Why the Industrial Revolution didn't Happen in China
by: Ana Swanson Oct. 28, 2016

Why did the Industrial Revolution occur?
Average life expectancy in 1750 was around 38 years. The notion that today we would live to over 80 years, and spend much of those in leisure, was totally unexpected then. The lower middle class in Western and Asian industrialized societies today has a higher living standard than the pope and the emperors of a few centuries back. For thousands of years, the material conditions that people lived in changed very little. Then, in 1800, it began to increase exponentially. That came out of Western Europe and its offshoot in North America after 1800.

Why did it start in Europe, rather than in China?
China has a glorious past in its scientific achievements. And yet they were never able to turn it into economic growth as the West did. If you look at Europe and China in the 19th century, Europe advanced at breathtaking speed. It’s built a rail network, steamships, and factories. But by the early 20th century, China looked like it was going to be completely occupied by imperialist powers. Clearly the technological and economic development of East and West diverged. One reason why is related to culture. But to state that the Chinese had a different culture because they were Confucianists, and the Europeans were Christian, doesn’t tell the whole story.

A major event that led to the difference between China and Europe is that after the Mongol conquest in the 12th century, China remained a unified empire run by a single Mandarin bureaucracy. There was nothing that competed with or threatened China. China did get invaded by Manchu tribes in 1644, but they didn’t change the structure of the state. They learned to speak Chinese, dress like Chinese, and eat like Chinese.

In Europe, no one ever succeeded in unifying it, and there was continuous competition. The French were worried about the English, the English were worried about the Spanish, the Spanish were worried about the Turks. That kept everyone on their toes, which is something economists immediately recognize as the competitive model. To have progress, you want a system that is competitive, not one that is dominated by a single power.

I think that is the major difference. It isn’t just that China didn’t have an Industrial Revolution, it didn’t have a Galileo or a Newton, people who announced that everything people did before them was wrong. That’s hard to do in any society, but it was easier to do in Europe than China. The reason is precisely because Europe was fragmented, and so when somebody said something critical or radical, and was accused of heresy or threatened with prosecution, they could pack their suitcase and go across the border.

Europe created a competitive world that encouraged intellectual innovation. There’s the Reformation, which said the religion you had until now has been doing it wrong. The same happened in astronomy, chemistry, medicine, mathematics, and philosophy. Eventually, it filtered down to how we make textiles and shoes, and how we grow corn. While China wanted stability and security, and they achieved that for a long time, the Europeans didn’t want stability. They wanted progress. Of course, China’s stability got disrupted by Europeans showing up with more powerful ships and guns. Eventually, China crumbled under the onslaught of European modernity.
How did change in the outlook toward progress and discovery change?

For much of human history, people studied science and natural phenomena, not to make us materially better off, but just to satisfy curiosity. The ancient Greeks made fantastic scientific progress, but there are limited instances in which they use it for anything other than entertainment. Before the Industrial Revolution, educated people in Europe changed the agenda. They said, “Look, we should study nature, but we should do so to improve our material welfare.” To people today, this sounds totally obvious. But it wasn’t in the year 1600. By the 18th century, this had become the consensus.

How was China’s enlightenment period different from Europe’s?

China was extremely innovative in its prime, which was basically under the Song dynasty, which ended in 1279. At that time, European and Islamic travelers realized that China was leading the world in technology. And China did have its own kind of an Enlightenment. And yet, in the end, they did not turn that innovation into sustained economic growth.

The fundamental reason for this was China’s position as a single empire and its bureaucracy. On the one hand, it was very progressive, because it was a meritocracy. In Europe, the people who were in power were the sons and nephews of other people in power. But in China there was an examination, and the people who did the best rose in the Mandarin civil service. Except if you look at what they were studying for these exams, they were simply regurgitating the classics. It was the perfect tool to keep reproducing from the same mold generation after generation.

In Europe, something different happened. People studied classical knowledge, Ptolemy and Hippocrates and Archimedes, and they began to say, “Most of this stuff is wrong.” You couldn’t do that in China. If you said, “This stuff is wrong,” you failed your exam. But in Europe, the ability to challenge perceived wisdom was irrepressible.

In the 17th century, Europeans built microscopes, telescopes, and barometers that allowed them to study nature in a way the classics never could. There was a French philosopher in the late 16th century, Pierre de La Ramée, who wrote a book with the title, “Everything Aristotle Has Said Is Wrong.” For example, Aristotle famously thought that a vacuum was impossible. Then one day, Europeans built a vacuum pump. The only conclusion they could reach was Aristotle is wrong. If he was wrong about that, could he be wrong about other things? So people started being skeptical, and skepticism led to what I call contestability. Arguments were decided not on authority, but on evidence, logic and mathematical proof. That seems perfectly normal to us, but it’s something that had to be learned. It’s something no other society pulled off. In other places, wisdom and knowledge were revealed to the forefathers, and if you wanted to know the truth, you had to study their writings.