

An Introduction to Printing

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Printing is the repeatable transfer of an image onto paper or other material. The main processes are:

Relief (letterpress) printing, in which the inked image is on a raised surface; the oldest examples are carved woodblocks;

Gravure, in which the image is recessed in a metal plate; etchings are an example;

Lithography in which a flat image on a plate can be reproduced because of the physical and chemical properties of oil and water, a process invented in 1796;

Screen printing, in which the ink is forced through a stencil;

Electronic printing processes like xerography and ink-jet printing.

For most of the history of printing relief (letterpress) printing has been the dominant form: it is only in the last forty years that it has been almost entirely superseded by lithography. Letterpress printing is part of the historical process and has been an essential method assisting the development of our western civilisation.

The key figure in the development of printing as we know it was Johann Gutenberg (c.1399-1468). Gutenberg lived and worked in Mainz, Germany. His key invention in around 1450 was moveable type: individual letters that could be arranged and rearranged into different texts. He was familiar with the manufacture of coins at the mint, in which a metal punch with the required image was stamped on to the blank coin or medal. His invention was to have each letter of the alphabet carved onto a punch, which was then used to make a mould into which molten metal could be poured creating individual letters that could be assembled to make words. These were locked up in a forme and ink was then applied and the forme was pressed onto paper. A second (and equally important) invention was formulating an appropriate ink that was tacky enough to stick to the type.

Thus, ink, metal, paper and a press – a wooden wine press was modified- were the foundation of the printing and publishing industry.

Gutenberg's first printed products were 2000 religious indulgences, a Latin Grammar and the *The Bible*, in Latin.

It took six compositors and three presses almost two years to print the 230,000 separate pages that were collated into 180 books.

A full and readable account of the life and business of Gutenberg is: *The Gutenberg Revolution* by John Man (Headline Publishing: London 2002).

The advantages of printing were quickly realised. By 1480 some 122 towns in Western Europe had printing presses. By 1500 there were some 1000 printing presses employing up to 20,000 people.

Presses were found in: Germany (1450), Italy (1465), Switzerland (1466), Bohemia (1468), France and the Netherlands (1470); Spain, Hungary and Belgium (1473),

Poland (1474), England (1476), Denmark and Austria (1482), Sweden (1483), Portugal (1489), Croatia (1493), Montenegro, Bulgaria and Turkey (1494).

Printed materials from before 1500 are called incunabula (i.e. from the cradle period of printing).

In 1486 the first secular censorship office was established in Mainz and the first banned book was *The Bible* in the vernacular. By 1500 the Bible had been translated and printed in German, Italian, Dutch, Catalan, Bohemian, French and Swedish.

The first printing in English was by William Caxton in 1474 in Bruges, Belgium. In 1476 he set up a printing press in London and published a new version of Chaucer's *Canterbury Tales* and later Malory's *Morte D'Arthur*. He effectively set standard English because his version of the language was printed before any dictionaries were compiled.

The first English translation of the Bible was printed by William Tyndale in 1524-25 in Belgium. He had some 3000 copies of his *New Testament* smuggled into England against the orders of Henry VIII and Sir Thomas More. Such was their fury, that they had him arrested and executed near Antwerp as a heretic. He was strangled and his body burned. His translation became the basis of the King James Bible.