

The Chinese Invention of Paper

Of all Chinese contributions to the Western world, none can be more clearly traced in its beginnings in China, and then in its gradual spread across Asia to Europe, than can paper. In early times Chinese books were made of narrow vertical strips of bamboo. Many of these, tied together into a bundle formed one volume. The bulk and clumsiness of such a writing material is obvious. A Chinese philosopher of the fifth century B.C., Mo Tzu, by name, used to take along with him three cartloads of such bamboo books wherever he traveled. For writing small documents the Chinese used strips of silk. These were more convenient, but were too expensive for general use. Clearly a new writing material was needed.

The formal invention of paper can be dated exactly in the year A.D. 105, and was the work of one who should surely be honored among the great contributors to human civilization. He was Ts'ai Lun, a man attached to the Chinese imperial court. Ts'ai Lun's biography in the history of his time describes his invention as follows:

In ancient times writing was generally on bamboo or on pieces of silk, which were then called chih [a Chinese word pronounced jer, which has since been used to mean paper]. But silk being expensive and bamboo heavy, these two materials were not convenient. Then Ts'ai Lun thought of using tree bark, hemp, rags, and fish nets. In the first year of the Yuan-hsing period (A.D. 105) he made a report to the emperor on the process of paper making, and received high praise for his ability. From this time paper has been in use everywhere and is called the "paper of Marquis Ts'ai."

Following Ts'ai Lun's invention, paper spread with amazing speed throughout all the lands under Chinese domination. Thus in the arid deserts of Chinese Turkestan the world's earliest surviving examples of paper have in recent times been found. They date from within fifty years of Ts'ai Lun's death. In this and following centuries we find the Chinese doing almost everything with paper that was in later times to be done in other countries. Rag paper and hemp paper, paper of various plant fibers and of cellulose, paper sized and loaded to improve its quality for writing, wrapping paper and even paper napkins and toilet paper — all these were soon in general use.

From Central Asia paper pursued its triumphant way westward into the Arabic world, where its first manufacture can be exactly dated in the year 751. In that year, according to Arabic annals, at Samarkand, in the extreme west of Turkestan, the Arabs defeated a Chinese army and captured some of its soldiers. From some of them, who had formerly been paper makers, the Arabs first learned how to manufacture paper.

From Samarkand, papermaking spread throughout the Arabic Empire, reaching Syria, Egypt (where it displaced papyrus), and Morocco. From there it finally entered Europe by way of Spain, where its manufacture is first recorded in A.D. 1150. From Spain, paper passed on to southern France, and the gradually to the rest of Europe, displacing parchment as it went.

The influence of paper upon the whole course of later Western civilization can hardly be overestimated. Without this cheap material it is unlikely that printing could ever have come into general use. Gutenberg's Bible, for example, which is probably the earliest European book printed from movable type,

also happens to be one of the few books some of whose copies were printed on parchment instead of paper. It has been estimated that to produce one copy of the Bible on parchment, the skins of no less than 300 sheep were required. Had such conditions continued permanently, books would never have been available for more than the richest few, and printing might never have competed successfully with the older, and in some ways more artistic, process of copying manuscripts by hand. The debt of the world to Marquis Ts'ai is greater than the debt to many other whose names are better known.

http://afe.easia.columbia.edu/song/readings/inventions_gifts.htm