

Greatest chinese inventions



The Greatest Chinese Inventions Gene R. Kelsey Strayer University The ancient Chinese culture produced major inventions that some of which still are relevant and useful to our modern culture all over world even today. When an Italian merchant named Marco Polo traveled to China in during the Song Dynasty in 1271 he discovered a place so technologically advanced far greater than any Western European nation of its time. The following is a listing of 9 important inventions instrumental to our growth as modern Human Beings.

It would be a technical pilgrimage for me to win this contest. I would love to visit China. (1) The Process of Paper making. Although first used as wrapping and padding for over 100 years before it became a medium for writing upon around AD 105. Paper along with printing changed the way the world documented everything from history to science and many years later paper currency. Even though our modern culture is moving away from paper it will always be used in one form or another. There is no such thing as electronic toilet paper. 2) The invention of the printing press with moveable text symbols by Bi Sheng. It was this invention that was eventually taken over to the West and used by Gutenberg for the printing of the Bible. Needless to say, this had a profound effect on the nature of knowledge and the development of literature, (The Franklin Institute). (3) Gun Powder and Fireworks. The use of gunpowder in weapons gave those with access to the technology a greater ability to protect themselves from enemies or to conquer and control others. It greatly affected the balance of power in many parts of the world.

Whether we agree or not the invention of Gun Powder and the weapons that followed were huge game changers for Humanity. (4) The Compass which was really pre-dated by the discovery of magnetism by the Chinese which was first noted in a book from the Song Dynasty. However, the first suspended magnetic needle compass was written of by Shen Kuo in his book of AD 1088. The wet Compass was the most used. Eventually the Dry Compass took shape but was not as well accepted by the Chinese. (The Science Forum 2007) (5) The Great Wall of China. One of the wonders of the world its construction began in 221 BC in an effort to keep Mongol invaders out. The Sui Emperor Yang Di began thereconstruction and repairs of the wall around the 600's AD. Hundreds of thousands of laborers were used to do the work. As some perished they were buried where they fell and remain in the wall. It is the biggest man made structure on earth and is said to be the only one visible from space. However, upon going to the NASA web site (www.nasa.gov/vision/space/workinginspace/great_wall.html) you will find some contradiction to that story.

Only from low level orbit can it be made out to the unaided eye. (6) Cast Iron. In the 4th century BCE due to the prior discovery of refractory clays to allow for construction of a blast furnace that could handle the heat required to melt down iron the Chinese were able to pour and mold cast iron. That along with the use of phosphorus to reduce the heat required using coal as the fuel. With the development of annealing ploughshares, longer swords, and buildings were also using iron in their construction. (Asiasociety. Org). (7) Row Crop Planting 6th Century BC. 200 years before the western world adapted this practice the Chinese were growing stronger crops much faster

than previously done by planting in rows. This process allows for greater access to the plant for watering, weeding, and harvesting along with greater protection for the plant from the elements. This practice is still used today as it still remains the perfect way to grow and harvest. (8) Deep Drilling. Around the 1st Century BC the technology to drill deep bore holes using equipment that would be recognizable today.

They used Derricks that towered as high as 180 feet and could reach depths of 4800 feet. They captured natural gas in bamboo tubes to use as fuel for evaporating water by boiling brine to produce salt. There is also evidence that they may have burned it in lanterns for light. It wasn't until the 1800's before western nations adapted the use of deep drilling. (9) Porcelain. To this day Chinese porcelain is prized by all cultures. The process of using materials such as glass and mineral compounds in a kiln at high heat. Invented during the Sui Dynasty and perfected in the Tang Dynasty most notably by Tao-yue (c. 08 - c. 678). By the time the Sung Dynasty it reached its peak around the 10th century. It wasn't until over 500 years later the monopoly was broken by a German Physicist Tschirnhausen who invented European porcelain. Generally speaking most scholars believe the 1st four I have in order are the most important contributions to humanity. Although the greatest written works of man may have eventually reached the pages of a book using other materials other than paper. And printing hadn't been created when it was following paper by the Chinese.

Take the time to consider the Chinese were hundreds of years or more ahead of the west so think how many works would have been lost if man continued to carve in wood and write on cloth. And of course Gun Powder

which led to fireworks and firearms. And lastly the compass so one can find their way home at the end of the fireworks show. I think the greatest invention from the Chinese is their diverse culture. China is one of the four ancient civilizations (alongside Babylon, India, and Egypt) with 3600 years of written history. Out of the nine I have chosen Cast Iron which eventually became steel as something I couldn't live without as I do.

The Chinese invented the process but it wasn't perfected until a British inventor names Henry Bessemer mass produced it in his facility in Sheffield, England in 1856. Steel is still produced using the process of blowing air through molten pig iron to oxidize the material to separate the impurities. Why would I choose cast iron and steel? All my life I have worked with iron and steel. I build cars and restore them by welding in new metal where old has rusted away. I build iron gates and art work with iron and steel. I have my work adorning many friends and family's homes.

The art of blacksmithing holds great interest for me. What other material on earth is so strong yet can be heated and molded into any shape. While doing research for this paper I ran into some of the writings of Shen Kuo. We have been studying the Renaissance of Italy. Shen Kuo was the Leonardo da Vinci of China. He was a mathematician, astronomer, meteorologist, geologist, zoologist, botanist, pharmacologist, agronomist, archeologist, ethnographer, cartographer, encyclopedias, general, diplomat, hydraulic engineer, inventor, academy chancellor, financeminister and it goes on.

In the Song Dynasty he was the head of the bureau of astronomy in the Song court. One of the greatest Western sinologists of this century, Joseph Needham wrote " The Science and Civilization in China". This Book is now

one of the main references about Shen Kuo's work in a western language. What this tells me is that genius is not limited to the west or east. The Renaissance was not limited to the west. Great minds are of the nature of the human race. They don't come around that often. But every century has had a few of them since the beginning of man. And China has had their fair share dating back to the origin of what is China! References Secrets of Lost Empires (The Science Forum 2007) Bodde, Derk (1991). Chinese Thought, Society, and Science. On Shen Kuo. The Needham Research Institute (NRI), home of the Science and Civilization in China project. (www.nasa.gov/vision/space/workinginspace/great_wall.html) (The Franklin Institute, 2012). The Humanities: Culture, Continuity, & Change: Volume 1 Second edition.