

The Invention of Paper

Discussion Questions:

- 1) What surfaces have people in history written on?
- 2) Who used papyrus for writing?
- 3) What is parchment and vellum and how are they made?
- 4) When and where was paper invented?
- 5) How were the first books made?

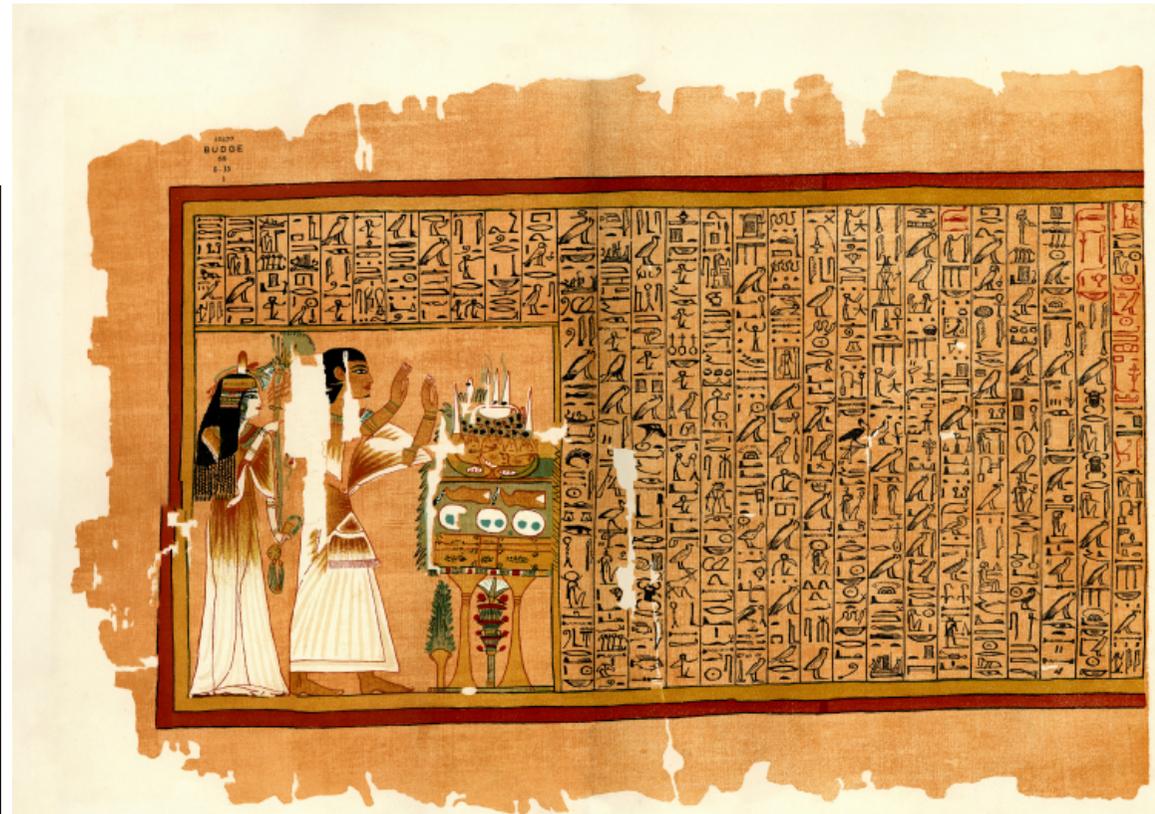
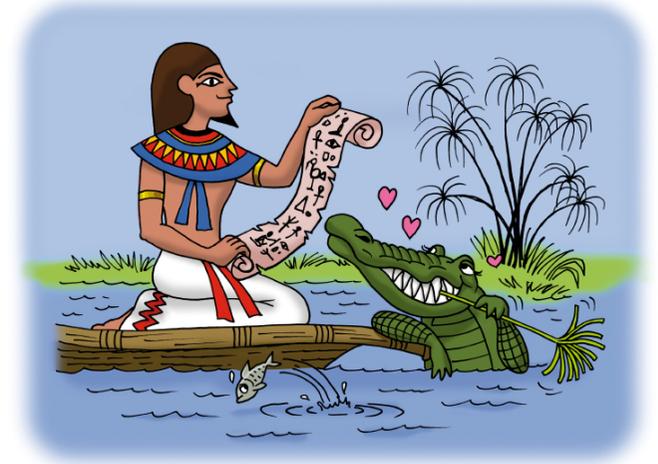
We use paper for art and craft and we use it for drawing and writing. But where and when was it invented?





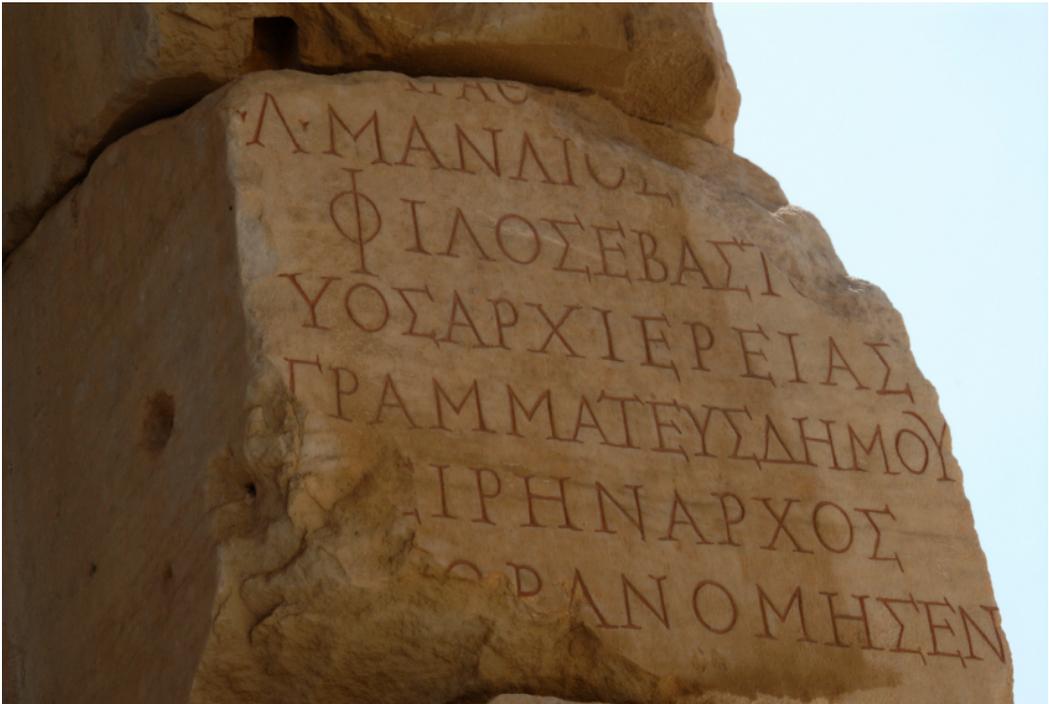
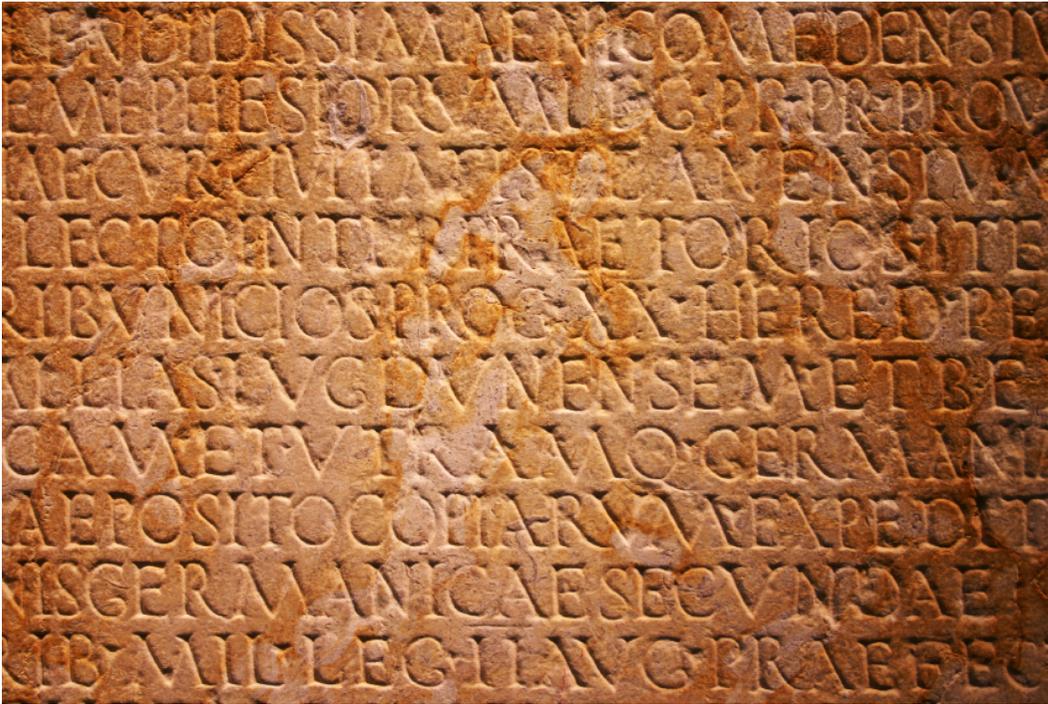
Papyrus

- Used in Ancient Egypt, as early as 3000 BCE.
- Made from thin strips of the papyrus reed, woven together.
- Used for important documents.
- Later used in Ancient Greece and Rome.



Ancient Egyptian documents such as the *Book of The Dead* were written on papyrus.

Before the invention of paper, ancient people carved writing into stone or wood.



The Han Dynasty, China (206 BCE - 220 CE)

Early paper making occurred in China from about 200 BCE but it was not considered durable enough for recording important documents. Writing on silk was expensive and bamboo tablets were bulky.

In 105 CE, a court official named Cai Lun reported to Emperor He of Han. He detailed a new process for paper making. He used bark from trees, remnants of cloth, hemp and fishing nets to make the first paper for writing. The Emperor was pleased with his invention and rewarded him an aristocratic title and great wealth.



The city walls of Xi'an, which was known as Chang'an when it was the capital during the Han Dynasty.



Bamboo tablets were used before the invention of paper.

Woodblock Printing

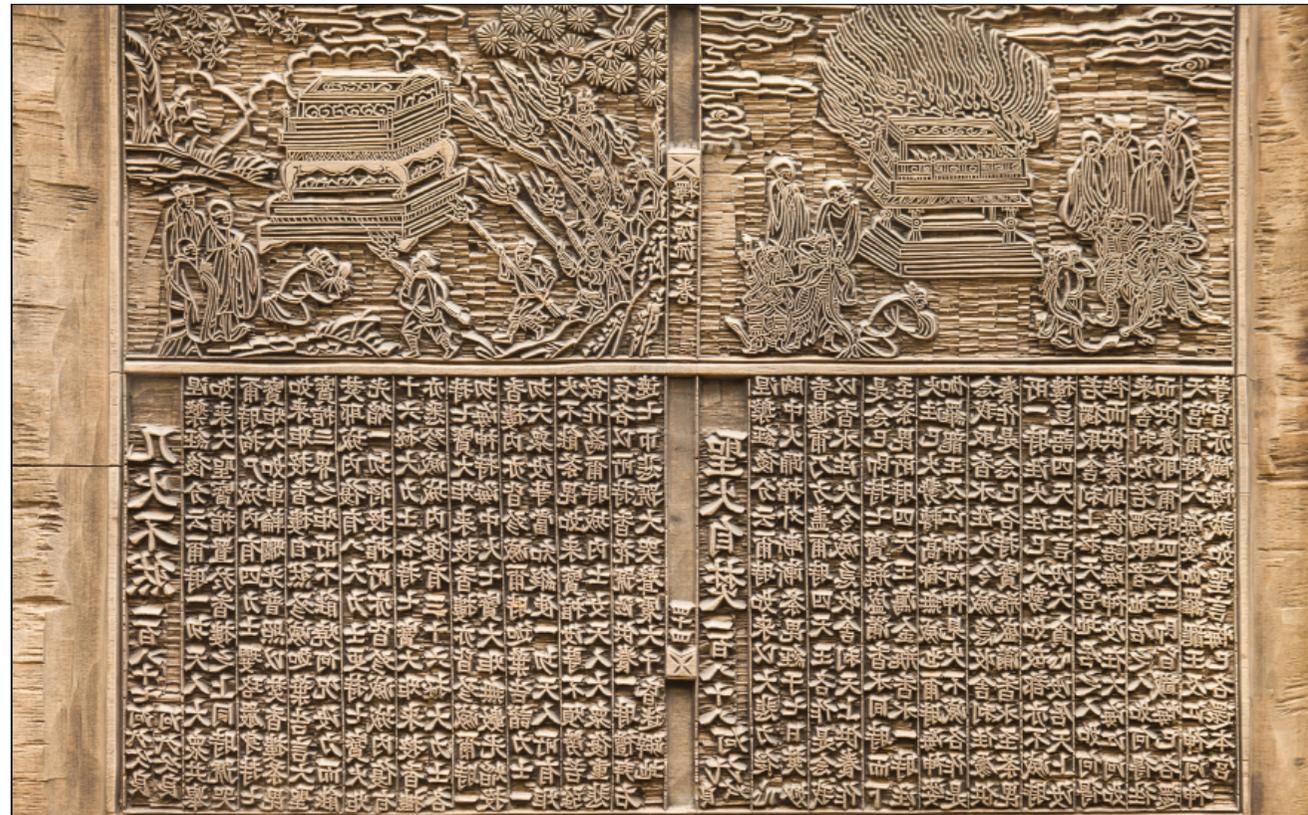
The paper making process was widespread by the 3rd Century. When print making techniques were introduced in the Jin Dynasty (265 CE - 420 CE), books became more common.

Early printmaking involved carving text in reverse onto a wood block. The surface was then coated in ink and then the block was stamped onto the page.

It was a slow process because a new block for each new page of the book needed to be individually carved. But it enabled the mass production of books for the first time.

By the 7th Century, details of Cai Lun's paper making process had spread to Korea and Japan.

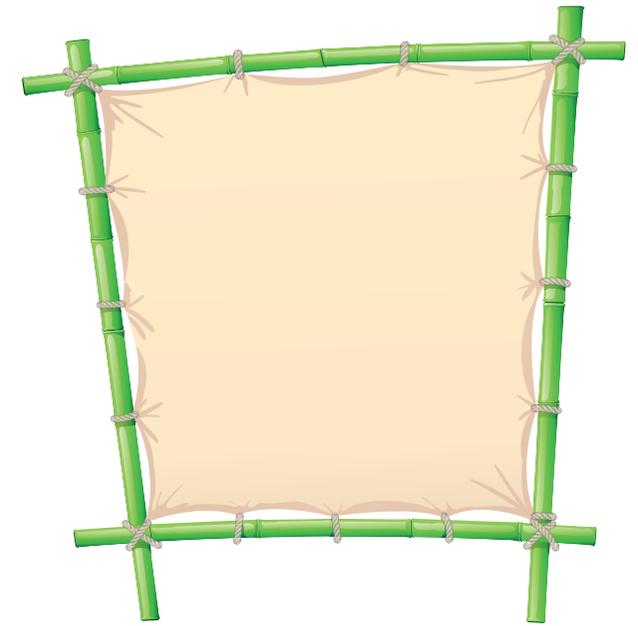
The process soon spread to Tibet and India, then it was taken up by the Arab world. It was not introduced to Europe until much later.



Parchment and Vellum

Before the invention of paper making reached the west, important legal documents were written on special types of paper called parchment and vellum. These 'papers' were made by scraping and stretching animal hides on wooden frames until they were very thin.

Parchment was made from sheepskin and goatskin and vellum was made from calfskin. The skins were not tanned like leather products. The production process was very time consuming but the finished product was very durable. It was therefore a very expensive product and was only used for important documents.



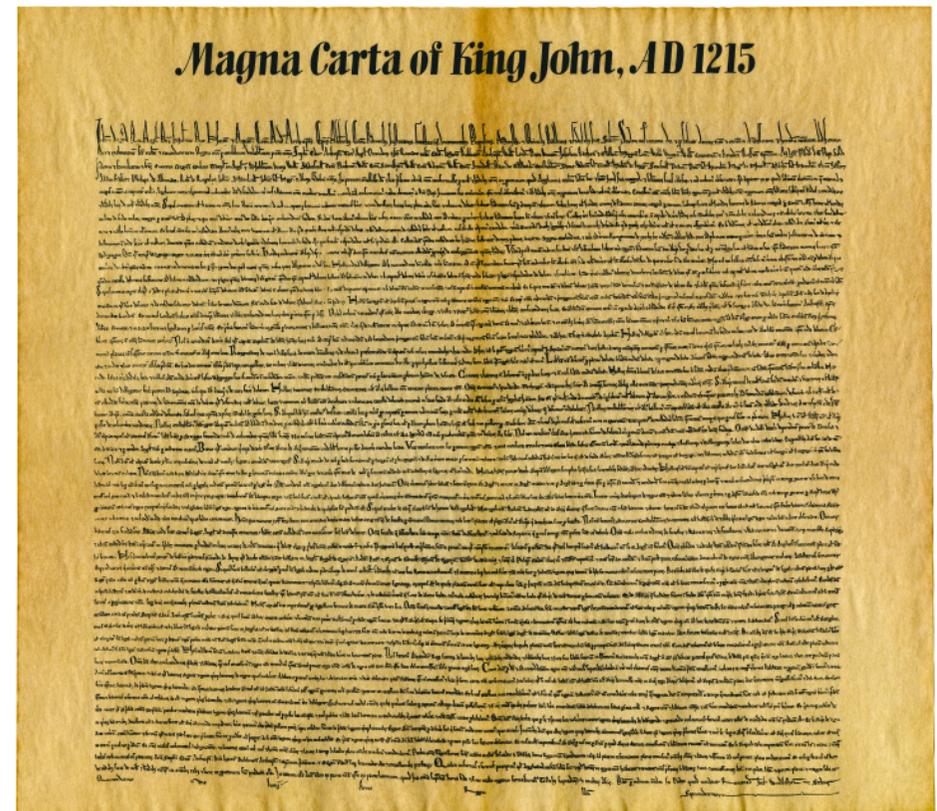


An engraving from 1873 of King John signing the Magna Carta documents.

The Magna Carta

The original copies of the Magna Carta, signed by King John of England in the early 1200s were hand written in ink on parchment paper.

There are four remaining copies of these original documents. They have lasted for 800 years, thanks to the long lasting qualities of the parchment they were written on.



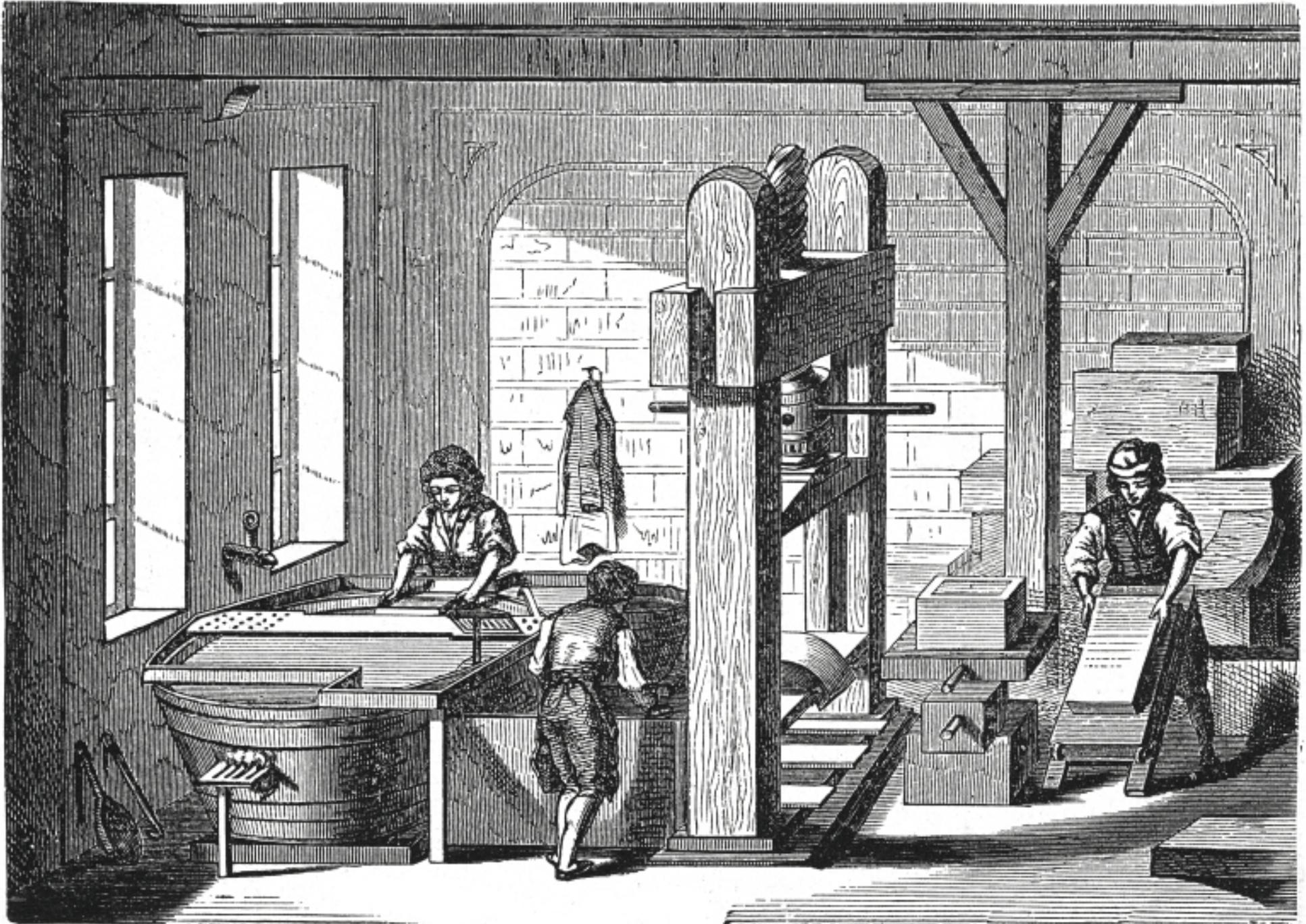
This is a modern copy of the original Magna Carta document.

Paper was expensive so it was reserved for special purposes like court records and religious texts. The first handwritten books were often highly decorative.





The Chinese paper-making process slowly spread into the west, starting in Italy, then southern France and Germany. One of the first European paper mills was set up in Germany in 1390.

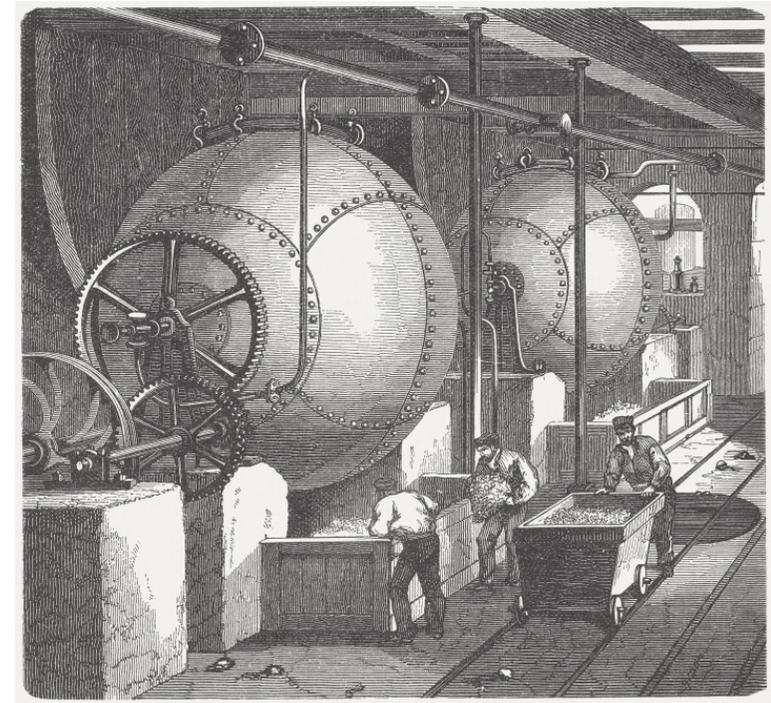


The Industrial Revolution

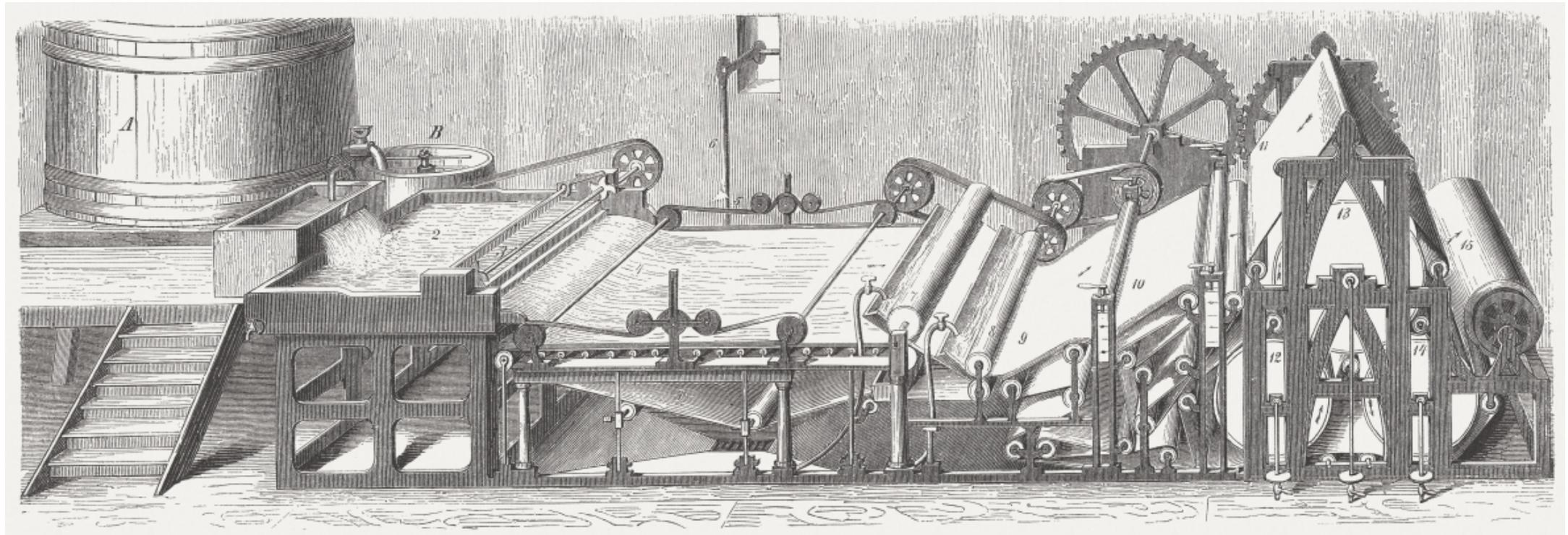
(1760-1840)

The paper making process was made easier through the use of time-saving machinery during the Industrial Revolution. Good quality paper could be produced faster than ever before.

The paper making machine patented in 1798, by Nicholas Louis Robert, eventually became known as the Fourdrinier Machine. The Fourdrinier Brothers improved Robert's design, making a workable machine in 1807. The same principles of design are still in use in today's machines.



Fibres were softened by boiling in large vats.



The Fourdrinier Machine was named after its financiers, Sealy and Henry Fourdrinier.

Today's paper making machines are fully automated. They take up quite a bit of floor space in the factory but they are extremely quick!



