

From Paper To Writing Tools (1)

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Ever wondered why paper was invented? Traditionally, paper was invented in the early 2nd century CE, but there is an evidence which says, it was much earlier. As a cheaper and more convenient material than bamboo, wood, or silk, paper helped spread literature and literacy but it was used for many other purposes from hats to packaging.

Today, paper is everywhere — in books, magazines, junk mail and sticky notes. But thousands of years ago, no one had any. So where did paper come from?

Writing was invented long before paper, so people needed something to write on. Some wrote on soft clay with a stick, and waited to dry. Others wrote on slate or wood. Then there were those who wrote on parchment and vellum. Parchment is made from the untanned skins of sheep, calves or goats, and it has been a writing medium for over two millennia. Vellum is a finer quality of parchment that is made from the skins of very young animals, such as lambs and calves. Vellum was used to create scrolls, codices, and books. But all these were horribly heavy. The ancient Indians wrote on leaves. Leaves were lighter, but they rotted away. And the ancient Chinese used silk, but it was fragile and expensive.

Before paper was invented, some people such as Sumerians, wrote on clay tablets. So, no matter what material they used, it came with some sort of disadvantages or limitations. Then about 5,000 years ago, the ancient Egyptians tried something new, using the stems of a river plant called papyrus to create flat sheets. In fact, our word, 'paper' comes from the word papyrus. They, the Egyptians, had invented an earlier kind of paper, papyrus for great for writing on – it took a long time to make, so, it was too for anyone but the rich. Papyrus grows in shallow water and swamps along the banks of the river Nile. First, the Egyptians peeled the pithy papyrus stems and sliced them into strips. They arranged the strips in layers to make a flat sheet. The naturally sticky papyrus strips glued them together. The papyrus sheet was polished smooth with a stone finally, several sheets were stuck together to make a scroll. Quite a tiring task, if you ask me, no doubt it was so expensive. As with many other inventions, the Chinese were the first to invent proper paper. The ancient Chinese liked writing things down – history, lists, laws, poems, and stories. In about the year 10, a court official, Ts'ai Lun, tried making on something cheaper than silk to write on.

He mashed tree bark, hemp plants, and cotton rags together in water, strained the pulp through a cloth, and pressed into a flat sheet. After drying out in the sun, it was light, smooth, and perfect for writing on. Ts'ai Lun had made the first modern paper. It was cheap. By 1400, people all over Asia and Europe were making paper from rags and mashed plants. The Chinese used paper for padding and wrapping and starting around the late 6th century, they used it as toilet paper. And we almost probably thought that it was the Americans that invented the toilet paper, isn't it? And oh! How wrong we were!

Soon, so many books were being made that paper makers began to run out of rags. Then, in 1719, French Scientist René Réaumur noticed some wasps chewing up wood to make their papery nests. He saw that paper could be made from solid wood. Wasps use their jaw to scrape wood shavings from trees. They mix the wood with their saliva and chew it into a pulp, then uses it to build their nest cells and walls. As the pulp dries, it hardens into a kind of light, strong paper.

The paper-makers tried Réaumur's idea of paper from wood-pulp, and it worked. Today, most paper still comes from wood. It's made in huge factories by giant paper-making machines. And we use more of it than ever. Around the year 1400, Chinese paper-maker began using another ingredient in their paper – old unwanted books. They had invented paper recycling. We now recycle more and more used paper, as this reduces the number of trees that have to be chopped down to make a new paper. When paper is recycled. It is mixed with water until it is a soggy mush. The mush is sprayed out onto the moving wire screen. It is squeezed by rollers, dried and wound into a big roll. And is how we recycle paper.

In medieval times, books weren't something everyone could own. They were rare and very expensive, because they took a very long time to make. So. When Johann Gutenberg invented a new, quicker and easier way to print books, he changed people's lives. Before the printing presses, most books were copied out, one at a time, by hand, and today we complain of our hands typing. At first, in Europe, monks in monastery libraries did most of this laborious handwriting. From about 1200, professional handwriters called scribes did the job too. There was also a type of printing called block printing, where you carved a page of text and illustrations onto a block of wood, inked it and pressed it onto the paper. But it still took a very, very long time.

Were you aware that books didn't always have pages? Long ago, books were written on long scrolls and rolled up. But from about the year 300, people began folding up the scrolls. This led to the idea of tying separate pages together to make a book.

In around 1045, a Chinese man, Bi Sheng, came up with a really clever invention: movable type. Instead of carving whole pages of words, he made individual carved clay blocks that he could rearrange to make different pages of text. The trouble was, instead of an alphabet, Chinese writing used thousands of symbols, called characters. There was a different one for each word. This made Bi's system difficult to use, since there had to be thousands of different kinds of printing blocks. Block-printed books often had lots of pictures, because they were easier to carve than words. But the idea of movable type itself was brilliant. In Europe, the same idea would revolutionize printing.

In the 1430s, Johann Gutenberg, a jeweller in Strasburg, Germany, began behaving oddly. He kept borrowing money from his friends and disappearing into his workshop for days. What they didn't know was that he was secretly working on a new printing method. Although he probably hadn't heard of Bi Sheng, he had had a similar idea- making separate pieces of type for all the letters of the alphabet. He also designed a printing press, with a frame to hold all the letters arranged into pages, ready for printing. Eventually, someone sued Gutenberg for not paying back some money he'd borrowed. He didn't have the cash, so he had to hand over all his printing equipment instead. The secret of his press came out, and the idea spread like wildfire. Soon books were rolling off newly-built presses all over Europe.

Gutenberg's press was one of the most important inventions ever. By rearranging the letters, printers could set up their presses to make a new book in just a few days- then print of thousands of copies. Books became much cheaper and widely available, and more and more people learned to read. Now everyone could learn new things, read poems and stories, and hear about new ideas.

Writing is incredibly useful – it allows us to store facts, make list and send messages. And we've been doing it for more than 5,000 years. In 3200 BC we had clay tablets. Cuneiform, the first known writing, developed in the ancient middle-eastern civilization of Sumeria more than 5,000 years ago. It was written by pressing a wedge-shaped reed into wet clay to

make little pictures. By combining several pictures, you could express more complex idea. In 2500 BC there was introduction of brush and ink, over 4,000 years ago people in Egypt and China were writing with simple pens and brushes dipped in ink. The first ink was made of soot mixed with water. Then in 1300 BC people saw Stylus and wax, from about 3,300 years ago, the Romans used a sharp tool called a Stylus to scratch letters into a wooden board covered with layers of wax.

Quill Pens, made from a bird's feather cut at an angle, date from about the year 600. They were invented in Spain and eventually became popular across Europe. Pencils were invented in the early 1500s, after a graphite mine was discovered in England and people found that graphite was great for making marks. They made pencils by inserting a stick of graphite into a wooden holder. A piece of wood cut with a square groove. A slab of graphite was slotted into the groove. The graphite was broken off level with the top of the groove. A thin slat of wood was glued to the top, leaving the graphite encased. To make a smoother pencil the wood could then be sanded and shaped.

British Engineer Bryan Donkin patented an early steel pen nib in 1803. By 1850s, most people used metal nibs, dipped in ink. In 1868 a new way of writing came along when news of editor Christopher Latham Sholes, working with a team of friends, invented the typewriter. Even with typewriters, people still needed pens. In 1884 Lewis Edson Waterman invented the fountain pen, which carried its own supply of ink. Laszlo Biró patented the first working ballpoint pen, or biro, in 1938. Felt-tip pens were invented in 1962 by Japanese art-equipment makers Masao Muira and Yukio Horie.

As computers developed, electric and computerized typewriters were built. Around 1978, typewriters began to be replaced by word-processing software that could be used with a computer to write letters, novels or anything else. Word-processing software lets you make changes and correct mistakes as you write before printing out your document.

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