seeking elixirs (a magical or medicinal potion) to prolong life.
- The making of gunpowder was quite accidental. They learned it was unwise to mix charcoal, saltpeter, sulphur, and arsenic because it singed beards and destroyed buildings, but military officials found it as a new benefit in military affairs.
- Gunpowder was not originally effective because of its noise and smoke, which had little effect in military affairs and only brought confusion amongst their enemies. However, new technologies and developments enhanced its effectiveness. As time went on the knowledge of gunpowder had traveled to Eurasia, and by the late thirteenth century Southwest Asia and Europe. Eventually being exposed to everyone in the world.
- At first, gunpowder was used for fireworks, but then they realized that it could be used as a weapon. Gunpowder then started being used for military affairs such as guns and cannons.



## 6) Printing (pp. 274-275) [Ramik Kemp and Ashley Marcial]

- Printing became common during the Tang era, though recorded history shows printing as early as during The Sui Dynasty era.
- First appeared around 600, using bronze and stone seals on clay and silk.
- Block Printing: earliest printing technique
  - Carved a reverse image of an entire page into a wooden block, inked the block, and then pressed a sheet of paper on top.
  - Mainly used for books for agriculture and medicine as well as calendars and calligraphy. The first commercially printed book was sold in 762 and printed papers were used for receipts in 782.
- By the mid-eleventh century, printers had began to use reusable, movable types of paper opposed to carving on blocks. This reduced printing from days to hours.
- Printers used dies in the shape of ideographs, arranged in a frame, which would be “inked”, and pressed over sheets of paper.
- Chinese printers used wooden blocks long after type techniques because of the Chinese language which had forty thousand characters.
- Printing made text more convenient as was large in quantity, while also being a quick source as well as cheap source of writing.
- By the end of the 9th century, Buddhist texts, Confucian works, calendars, agricultural treatises (written work for specific subjects), and popular works appeared in large quantities, particularly in southwestern China.
- Song Dynasty officials spread printed work to other countries, by use of pamphlets that outlined effective techniques in agriculture.



## 7) Financial Instruments and Paper Money (pp. 275 - 276) [Jacquelyn Spencer & Lauren Kerr]

### The Emergence of Market Economy

- Increased agricultural production
  - ◆ China's various regions increasingly specialized in the cultivation of particular food crops or the production of particular manufactured goods, trading their products for imports from other regions.
  - ◆ Millions of cultivators produced fruits and vegetables for sale on the open market.
- Improved transportation systems
- Population growth
- Urbanization
- Industrial production combined to stimulate the Chinese economy

### Financial Instruments

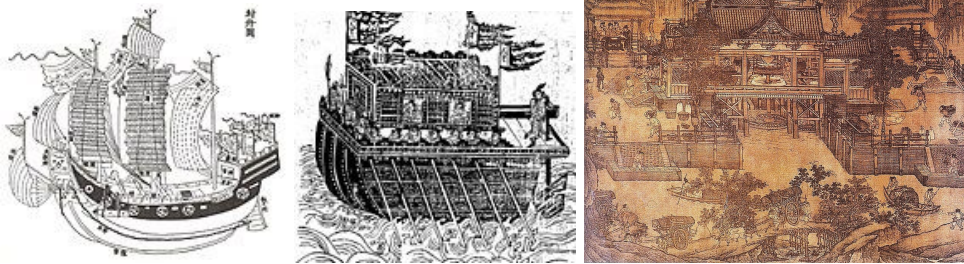
- Trade grew so fast that their initial currency, copper coins experienced a shortage.
- Chinese merchants developed alternatives that furthered their economic growth
  - ◆ Flying cash: enabled merchants to deposit goods/ cash at one location and take out the equivalent at another location
  - ◆ Promissory notes: pledged payment of a sum at a later date, and checks, which entitled the bearer to draw funds against cash deposited with bankers.

### Paper Money

- The search for alternatives to cash also led to the invention of paper money.
  - ◆ Wealthy merchants pioneered the use of printed paper money during the late 9th century.
  - ◆ They issued printed notes in return for cash deposits.
    - These notes greatly facilitated commercial transactions.
    - However, some merchants were not able to honor their notes because of temporary economic reverses or poor management.
  - ◆ By the 11th century, Chinese economy had been so dependent on alternatives to cash that it was impractical to banish paper money all together.
- The first paper money printed under government auspices appeared in 1024 in Sichuan province, the most active center of early printing.
- By the end of the century, government authorities throughout most of China issued paper money.
- Printed paper money caused serious problems for several centuries after its appearance.
  - ◆ The result was a partial loss of public confidence in paper money.
  - ◆ Not until the Qing dynasty (1644-1911 CE) did Chinese authorities place issuance of printed money under tight fiscal controls.
- In spite of abuses, printed money provided a powerful stimulus to the Chinese economy.

## 8) Naval Technology (p. 275) [Natasha Melendez and Chloe Siligrini]

- Before Tang times, Chinese mariners didn't venture far from land
  - They traveled the sea lanes to Korea, Japan, and the Ryukyu islands but they relied on the Persian, Arab, Indian and Malay mariners for long-distance maritime trade
- The Chinese consumers developed a taste for spices and exotic products of Southeast Asian islands
  - They increasingly visited those lands in their own ships
- By the time of the Song dynasty, Chinese seafarers sailed ships of iron nails, water-proofed with oils, furnished with watertight bulkheads, driven by canvas/bamboo sails, steered by rudder, and used the "south pointing needle" for navigation.
  - Larger ships sometimes had small rockets powered by gunpowder
- Chinese ships mainly worked the waters between Japan and the Malay peninsula
  - Sometimes, Chinese ships would venture off into the Indian Ocean and managed ship ports in India, Ceylon, Persia and East Africa
- Long distance travels helped spread elements of Chinese technology
  - The most common technology was the compass which later on became property of mariners throughout the Indian Ocean Basin



## 9) A Cosmopolitan Society and China and the Hemispheric Economy (p. 276)

[Audrey Theil, Daniel Schulke]

### A Cosmopolitan Society

- The Tang and Song China was transformed by trade and urbanization into an orderly cosmopolitan society.
- Trade came to China by the land and the sea, while the Muslim merchants from the Abbasid empire and Central Asia used silk roads and helped form large Chinese trading centers. Even subjects of the Byzantine empire made their way along the silk roads to China.
- Residents of large Chinese cities such as Chang'an and Luoyang became accustomed to merchants from foreign lands, as well as musicians and dancers in Persia became popular entertainers in the cities of the Tang Dynasty.
- Arab, Persian, Indian, and Malay mariners arriving by way of the Indian Ocean and South China Sea established sizable merchant communities in the southern Chinese port cities of Guangzhou and Quanzhou.

- Contemporary reports said that general Huang Chao massacred 120,000 foreigners when he sacked Guangzhou and subjected it to a reign of terror in 879.

#### China and the Hemispheric Economy

- Chinese consumers developed a taste for exotic goods which stimulated trade through much of the eastern hemisphere.
- Many spices from the islands of southeast Asia made their way to China along with products as diverse as kingfisher feathers and tortoise shells from Vietnam, pearls and incense from India, and horses and melons from central Asia.
- Items such as those became symbols of a refined elegant lifestyle because of their scarcity and foreign provenance.
- China traded silk and porcelain to these places and the wealthy merchants would wear this silk and decorate their tables with the precious porcelain.