# 2 Print Comes to Europe

For centuries, silk and spices from China flowed into Europe through the silk route. In the eleventh century, Chinese paper reached Europe via the same route. Paper made possible the production of manuscripts, carefully written by scribes. Then, in 1295, Marco Polo, a great explorer, returned to Italy after many years of exploration in China. As you read above, China already had the technology of woodblock printing. Marco Polo brought this knowledge back with him. Now Italians began producing books with woodblocks, and soon the technology spread to other parts of Europe. Luxury editions were still handwritten on very expensive **vellum**, meant for aristocratic circles and rich monastic libraries which scoffed at printed books as cheap vulgarities. Merchants and students in the university towns bought the cheaper printed copies.

**New words**

Vellum – A parchment made from the skin of animals

As the demand for books increased, booksellers all over Europe began exporting books to many different countries. Book fairs were held at different places. Production of handwritten manuscripts was also organised in new ways to meet the expanded demand. Scribes or skilled handwriters were no longer solely employed by wealthy or influential patrons but increasingly by booksellers as well. More than 50 scribes often worked for one bookseller.

But the production of handwritten manuscripts could not satisfy the ever-increasing demand for books. Copying was an expensive, laborious and time-consuming business. Manuscripts were fragile, awkward to handle, and could not be carried around or read easily. Their circulation therefore remained limited. With the growing demand for books, woodblock printing gradually became more and more popular. By the early fifteenth century, woodblocks were being widely used in Europe to print textiles, playing cards, and religious pictures with simple, brief texts.

There was clearly a great need for even quicker and cheaper reproduction of texts. This could only be with the invention of a new print technology. The breakthrough occurred at Strasbourg, Germany, where Johann Gutenberg developed the first-known printing press in the 1430s.

## Activity

Imagine that you are Marco Polo. Write a letter from China to describe the world of print which you have seen there.

## 2.1 Gutenberg and the Printing Press

Gutenberg was the son of a merchant and grew up on a large agricultural estate. From his childhood he had seen wine and olive presses. Subsequently, he learnt the art of polishing stones, became a master goldsmith, and also acquired the expertise to create lead moulds used for making trinkets. Drawing on this knowledge, Gutenberg adapted existing technology to design his innovation. The olive press provided the model for the printing press, and moulds were used for casting the metal types for the letters of the alphabet. By 1448, Gutenberg perfected the system. The first book he printed was the Bible. About 180 copies were printed and it took three years to produce them. By the standards of the time this was fast production.

*Fig. 5 – A Portrait of Johann Gutenberg, 1584.*

The new technology did not entirely displace the existing art of producing books by hand.

In fact, printed books at first closely resembled the written manuscripts in appearance and layout. The metal letters imitated the ornamental handwritten styles. Borders were illuminated by hand with foliage and other patterns, and illustrations were painted. In the books printed for the rich, space for decoration was kept blank on the printed page. Each purchaser could choose the design and decide on the painting school that would do the illustrations.

In the hundred years between 1450 and 1550, printing presses were set up in most countries of Europe. Printers from Germany travelled to other countries, seeking work and helping start new presses. As the number of printing presses grew, book production boomed. The second half of the fifteenth century saw 20 million copies of printed books flooding the markets in Europe. The number went up in the sixteenth century to about 200 million copies.

This shift from hand printing to mechanical printing led to the print revolution.

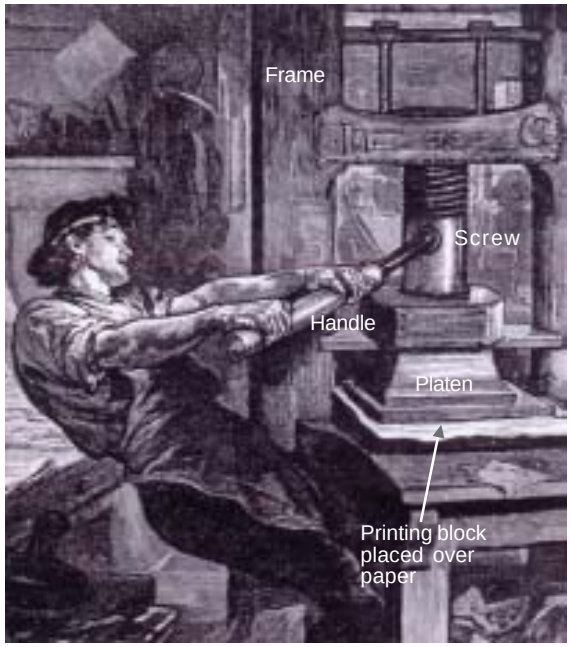


***Fig. 6 – Gutenberg Printing Press.*** *Notice the long handle attached to the screw. This handle was used to turn the screw and press down the* ***platen*** *over the printing block that was placed on top of a sheet of damp paper. Gutenberg developed metal types for each of the 26 characters of the Roman alphabet and devised a way of moving them around so as to compose different words of the text. This came to be known as the moveable type printing machine, and it remained the basic print technology over the next 300 years. Books could now be produced much faster than was possible when each print block was prepared by carving a piece of wood by hand. The Gutenberg press could print 250 sheets on one side per hour.*

**New words**

Platen – In letterpress printing, platen is a board which is pressed onto the back of the paper to get the impression from the type. At one time it used to be a wooden board; later it was made of steel

***Fig. 7 – Pages of Gutenberg's Bible, the first printed book in Europe.***

*Gutenberg printed about 180 copies, of which no more than 50 have survived.*
*Look at these pages of Gutenberg's Bible carefully. They were not just products of new technology. The text was printed in the new Gutenberg press with metal type, but the borders were carefully designed, painted and illuminated by hand by artists. No two copies were the same. Every page of each copy was different. Even when two copies look similar, a careful comparison will reveal differences. Elites everywhere preferred this lack of uniformity: what they possessed then could be claimed as unique, for no one else owned a copy that was exactly the same.*
*In the text you will notice the use of colour within the letters in various places. This had two functions: it added colour to the page, and highlighted all the holy words to emphasise their significance. But the colour on every page of the text was added by hand. Gutenberg printed the text in black, leaving spaces where the colour could be filled in later.*


***Fig. 8 – A printer's workshop, sixteenth century.***
*This picture depicts what a printer's shop looked like in the sixteenth century. All the activities are going on under one roof. In the foreground on the right, **compositors** are at work, while on the left **galleys** are being prepared and ink is being applied on the metal types; in the background, the printers are turning the screws of the press, and near them proofreaders are at work. Right in front is the final product – the double-page printed sheets, stacked in neat piles, waiting to be bound.*

**New words**

Compositor – The person who composes the text for printing

Galley – Metal frame in which types are laid and the text composed