

The Gutenberg Press

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The Incisive Line

History of Manuscripts

The first books were made by scribes who copied each individual letter by hand, and these books were called manuscripts. Manuscripts were produced in a scriptorium which is a room usually in monasteries for storing, copying, illustrating, or reading manuscripts. Scriptoria was seen as a way for monasteries to make money, so most scribes were monks; producing books on the law and Christian writings. In the ancient western world papyrus sheets were formed in the shape of a scroll, and used in the making of manuscripts. (History of Scriptoria 1) The papyrus plant was usually found in Egypt, and the paper was made by cutting individual reeds and weaving them together. The standard size of a roll was about 30 feet long and 10 inches wide. The writing was applied to one side of the scroll, and done in the ancient art of calligraphy. (Clement 1,2)

In the 4th century the parchment codex, a loose-leaf , replaced the papyrus scrolls. Parchment was more compact, easier to work with and read. To produce the desired quality sheepskin or calf skin was used to create the parchment. The skin was soaked in lime solution for days, then stretched and scraped to create a thin paper like vellum. The ink used by the scribes was a water based ink that was easily removed. Each monk was required to make perfectly formed letters, copy manuscripts without error, and understand what they were copying. The work was painstakingly long and meticulous. (d.202): “ You who will transcribe this book, I charge you, in the name of our Lord Jesus Christ and of His glorious Second Coming, in which He will come to judge the living and dead, compare what you have copied against the original and correct it carefully.

Furthermore, transcribe this adjuration and place it in the copy. De Viris illustrious 35” (History of Scriptoria 2) Two pages were inscribed on each individual sheet and then folded in half to create two pages of the manuscript, and these were called folios. The folios were then gathered and bound with other folios. Because manuscripts were so labor intensive, books were rare and expensive. In the 13th century; wood made paper replaced parchment. (Clement 3,4)

Johann Gutenberg and the Magical Printing Press

Johann Gutenberg was born in Mainz, Germany around 1398 to a family of goldsmiths. Gutenberg grew up in the family business, and relocated to Strausberg, Germany in 1411 as a result of political turmoil. Gutenberg was an inventor, and his experience as a goldsmith apparently led him to the invention of movable type. Goldsmiths marked their work with metal punches, and historians believe this was inspiration for Gutenberg’s invention. The metal punches were short slender posts with backwards initials incised at the end of the post.



There is much dispute on who exactly invented movable type; because the Chinese had produced a similar method centuries before Gutenberg, but the thousands of ideograms in the Chinese language made movable type impractical. Historians do not

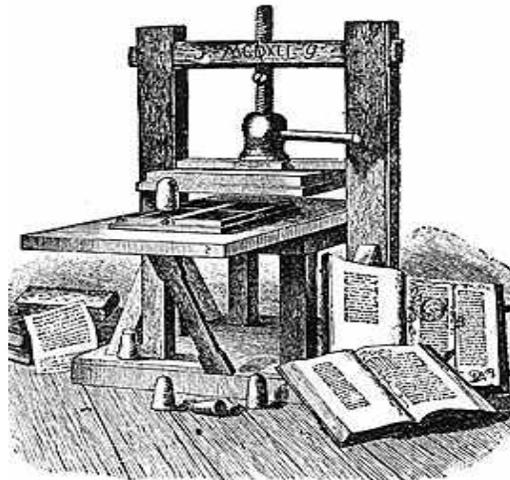
know if Gutenberg was aware of Chinese methods of movable type, but his process was very similar.

Gutenberg began carving individual letters from blocks of wood, and composed them to create a written document. The carved letters were done in calligraphy to imitate manuscripts. After the letters were laid out backwards and properly spaced; he inked the block with water-based ink and pressed a piece of paper into the letters. This process was extremely labor intensive, and the wood blocks were easily worn down. The letters were of poor quality with little uniformity, and smudged words. (Karwatka 1,2)

In 1448 Gutenberg returned to Mainz to work on a new method of movable type using metal. Historians presume that Gutenberg created gold metal casts for individual letters of the alphabet, and filled the molds with 5% tin, 12% antimony, and 83% lead which is a formula that is still used today. Gutenberg used this mixture of metals because they had low melting points, and antimony slightly expands in the mold to perfectly form the letter molds. (Woods 2) Each letter was required to be uniform in height and width with the other letters. This time-consuming process allowed Gutenberg to mass produce letters in order to make movable type and the printing press possible. Once the letters were formed, the printing press could use and reuse the letters in any order to create an unlimited number of individual pages. The idea for the actual printing press was inspired by a old-fashioned wine press. Gutenberg developed an oil-based ink that produced defined calligraphy style letters of the alphabet. Once Gutenberg established his invention he convinced a man named Johann Faust, a lawyer and goldsmith to invest in his concept. Gutenberg began creating the 42 Line bible, the first mass produced book. (Gray 1-3)



Old- Fashioned Wine Press



Gutenberg's Printing Press

The 42 Line Bible

“The printed fifteenth-century book was a direct imitation of the contemporary manuscript book. Yet perhaps talk of imitation is misleading. Gutenberg never intended to imitate anything or mislead anyone: he was merely making books by new means of production which was revolutionary, not the book itself.” (Clement 1) Gutenberg worked diligently for the next couple of years on the 42 line Latin Bible. This bible contained 42

lines of type on each individual page. Four million individual cast letters were created in order to produce the 1,286 pages of the Bible. Peter Schoeffer took on the four-year task of preparing the movable type for printing. He prepared two pages at one time then printed. The pages were similar to parchment, as a single sheet was folded to create one double-sided page. The style and lettering used in the 42 line bible was inspired by ancient manuscripts, while the details bordering the pages were created by scribes who hand crafted the borders.(Woods 2) “Even after the triumph of printing, the manuscripts of the scriptoria had their influence. The style and the text’s position on the page, the artistic rubrication, the flourish of initial lettering, and the intricate marginal designs provided a model for the printed page. In fact, in the early development of printing, these illuminations were added by hand, Later when the woodcut, metal-cut, and type form served the purpose, printers would employ artists to create woodcut illustrations copying the illuminations of manuscripts.” (History of Scriptoria 3) The invention of movable type print caused a revolution, and scribes were no longer needed to hand craft manuscripts. With this invention books were created. Movable type print made books affordable and accessible to the public. In 1456, 180 of Gutenberg’s Bibles made from movable type print were released onto the market not bearing Gutenberg’s printed name. This was significant because Gutenberg did not claim written credit for the bible. (Johnston 2,3)

Shortly before the bible was released Gutenberg became financially ruined, he was forced to turn over the shop and printing equipment to Faust as payment for 2,000 guilders. Faust and his colleague Peter Schoeffer continued Gutenberg’s work. Soon movable type print became mainstream. By 1500 about 15 million new books had been

printed. (Gray 2) Gutenberg's bible was different from books we see today; because it contains no grammatical marks such as punctuation or indentations for paragraphs. Chapters and verses did not come about until a century after Gutenberg. Today the Gutenberg bible is worth millions of dollars, and there are only about 40 Bibles remaining out of the 180 Bibles Gutenberg created. (Johnston 2)

Europe Split in Two

As a result of the Gutenberg press, books were affordable and accessible to the public. Europe quickly took two opposing viewpoints, and the Gutenberg press caused great conflict. Universities and educational institutions found that mass-produced literature helped in the teachings of students, and they greatly accepted the new innovative printing methods. These books and teachings developed ideas which lead to the Renaissance, Humanism, and the scientific revolution.

The other side of Europe relied strongly on the importance of memory and verbal communication. According to Christopher Small author of *The Printed Word*, "It is true that when and where books began to be relied of as 'memory banks', the power of individual and collective memory decayed." Some felt books would become the sole source of knowledge, then individuals society's would no longer need to talk to eachother or memorize information. As a result their culture, rituals, and traditions were in jeopardy. "Those who acquire books will cease their memory and become forgetful; they will rely on writing to bring things to their remembrance by external signs instead of on their own internal resources. What you have discovered is a recipient for recollection not memory."(Small 4) Information was distributed freely to an ignorant society without proper introduction, and therefore was a burden to humanity. Religious clergy and elite

educated groups feared information would fall into the wrong hands.

The Renaissance and Humanism

With the invention of the Gutenberg press, movable type print, publishers, and books new innovative ideas spread across Europe starting in Italy. This invention began the Renaissance; which means “rebirth”, and Europe did just that. “Several factors contributed to the rise of Renaissance culture, among them the spread of humanism, political and economic fluctuations through Italy, and a fortunate abundance of artistic talent.” (Kleiner pg 590) The Italians embark on the Renaissance with great admiration and acceptance for the printed book. With their enthusiasm for reading’s artists became intellectuals and scientists alike. Studies and knowledge were greatly valued and created a new modern culture where ideas shifted to humanism, “Humanists not only encouraged individual improvement but also rewarded excellence with fame and honor. Achieving and excelling through hard work became moral imperatives.” (Kleiner pg 590) Citizens were required to participate in social, political, and economic aspects of society. The church, community, religious art, and anatomy all became important aspects of individual growth and achievements. The Gutenberg Press changed the existence of life and knowledge. It transformed an illiterate world into a world of realization and enlightenment.