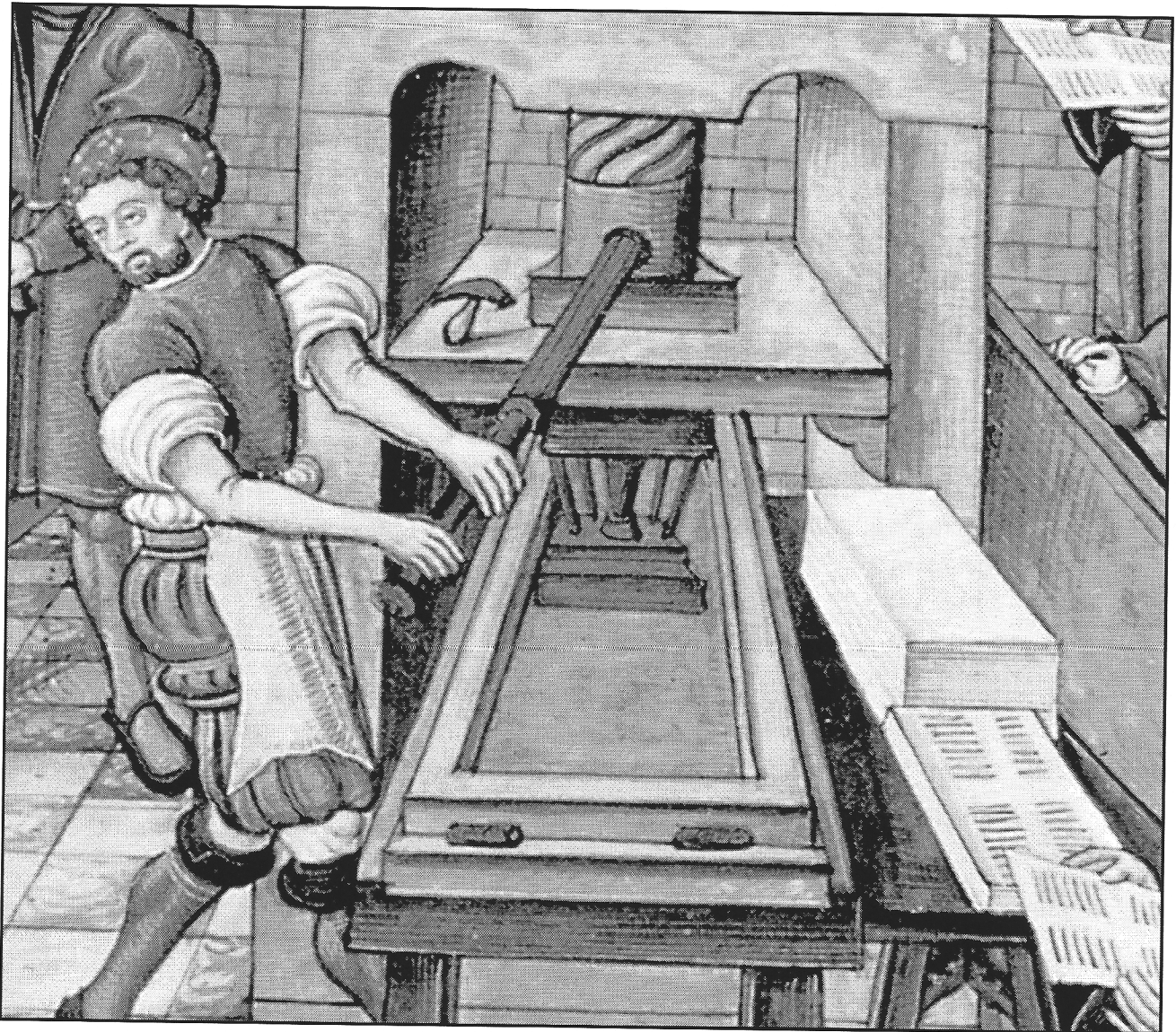

What Was the Most Important Consequence of the Printing Press?

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A Document Based Question (DBQ)
World History

STUDENT GUIDE SHEET

What Was the Most Important Consequence of the Printing Press?

Directions: There are historians who believe that the printing press ranks among the most revolutionary new technologies in the history of humankind. Like the invention of the alphabet two thousand years before, and like the creation of the computer and the internet more than 500 years after, the printing press changed the way we inform, and misinform, one another.

It is suggested that you follow these steps:

1. Read the Background Essay.
2. Skim through the 10 documents to get a sense of what they are about.
3. Read the documents slowly. In the margin or on a Document Analysis Sheet record the main idea of each document.
4. Organize the documents by analytical category. One or more may be a context document.
5. Within each category, decide what impact the printing press had on the 15th- and 16th-century world.
6. Develop a summary answer to the question.

The Documents:

- Document 1: Scribe and Print Shop
- Document 2: The Spread of Printing (map)
- Document 3: The Protestant Reformation: Luther's 95 Theses
- Document 4: Different Views on the Reformation
- Document 5: The Spread of Protestantism (map)
- Document 6: Columbus' Letter
- Document 7: Printing and Map Making (3 maps)
- Document 8: Classical and Medieval Books
- Document 9: Early Modern Books
- Document 10: Newton's Bookshelf

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Introduction

In the fall of 1999, Arts & Entertainment Television aired a three-hour series titled, "Biography of the Millennium." The show picked Johannes Gutenberg as the most influential person of the last thousand years. In the 1450s, Gutenberg revolutionized the world by inventing the printing press. Many experts were surprised and even outraged by A & E's choice. Yes, Gutenberg was a significant inventor, but was he as important as scientific geniuses like Isaac Newton, Charles Darwin, and Albert Einstein? And certainly he could not hold a candle to great artists and thinkers like Michelangelo, William Shakespeare, or Thomas Jefferson.

The A & E expert panel vigorously defended Gutenberg. They argued that without his invention all of the above thinkers would never have emerged. Newton (#2 on the list), for example, developed his scientific theories only after reading the works of other great thinkers. Yes, Newton was brilliant (after all, he did invent calculus), but he stood on the shoulders of other thinkers whom he had only met through written works.

This DBQ asks you to look closely at how printing affected different areas of life. To answer the DBQ question you will need to do two things: 1. Examine each document to discover how printing changed one aspect of the world; and 2. Determine what area of change was the most important and argue why. Before tackling these two tasks, a short look at the history of printing and Gutenberg's invention are in order.

The Communications Revolution

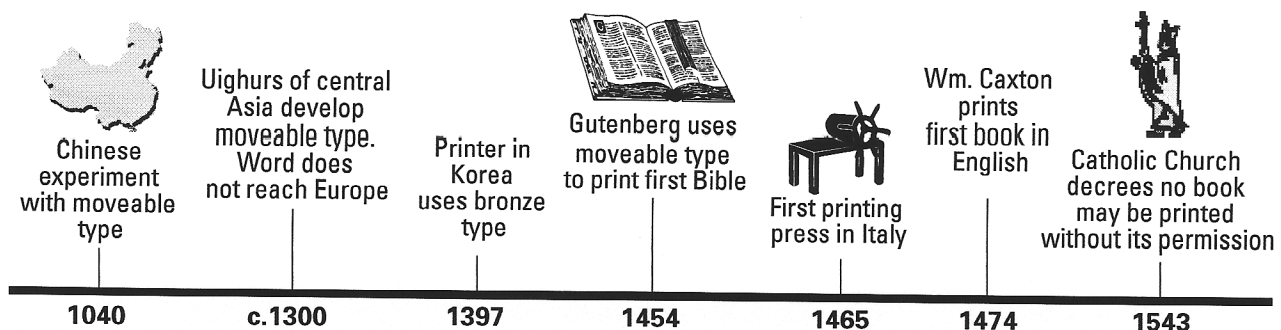
Gutenberg's invention was really the end of a long evolution in human communication. At some point in human development, man developed a spoken language. Where language comes from is difficult to say. Some think that long before our ancestors began to speak, about 25,000 years ago, they used sign language. This ability may have developed as early as two million years ago.

Much later, about 20,000 years ago, our human ancestors drew pictures on cave walls in France, and about 8,000 years ago the Mesopotamians developed picture writing. The Egyptians wrote **hieroglyphics**, combining pictures, letters and syllables on **papyrus** (which is formed by layering reeds) as early as 3100 BCE.

Probably the greatest event in the evolution of human communication before the printing press was the invention of the alphabet. When and where the alphabet was first used remains a matter of debate. Best guesses attribute the beginning to the Phoenicians about 1500 BCE. The amazing thing about the alphabet is that every sound we can imagine can be shown by some combination of 26 letters. The alphabet is powerful because it is so simple. It is its simplicity that allows it to be used by inventions like the printing press in unique ways.

Origins of Paper and Books

The printing press would not have been possible without the invention of paper. For centuries people had written on animal skins. And as far back as 105 CE the Chinese had invented paper.



Slowly, papermaking technology spread to Europe where in the 1400s Italian merchants developed mass production techniques.

Gutenberg was a businessman and knew about the availability of cheap and durable paper. He also knew in the mid-1400s that something special was going on in Europe. This something was the beginning of what historians call the **Renaissance**, a time when ideas, old and new, were exploding across Europe like never before. Of course it was the book that was helping spread these ideas and Gutenberg wanted to make a less expensive book.

Before Gutenberg's press, monks handwrote books with pen and ink in a copying room known as a **scriptorium**. Even a small book could take months to complete, and a book the size of the Bible could take several years. By the 1400s mass production scriptoriums did exist with over 50 scribes writing away as a single reader dictated a text.

Origins of Printing

The Chinese, around 600 CE, were the first to use something called **woodblock printing**. With wood blocks a whole page of text could be printed at one time, but once carved, a woodblock could not be changed and often the woodblock carving would crumble after a short time. The Chinese are also credited with inventing **moveable type**. This process allowed a printer to place letters side by side and form sentences and pages. Once the page was printed, a printer could rearrange the letters to form a new page. The problem was that the Chinese language has over 50,000 characters, so moveable type technology was not practical. Somebody had to come along with a simpler language and an ability to carve out the letters in something more durable than wood. That someone was Gutenberg.



Gutenberg and His Invention

As a goldsmith in Mainz, Germany, Gutenberg developed the necessary skill to carve letters out of metal. Once enough letters were created, one could move the letters around arranging them to form all the words and sentences on a page. This process was called **typesetting**.

Once a page had been typeset a person called a **composer** would screw together all of the typeset letters into a solid form and place them on a lower level of the printing press. The type would be inked and paper placed on top.

The flat upper plate of the press would be screwed down on top of the inked paper. A printer could make thousands of identical copies, then move on to the next page.

In 1455 Gutenberg printed 180 Bibles, each of them over 1800 pages long. There are only a few of these **Gutenberg Bibles** still in existence and each is worth over \$30 million. Gutenberg

knew that many people would look at these books as something strange or the work of the devil, so he made his type look identical to a scribe's handwriting. It worked, and the printing revolution erupted. By 1500, less than 50 years after the Gutenberg Bibles, over 20 million printed books were in existence.

The Question

This DBQ asks you to examine how the printing press changed different aspects of human existence. Analyze the documents and determine the immediate effects of the printing press. Then decide which consequence was the most significant. There is no doubt that Gutenberg's printing press reshaped the world; the question for you is: *What was the most important consequence of the printing press?*

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Document 1

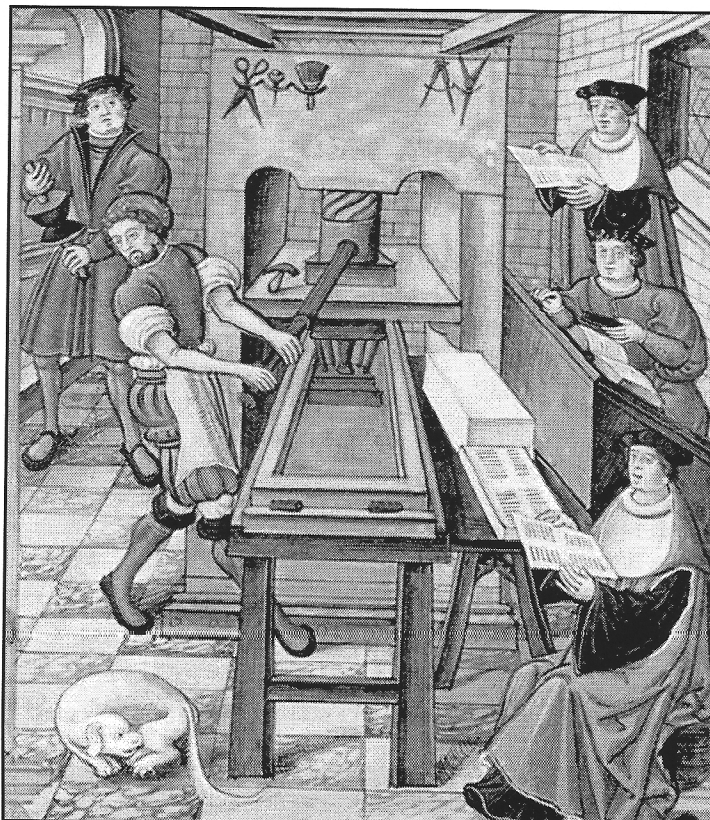


Source: *Top visual:* Advertisement for J. Badius' firm in William of Ockham, *Dialogus*, (Lyons: J. Trechsel, c. 1494)
Bottom visual: 16th century French manuscript, *Un atelier typographique*, Bibliothèque Nationale.



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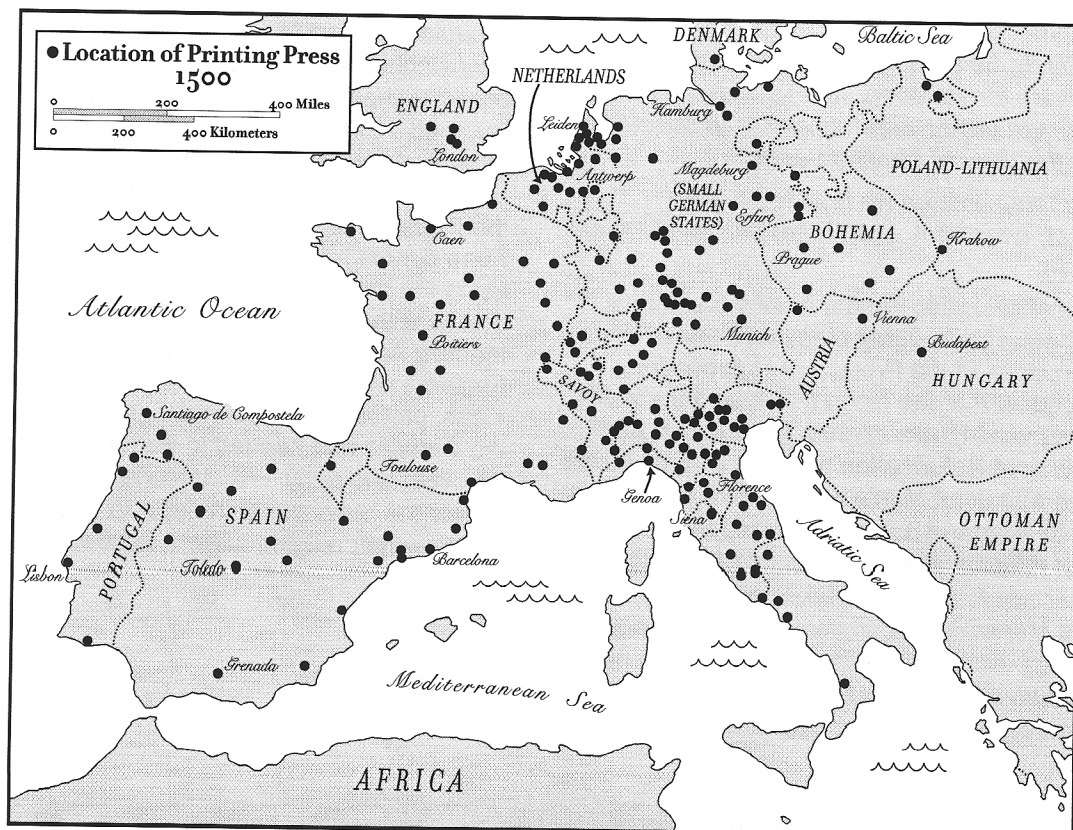
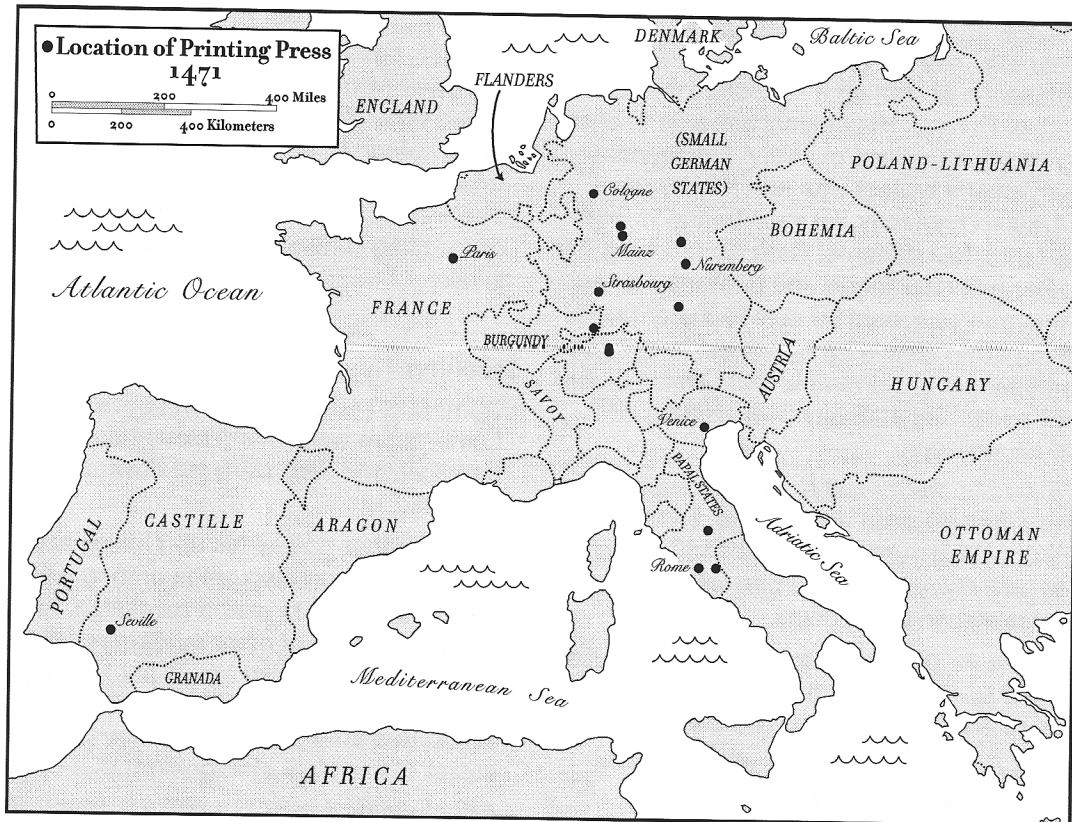
Note: The two images portray the significantly different methods used to produce books before and after Gutenberg's invention of the printing press. The woodcut image above is a scribe writing a book by hand from the dictation of a scholar; the woodcut below shows a print shop in the mid-1500s.



Document 2

 Notes

Source: The Spread of Printing. Maps created from various sources.



Document 3



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Source: Excerpts from Luther's 95 Theses, 1517.

20. Thus those indulgence preachers are in error who say that a man is absolved from every penalty and saved by papal indulgences.
27. They preach only human doctrines who say that as soon as the money clinks into the money chest, the soul flies out of purgatory.
32. Those who believe that they can be certain of their salvation because they have indulgence letters will be eternally damned, together with their teachers.
45. Christians are to be taught that he who sees a needy man and passes him by, yet gives his money for indulgences, does not buy papal indulgences but God's wrath.

Note: Martin Luther allegedly posted his 95 Theses on the door of the Castle Church in Wittenberg, Germany, on October 31, 1517. His goal was to stir debate among theologians primarily around the issue of **indulgences**—payments to the Roman Catholic Church in return for official pardons for one's sins and grants of salvation in the afterlife. Because of the printing press, the 95 Theses were known throughout Germany in a fortnight and throughout Europe in a month.

Source: John Man, *Gutenberg: How One Man Remade the World with Words*, 2002.

As Rome prepared the heavy artillery, Luther fired off more salvos, with the help of the press. His sermons, tracts and polemics, all in German ... streamed from presses by the hundreds of thousands.... According to one estimate, a third of all books printed in Germany between 1518 and 1525 were by him. Pause to consider that figure. Of course, printing was in its infancy, but Germany at the time was turning out about a million books a year, of which a third – 300,000 – were by Luther. No comparison with the modern world stands up, but it would be the equivalent of one author selling almost 300 million books in Britain (which prints some 800 million a year), or 700 million in the US, every year, for seven years running.

Document 4



Arise, O Lord, and judge Thy cause. A wild boar has invaded Thy vineyard.... Arise all ye saints, and the whole universal Church, whose interpretations of Scripture has been assailed.

Papal Bull of Pope Leo X, 1520

If we punish thieves with the gallows, robbers with the sword, and heretics with fire, why do we not all the more fling ourselves with all our weapons upon these masters of perdition, these cardinals, these popes, and all this stink of Roman sodomy that ceaselessly corrupts the church of God and wash our hands in their blood so that we may free ourselves and all who belong to us from this most dangerous fire?

Martin Luther, 1521

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Source: Lucas Cranach the Elder. "Passional Christi und Antichristi." Woodcut, 1521.

The woodcut is from a Lutheran booklet. Jesus (on the left) is driving the money-changers out of the temple, in contrast to the Pope, who is writing and collecting on indulgences. Cranach was a close friend of Luther.

Passional Christi und



Antichristi.



Source: Elizabeth Eisenstein, *The Printing Revolution in Early Modern Europe*, Cambridge: Cambridge University Press, 1983, p. 158.

There is considerable irony about the enthusiastic reception accorded to printing by the church. Heralded on all sides as a "peaceful art," Gutenberg's invention probably contributed more to destroying Christian concord and inflaming religious warfare than any of the so-called arts of war ever did.

Document 5

Notes

Source: Map created from various sources.



Document 6



Source: Christopher Columbus' Letter, *Concerning the Islands Recently Discovered in the Indian Sea*, 1493.

Excerpt from Columbus' 15-page Letter to the King of Spain

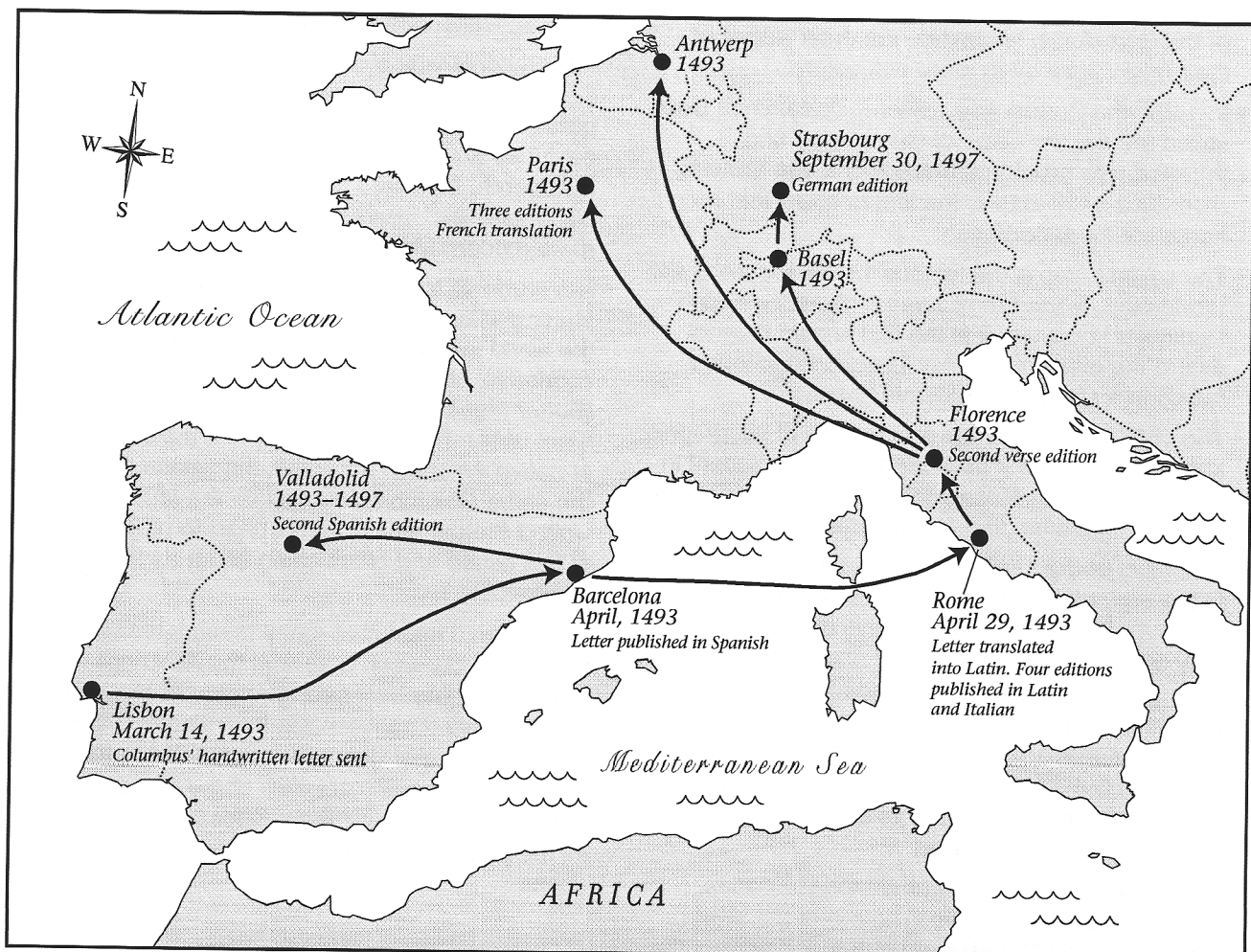
Because my undertakings have attained success, I know that it will be pleasing to you: these I have determined to relate, so that you may be made acquainted with everything done and discovered in this our voyage. On the thirty-third day after I departed from Cadiz, I came to the Indian sea, where I found many islands inhabited by men without number, of all which I took possession for our most fortunate king, with proclaiming heralds and flying standards, no one objecting.

Note: Columbus is believed to have written much of the letter on his return voyage from the Americas.

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Source: Map created from various sources.

Dissemination of Columbus' Letter



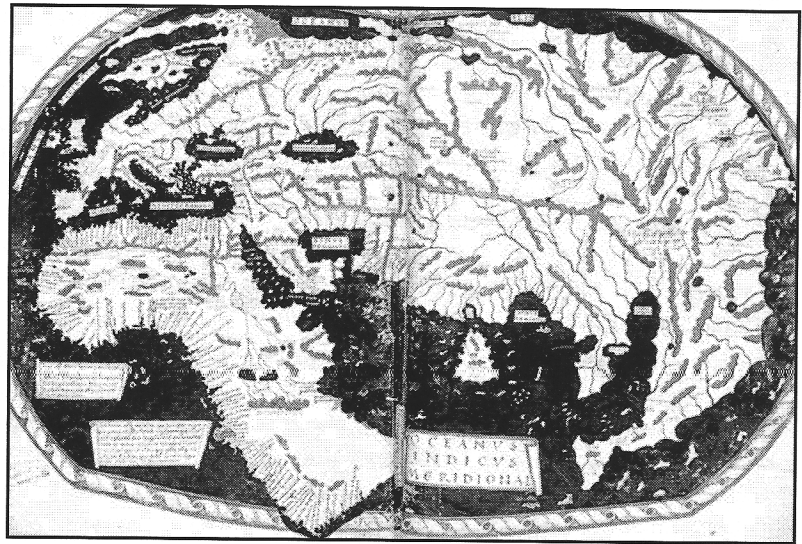
Document 7



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Expanding Knowledge of the Globe (3 Printed World Maps)

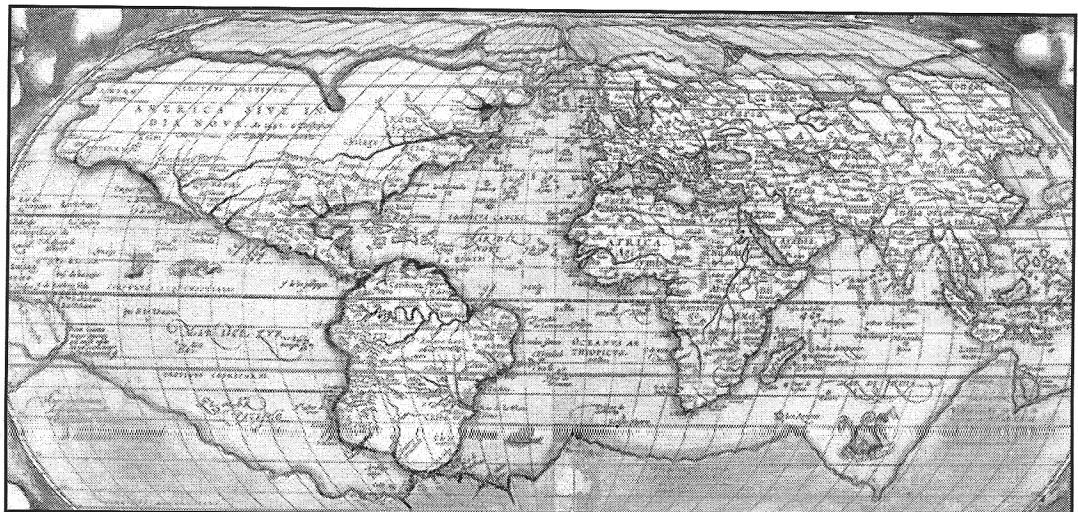
Source:
Henricus Martellus'
World Map, 1489,
courtesy British
Library.



Source:
Martin
Waldseemüller's
World Map, 1507,
Prints and
Photographs,
Library of
Congress, G3200
ct000725C.



Source:
Abraham Ortelius'
1570 World Map,
in *Theatrum
Orbis Terrarum*
Prints and
Photographs,
Library of
Congress, G7270
mf00002.



Document 8



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Source: John Carter and Percy H. Muir, editors, *Printing and the Mind of Man: A Descriptive Catalogue Illustrating the Impact of Print on the Evolution of Western Civilization During Five Centuries*, London: Cassell and Company, 1967.

Ten Important Works of Classical and Medieval Authors*

(Date represents first printing)

Homer, *Iliad and Odyssey*, Florence, 1488/89.

Plato, *Dialogues*, Florence, 1484.

Aristotle, *Works*, Venice, 1495-8.

Ptolemy, *The Cosmographia*, Bologna, Italy, 1477.

Herodotus, *Histories*, Venice, 1502.

Virgil, *Aeneid*, Venice, 1491.

Saint Augustine, *The City of God*, Subiaco, Italy, 1467; and
The Confessions, Strasbourg, Germany, 1470.

Thomas Aquinas, *Summa Theologica*, Basel, Switzerland, 1485.

Dante, *Divine Comedy*, Foligno, Italy 1471.

Thomas à Kempis, *The Imitation of Christ*, Augsburg, Germany 1473.

Note: In the 50 years following Gutenberg's invention, three-fourths of the 20 million newly printed books were classical or medieval works. These books had existed already in scribal manuscript form, but now for the first time were widely available to all who could read. Moreover, as Latin and Greek texts became more well known, publishers began to print the same works in the vernacular (native language), thus expanding the reach of these ancient ideas even further.

**Classical* authors dated back to the time of Ancient Greece and Rome. *Medieval* authors wrote during the several centuries before the invention of the printing press but after the fall of Rome.

Document 9



Source: John Carter and Percy H. Muir, editors, *Printing and the Mind of Man: A Descriptive Catalogue Illustrating the Impact of Print on the Evolution of Western Civilization During Five Centuries*, London: Cassell and Company, 1967.

Ten Important Works of Early Modern Authors

(Date represents first printing)

Desiderius Erasmus, *The Praise of Folly*, Paris, 1511.

Thomas More, *Utopia*, Louvain, Belgium, 1516.

Baldassare Castiglione, *The Courtier*, Venice, 1528.

Niccolo Machiavelli, *The Prince*, Rome, 1532.

Francois Rabelais, *Gargantua and Pantagruel*, Lyons,
five volumes between 1532 and 1552.

Georgio Vasari, *The Lives of the Most Excellent Painters,
Sculptors and Architects*, Florence, 1568.

Michael de Montaigne, *Essays*, Bordeaux, France, 1580.

Miguel de Cervantes, *Don Quixote*, Madrid, 1605.

The King James Bible, or the Authorized Version, London, 1611.

The Complete Works of Shakespeare, London, 1623.

Note: During the first half of the 16th century many works by contemporary writers began to reach a very wide public. For example, historians estimate that several hundred thousand of Erasmus' works, *Adages* and *Colloquies*, were available to the general public within decades of their first printing. Modern and current ideas could then spread more quickly and on a grand scale.

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Document 10



Source: Derek T. Whiteside, editor, *The Mathematical Papers of Isaac Newton I: 1664-1666*, cited by I.B. Cohen book review, *The Scientific American*, January, 1968.

... at the beginning of Newton's final year as an undergraduate (1664) ... he gave up an exclusive diet of reading the ancients ... and plunged into the moderns.... He read and made notes on Galileo's *Dialogues* ... and Descartes' *Principles of Philosophy*.... As we turn the pages of his notebooks we can see his mind leap from summaries of his reading to his own new principles and results.... He began to think of gravity as a force extending as far as the moon.... In those two years a mathematician was born.

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Isaac Newton's Bookshelf

Source: Charles Coulston Gillespie, editor, *Dictionary of Scientific Biography*, New York: Charles Scribner's Sons, 1974.

Isaac Newton, the father of the Scientific Revolution, was admitted at the age of 19 to Trinity College, Cambridge, England, on June 5th, 1661. Among the books that he read at Trinity were the following:

***Dialogo* by Galileo (1564-1642) Italian scientist and philosopher**

In this work, Galileo challenges the idea that the earth is the center of the universe and argues that falling bodies fall toward the center of the earth, not the center of the universe.

***Dioptrice* by Johannes Kepler (1571-1630) German astronomer, physicist, mathematician**

In this work Kepler describes how lenses work and applies his ideas to a new kind of astronomical telescope with two convex lenses.

***Micrographia* by Robert Hooke (1635-1702) English chemist, physicist**

Hooke describes his observations through a microscope, and for the first time, accompanies them with illustrations. This was the first great work devoted to this subject.

***Geometrie and Principles of Philosophy* by Rene Descartes (1596-1650) French philosopher**

Descartes spells out the foundations of analytical geometry. He is credited with the discovery of this branch of mathematics.

***Organon* by Aristotle (384-322 BCE) Greek philosopher and student of Plato**

This book along with several other Greek classics including Aristotle's *Ethics* provides evidence that Newton was well-grounded in Greek rhetoric and logic.

***Elements* by Euclid (3rd century BCE) Greek mathematician**

In this classical work Euclid creates the first systematic geometry based on clarification of such previously undefined concepts as point, line, and plane. Our young scholar Newton is said to have found Euclid "trifling" and put him back in the shelf in favor of a Latin edition of Descartes' *Geometrie*.