

The Great Wall – by Kira Freed

Architectural Wonder

Imagine a wall longer than the distance between the North and South Poles. If you were to take all the sections of the Great Wall of China and place them in a straight line, that's about how far they'd stretch.

The wall is an extraordinary feat of engineering and design as well as one of the most ambitious construction projects ever undertaken. It's also one of Earth's most iconic human-made landmarks and a testament to China's long, rich history.

Voted one of the New Seven Wonders of the World, the Great Wall is China's biggest and most popular tourist attraction.

Sleeping Dragon

People built the Great Wall along China's northern border over many centuries for protection from invaders and to preserve Chinese culture from outside influences. Although the wall didn't always succeed in keeping out invaders, to anyone who wanted to harm China and its civilization, the

wall was a huge obstacle to overcome. The wall roughly follows the southern edge of Inner Mongolia, a self-governing region of China that was usually under the control of non-Chinese peoples when the wall was built.

Builders designed the Great Wall according to the ancient Chinese art and science of *feng shui* (FUNG SHWAY), a set of **spatial** principles that suggest how things should be arranged in relation to the flow of energy over the land. According to *feng shui*, the landscape is a living dragon. The Chinese people designed the Great Wall to flow over the landscape harmoniously.

People often refer to the Great Wall as a sleeping dragon. The tail of the dragon, at the western end, is located in Gansu (GAHN-soo) Province. The head, in the east, is in Liaoning (lee-OW-ning) Province near the Yellow Sea. From west to east, the dragon's body passes through deserts, steppes, rugged mountains,

lakes, rivers, fertile lowlands, and beaches. The Great Wall is not in one continuous section; it has many sections that were built over the centuries. It might more accurately be called the Great Walls of China.

Many Walls

Nine of the sections that comprise the Great Wall run parallel to each other. Several of the main sections of the Great Wall are within 121 kilometers (75 mi.) of Beijing (bay-ZHING), China's capital. The Great Wall was voted one of the New Seven Wonders of the World in 2007.

Badaling (BAH-dah-ling), the best-preserved section, has undergone extensive **restoration**. It winds along steep mountains northwest of Beijing for about 12 kilometers (7.5 mi.) and has forty-three watchtowers.

Farther east in the mountains is Huanghuacheng (hwong-HWAH-chung), about 10.8 kilometers (6.7 mi.) long. Located in an area with lakes, this section is named for the yellow flowers that blanket the area in

summer. Two large Chinese characters meaning “firm and strong” are carved on an enormous rock below the wall.

A particularly scenic portion of the Great Wall **traverses** high mountains to the east of Huanghuacheng. Mutianyu (MOO-tyen-yoo), which measures 2.25 kilometers (1.4 mi.) long, has many **parapets** and twenty-two watchtowers, including three that protect a gateway platform.

Northeast of Beijing, Simatai (SU-mah-tie) is roughly 5 kilometers (3 mi.) long and has also undergone extensive restoration. Known for its steepness, this section has thirty-four watchtowers, about half of them on each side of Mandarin Duck Lake.

Just south of Simatai, Juyongguan (JOO-yoong- gwahn) is located in a valley encircled by mountains. It was a military stronghold and the site of many fierce battles. This section of the wall features a white marble platform that has an arched doorway with sacred statues and writings.

In China, the wall is called *Wan Li Chang Cheng*, which means the “Long Wall of Ten Thousand Li.” A *li* is a Chinese measurement that equals about one-half of a kilometer (one-third of a mile), so ten thousand *li* equals about 5,000 kilometers (3,100 mi.). As recently as 2009, China’s State Administration of Cultural **Heritage** reported that the wall wasn’t much longer than that. However, a five-year survey completed in 2012 using advanced technology—a combination of GPS, 3-D modeling, satellite images, aerial maps, and drones—revealed that the wall is actually about 21,196 kilometers (13,171 mi.) long when the lengths of all the sections are added together.

Many Enemies

In ancient times, small tribes of **nomadic** hunter-gatherers lived in modern-day China. They moved with the seasons to obtain wild animals and plants they depended on for food, clothing, and other necessities. Beginning around 4000 BC, tribes living in more fertile regions started

growing crops and **domesticating** animals, and small villages developed. These agricultural groups built walls around their villages to discourage raiding by nomadic people from the north.

By 500 BC, China was made up of many independent states ruled by kings. The states fought each other, and the northern states also fought their northern enemies. Various kings wanted to unite the states and rule them all. Intense fighting occurred in the Warring States Period between 475 and 221 BC. Many more walls were built during this period to protect individual states.

By 221 BC, the most powerful state, Qin (CHIN), took control of all of China, and a ruthless fighter named Zheng (ZHUNG) became the First Sovereign Emperor of China.

To keep China safe from enemies, Zheng ordered workers to build almost 4,828 kilometers (3,000 mi.) of wall along China’s borders. Zheng subjected workers to extremely harsh conditions; it’s rumored that four

hundred thousand people died during construction.

After Zheng's death in 210 BC, the Great Wall fell into disrepair until Emperor Wu Di (151–87 BC), the sixth Han emperor, ordered work to begin on a new 483-kilometer (300 mi.) section of the wall to the west. Under his command, a string of separate watchtowers were also added beyond the wall. Later, between AD 386 and 1279, various rulers had parts of the wall repaired and extended.

Until the early twentieth century, China's history comprised a series of dynasties, each one a succession of hereditary rulers from the same family. Although the wall's main purpose was to keep out invaders, the Mongols, led by Genghis Khan, succeeded in invading during the mid-1200s and established the Yuan (yoo-WAHN) dynasty. The Mongols did not maintain the wall while they were in control of China.

After driving out the Mongols in 1368, Hongwu, the new ruler, established the Ming dynasty. In an

effort to keep the Mongols out, he had the wall rebuilt, which was a massive undertaking because it was in a state of extreme disrepair. For the next 275 years or so, rebuilding and expanding the Great Wall was a priority of Ming emperors. Most of the new construction was built a bit south of the original wall. Since the Ming dynasty, work on the wall has mainly consisted of repairs and renovation.

Construction Methods Over Time

The Great Wall was built in stages over thousands of years by soldiers, convicts, war prisoners, and peasants, among others. Some people were forced to build the wall and had to work under **brutal** conditions.

Earlier sections were built using the *hang-tu*, or rammed earth, method, which involved pounding down packed earth inside a frame made of wood or bamboo. In certain desert areas where soil wasn't available, packed sand and desert shrubs were used instead.

The first sections of *hang-tu*

construction, which appeared over two thousand years ago, were separate walls around villages rather than a single, long barrier. As China grew, its walls changed as well. Various dynasties determined the location of new construction according to where their enemies were at the time. During the Zhou (JOH) dynasty (770–476 BC), *hang-tu* walls surrounded small states. During the ensuing Warring States Period (475–221 BC), walls protected large states that battled each other.

Large, continuous sections of wall appeared during the Qin dynasty (221–206 BC), with more than 5,000 kilometers (3,100 mi.) of wall built during that time. This wall is often considered to be the original Great Wall. Towers built from wood and sun-baked brick had a ladder inside that led up to a platform at the top, surrounded by a **crenellated** parapet. Archers equipped with crossbows were stationed in the towers, which were spaced so that any enemy caught between two towers would be within

shooting range. The towers were connected with hang-tu walls that were wide enough at the top for four horses to travel side by side. On the north side of the wall were outposts that housed several hundred soldiers who would signal to other towers if they spotted the enemy.

A 483-kilometer (300 mi.) section was added during the Han dynasty (206 BC–ad 220), and extensive rebuilding took place during the Sui dynasty (581–618). Additional building happened during the Song dynasty (960–1279), and major repairs and rebuilding took place during the Ming dynasty (1368–1620). The Ming emperors had certain hang-tu sections of the Great Wall covered with brick or stone.

Architects, stonecutters, and bricklayers participated in the construction, which involved forming large bricks with wooden molds and then baking them in **kilns**. Once they

were placed in position, the spaces in between were filled with mortar. Stone, which was stronger than bricks, was the material of choice for parts of the wall that required extra **fortification**.

Many Visitors

People come to China from all over the world to see the Great Wall. The features of the different sections offer a variety of experiences for the millions of people who visit each year, but most everyone agrees on one thing: get in shape before you go!

The most commonly visited sections are conveniently located near Beijing, particularly Badaling, which was the first section to be restored and open to the public, in 1955. It has been described as the grandest section, and because of the many renovations, it is the safest section to walk. Badaling is also the site of the Great Wall Museum, which has nine exhibition halls on topics related to

history, construction, art, and culture. Other sections of the wall are less crowded than Badaling, and many are also considerably steeper.

Visitors lucky enough to explore the Great Wall should expect to do a lot of walking, climbing, and picture taking. They can also take a guided tour to learn about the wall's history and construction. Cable car rides are available at some sections, and outdoor enthusiasts can hike from one section to another and camp overnight. Other adventures include a toboggan ride at Mutianyu and paragliding at Simatai.

People with a taste for extreme sports can participate in the Great Wall Marathon, which is one of the most challenging marathons in the world. The event, which began in 1999, involves 2,500 runners from more than 60 countries.