Chapter 23 – The Han Dynasty

In what ways did the Han dynasty improve government and daily life in China?

23.1. Introduction

Qin Shihuangdi, a Qin dynasty ruler, was China’s first emperor. The Qin dynasty lasted only about fourteen years. In this chapter, you will learn about China’s next dynasty, the Han (hahn) dynasty. It lasted over four hundred years, from about 206 B.C.E. to 220 C.E.

The Han dynasty arose during a period of unrest. The Chinese people were unhappy with the harsh, Legalist rule of the Qin. After the first emperor’s death, they rebelled against the Qin. Liu Bang (LEEoo bahng), a rebel who had gained control of the Han kingdom, conquered the Qin army and established the Han dynasty.

Over time, Han emperors began to change the way China was ruled. Gradually, they incorporated Confucian ideals of moral behavior into Chinese government.

Under Han rule, China had a golden age, a long period of stability and wealth. Education, literature, and art flourished. New practices, inventions, and discoveries improved people’s lives. The Han dynasty was also known for its military achievements. Han emperors expanded the empire to include parts of present-day Korea and Vietnam. Once Central Asia was under its control, the Han established trade relationships with the West.

In this chapter, you will explore warfare, government, agriculture, industry, art, medicine, and science under the Han dynasty. You will see how the Han dynasty improved daily life in China.

23.2. Warfare

The Han excelled in warfare. Their military methods and new weapons
helped them expand their dynasty. At its height, the **Han dynasty** reached west into Central Asia, east to present-day Korea, and south to present-day Vietnam.

The Han dynasty had a large and well-organized army. All men from about the ages of twenty-five to sixty had to serve two years in the army. Historians **estimate** that Han armies had 130,000 to 300,000 men.

**The Han Empire, About 80 B.C.E.**

Han military skill enabled the dynasty to extend its power over Central Asia, and parts of present-day Korea and Vietnam.

The army was helped by new technologies. Advances in iron making improved the strength and quality of armor. Han ironworkers
produced a kind of fish-scale armor that flexed and moved with the body. The Han were among the first people to make iron swords. The strength of iron allowed skilled workers to fashion longer swords. With a long sword, a soldier could swing at an enemy from a safer distance.

Another favorite weapon of the Han was the crossbow. A crossbow is made of two pieces of wood in the shape of a cross. A string is attached to each end of the horizontal piece of wood. When that string is pulled back and released, an arrow is shot from the crossbow.

The Han invented the kite and used it in clever ways for military purposes. According to one legend, a Han general once used a kite to measure the width of a heavily guarded wall. Kites were used to send messages from one part of an army to another. They were also used to frighten the enemy. Kites with bamboo pipes were flown over enemy camps at night. Enemy soldiers would hear a ghostly noise coming from the darkness above them. It sounded like “fu, fu” (“beware, beware”). The alarmed soldiers often ran away.

23.3. Government

The Han emperors made significant improvements in Chinese government. They adopted the centralized government established by Emperor Qin Shihuangdi. But they softened the harsh ruling style of the Qin emperor and brought Confucian ideas back into government.

Han emperors needed many government officials to help run the vast empire. The government of China during this time functioned as a bureaucracy. A bureaucracy is a large organization that operates using a fixed set of rules and conditions. At each level of the bureaucracy, people direct those who are at the level below them.

The highest-level Han officials lived in the capital and gave advice to the emperor. Lower-level officials lived throughout the empire. They had many responsibilities, including overseeing the
maintenance of roads and canals. They also had to make sure that, in case of famine, enough grain was produced and stored.

One key improvement made by the Han concerned the way civil servants, or government workers, were hired. Before the Han dynasty, social status determined which government officials got jobs. The Han, however, based their choices on ability and knowledge. To become officials, young men had to pass a long, difficult civil service exam. It was based on the principles of classic Chinese writings. The candidates had to learn five books by heart. Legend says that the men then had to spend several days taking the exam in tiny rooms. All the while, they were watched by guards to prevent cheating.

Once hired, civil servants were not allowed to serve in their home districts. This rule was intended to prevent officials from giving special favors to friends and relatives. Every three years, civil servants
could be promoted or demoted depending upon an evaluation of their work.

23.4. Agriculture

Farmers in ancient China faced a number of difficulties. Several important advances made in agriculture during the Han dynasty improved their lives.

Han farmers were expected to grow enough food to feed their families and to help stock the shared granaries, or grain storehouses. In addition to growing crops, farmers had to make their own clothing, build their own homes, and give one month of unpaid labor to the government for building projects such as canals and roads. Hard as this life already was, floods and drought often destroyed crops, presenting farmers with yet another challenge.

In this painting, a thatched roof provides shade as men work the pedals of a chain pump, bringing water to their fields.
One invention that helped farmers was the chain pump. The chain pump made it easier to move water from low irrigation ditches and canals up to the fields. Workers used pedals to turn a wheel, which pulled a series of wooden planks that moved water uphill to the fields.

The Han skill in ironwork also came to the farmers’ aid. The Chinese were the first to learn how to pour melted iron into molds. This process enabled them to make strong iron plows. Han plows were designed to push the dirt away from the row being plowed so that the soil would not pile up in front of the plow.

The Han also invented the wheelbarrow. The Chinese wheelbarrow had one large wheel in the center. Goods were carried on either side of the wheel. It was much easier for farmers to push a heavy load in a wheelbarrow than to carry it on their backs or in buckets suspended from a pole across their shoulders.

23.5. Industry

Silk production was a key industry during the Han dynasty. This footpowered reeling machine threaded silk fibers through a series of guides and onto a large reel.
Like agriculture, Chinese industry benefited from advances made during the Han dynasty. The Han government controlled the two most important industries in China, silk and salt. New inventions helped both industries.

Silk is a material produced from the fibers of a silkworm cocoon. For the ancient Chinese, making silk was difficult and time-consuming labor. During the Han dynasty, the Chinese developed a foot-powered machine that could wind the silk fibers onto a large reel, ready for use. Making silk production more efficient was important because there was a high demand for silk outside of China. The valuable silk trade began during the Han dynasty.

Salt was an equally important trade item. Salt was valued in ancient times because people used it to help preserve meat and vegetables. At first, people only knew how to get salt from the sea. During the Han dynasty, the Chinese learned how to mine salt from under the ground.

Salt water, or brine, exists deep beneath Earth’s surface. The Chinese used iron-tipped bamboo drills to dig deep wells. When the drills reached salt water (sometimes 1,000 feet below the surface), a hollow bamboo pole was dropped into the well. The pole had a valve that allowed the salt water to enter the pole. The valve was then closed, and the pole filled with the salt water was brought back to the surface. Workers placed the water in large iron pots. The pots were heated until the water evaporated and only the salt remained. In this way, the Chinese people could find salt, even in regions far from the sea.

23.6. Art

During the Han dynasty, a key advance was made in art—the invention of paper. Paper was the ideal material for calligraphy, which is the art of fine handwriting. Calligraphy was important in Chinese
culture. It was a style of writing especially valued for its natural flow, as if inspired by nature.

Chinese scribes used some of the same tools and techniques as painters did. They wrote their characters by painting them with a brush and ink. Characters were created by one or more strokes, drawn quickly in a particular order. The ideal stroke created both delicate and bold lines. Paper was perfect for this art because of the way it absorbed the ink.

Before the invention of paper, the Chinese wrote on silk. Silk could easily be rolled into scrolls, but it was very costly. People also wrote symbols vertically on bamboo strips. To make books, they tied a series of strips together in a bundle. Bamboo was less expensive than silk, but it was bulky and awkward to use.

The invention of paper, in about the first century C.E., not only benefited calligraphers but also changed the way people communicated. It was cheaper to produce paper than bamboo or silk, so more people could now afford writing materials. Paper was also easier to bind together into books.

A variety of materials were used to make paper. They included silk fibers, hemp, bamboo, straw, and seaweed. These were boiled into a soupy pulp. A screen was dipped into the pulp and then pulled out. When the pulp dried on the screen, the result was paper.
This 19th-century woodblock print shows how Chinese papermakers hang sheets of paper on a wall.

23.7. Medicine

The practice of medicine during the Han dynasty involved some ideas and treatments that are still used in traditional Chinese healing today. The ancient Chinese believed that illnesses occurred when the forces of yin and yang in the body were out of balance. Healers tried to restore the natural balance of these opposite forces.

One technique developed by Chinese healers for this purpose
was acupuncture. In acupuncture, thin needles are inserted into specific parts of the body. This procedure is thought to rebalance the forces of yin and yang. Acupuncture is believed to be useful for curing illnesses that strike quickly, like headaches.

A second healing technique was moxibustion. In this method, a moxa—a small cone of powdered leaves or sticks—is placed on or near the skin and burned. The heat is believed to reduce pain and promote healing. This technique is used to treat long-term diseases, such as arthritis.

Chinese doctors also made several discoveries about how the human body works. For example, they learned to judge health by listening to a person’s heartbeat or by feeling his or her pulse. The pulse is the little throb in your blood vessels, caused by the
contraction of your heart as it pumps blood through the body. The Chinese also discovered that blood circulates from the heart, through the body, and back to the heart. Western science did not make this discovery until the 1600s C.E.

**23.8. Science**

The Chinese achieved a number of scientific advances during the Han dynasty. Chinese astronomers closely observed the heavens. They recorded the appearance of comets, which they called “broom stars.” They discovered that the moon shines because it reflects the light of the sun. They also learned that solar eclipses occur when the moon blocks our view of the sun.

The image on this Chinese postage stamp shows a Chinese “south-pointing spoon,” the oldest known compass.

The Chinese of this period also invented two very useful instruments, the seismograph and the magnetic compass. A seismograph is an instrument for detecting earthquakes. The first Chinese seismograph was a circular machine made of bronze. The machine had a pendulum in the center, surrounded by eight sculpted animal heads. During an earthquake, the pendulum vibrated. The vibration triggered the release of one of eight balls. The ball would
then fall in the direction of the earthquake. Using this ingenious machine, the Han were able to detect earthquakes up to several hundred miles away.

The magnetic compass is an instrument for determining direction, such as north or south. The Chinese believed that using direction to correctly position their temples, graves, and homes would bring good fortune. By the 200s C.E., Chinese scientists understood that a lodestone, a type of iron ore, tends to align itself in a north-south direction because of Earth’s magnetism. With this knowledge, they used lodestones to make compasses. The lodestone was carved into the shape of a spoon with a handle that would always point south.

Summary

Emperor Wudi, at left, was the fifth ruler of the Han dynasty. He set up a university to prepare students for the civil service exam.

In this chapter, you read about the golden age in China during the Han dynasty. In this period, the Chinese made many advances that improved their government and daily life. The Chinese word Han is still used to describe China’s culture.
Warfare and Government New weapons helped Han emperors succeed in war and expand their empire. They organized the government into a bureaucracy. Civil servants who were chosen for their ability worked in the bureaucracy.

Agriculture and Industry Several inventions improved production in agriculture and in the silk and salt industries. Farmers used the chain pump for irrigation and iron plows. Workers used foot-powered reeling machines to make silk thread, and iron tipped drills to mine salt.

Art, Medicine, and Science The invention of paper advanced the art of calligraphy and changed the way people communicated. Healers learned about the human body and developed techniques that are still used today. Chinese scientists made careful observations of the heavens, and invented the seismograph and the compass.

Chapter Vocabulary

**Han dynasty**: the dynasty that ruled China from about 206 B.C.E. to 220 C.E., the period following the Qin dynasty

**estimate**: a guess as to the value or size of something

**released**: to let go of something being held

**bureaucracy**: a large, complex organization that functions under a given set of rules and conditions

**series**: a number of like things ordered one after another

**suspended**: to hang something in the air from a single point of support

**(industry) benefited**: something that improves someone’s life