

stars

# 14 The Power of the Press



An armillary sphere was like a globe of the sky. It showed the stars' position.

We have to get something straight—right now, before we go on with this book. It has to do with the centuries. You need to be sure you understand about them. Do you know that when you see "12th century" it means the years that begin with 11? The numbers are always 100 years behind the centuries.

It's the same when you have a birthday. Your birthday celebrates the number of years you've already finished. You may say, "I took a trip when I was nine," but you actually took the trip in your tenth year. (That's

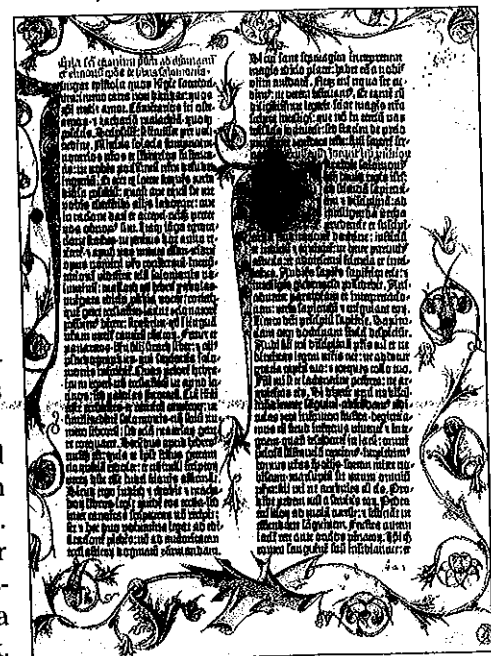
because after your ninth birthday you start on your tenth year in the world.) It's a bit confusing, but once you have it, it's easy. If something happened in 1456, it happened in the 15th century.

And something did happen in 1456—something big. A German goldsmith named Gutenberg (GOOT-en-burg), Johannes Gutenberg, printed a beautiful book, a Bible.

That may not seem like a big deal, but it was. Gutenberg had invented an efficient way to use a printing press. He did it with movable type—letters that could be used over and over again. (The Koreans and the Chinese had been using movable type for centuries, but Gutenberg reinvented the process and made it usable in Europe.) There, before 1456, if you wanted to print a book you had to carve each page on a separate woodblock. That wasn't easy, especially as everything had to be carved backward. So most books were copied by hand. Think about that.

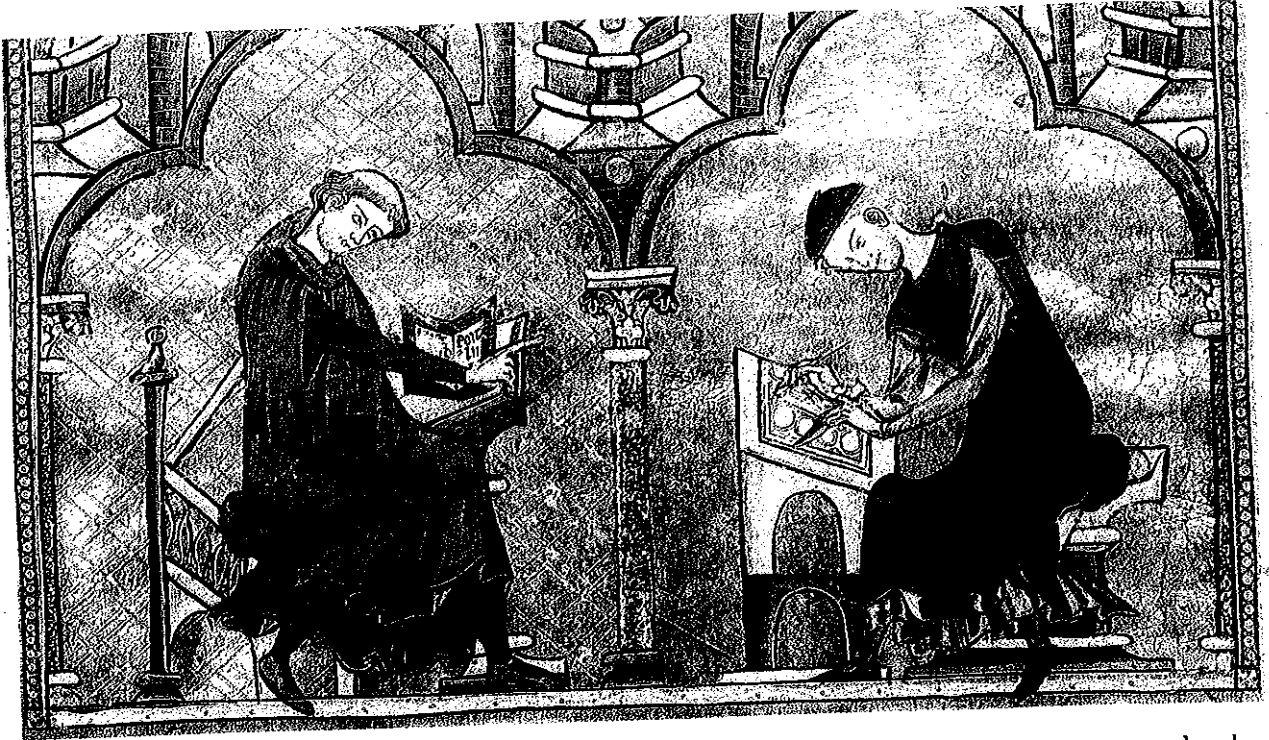
Then think about a big book like a Bible—or any big book. Guess how long it would take to copy it. Think about illustrating it. How much might each book cost?

Do you think you'd be doing much reading if you lived before Gutenberg and his printing press? Of course not. Chances are no one would teach you to read. It wouldn't be worth it. Unless you were very



A page from the Gutenberg Bible. After Gutenberg, the way books were printed changed very little for 500 years. Then, not so long ago, two machines—the camera and the computer—helped change printing again.

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A medieval (med-dee-EE-vul or mee-DEE-vul) author (*left*) dictates to a scribe (*right*). This is part of a page from a manuscript of the Bible, illustrated, or "illuminated," by hand. (The word *manuscript* comes from the Latin words for "hand" and "writing.") The scribe is concentrating very hard: being a scribe was difficult work.

*How do books give power to people?*

**You could call** the late 15th century the first Information Age. Printing and publishing were high-technology fields. Travel and scientific books became best-sellers. They prepared people's minds for the explorations to come.

rich or very lucky, you might live a full life and never even see a book.

If you never saw a book or a newspaper or a magazine (and of course there was no TV), you wouldn't know much. You'd have to believe whatever you were told—by the lord of the manor or the king or the priests. It would be hard to think for yourself. A famous Englishman, Thomas Carlyle (he was a historian), said that Gutenberg's press created "a whole new democratic world."

And it was about time. For most people, before the 15th century, Europe was a place of superstition and poverty. For most it was a place of war and disease.

Then things began to change. In Italy, poets and painters and sculptors began creating new works of art. It was called a Renaissance (REN-uh-sahnce), a time of rebirth. Ideas seemed to be in the air, and inventions, too—like the compass.

Actually, the compass had been around for thousands of years. The ancient Chinese discovered that a magnet, swinging freely, will always point north. Arabs brought that knowledge to Europe. But early compasses were not always reliable. In the 15th century (the years beginning with 14) the compass was improved; it could now be depended upon at sea.

Having a little needle that always pointed north meant new worlds could be discovered. Imagine you're in a small ship in a great ocean. You can't see land—just water in every direction. If you don't have a compass, how do you know which way to go to get home?

If you know the stars, and most good sailors do, you can wait until nighttime and let the stars guide you. But suppose—just suppose—

stars

## THE FIRST AMERICANS

it's cloudy and stormy. No stars can be seen. Maybe it's cloudy for a week. Your little ship can't carry much food. You might sail in the wrong direction and run out of food before you find your way back—if you get back. Storms at sea are tough to survive. All of which explains why ships stayed close to home before the compass was perfected.

Now we're still in the 15th century when, just as in the fairy tales, a prince appears: Prince Henry of Portugal, also known as Henry the Navigator.

A navigator is someone who knows where he is going: a kind of supersailor. Prince Henry never went far himself. But he was fascinated with sailing and mapmaking, and he inspired and encouraged others. Because of Henry, sailors, mapmakers, scientists, and mathematicians came to Lisbon, Portugal's capital. Everyone interested in exploration and the new sciences wanted to be there.

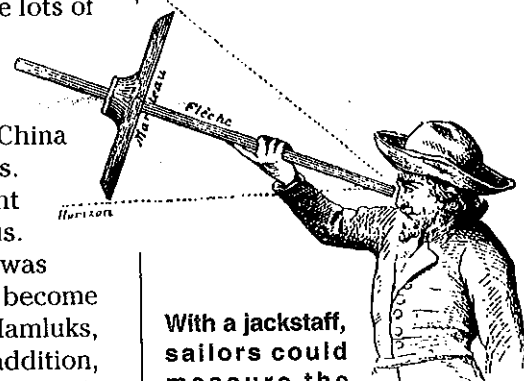
Prince Henry was a born explorer. He had an inquisitive mind. That means he was curious about the world around him and wanted to learn as much about it as he could. He also wanted power and riches for his country. He wanted his sailors to sail to China and Japan and India because they were thought to be the world's most advanced civilizations, and because they held gold and jewels and spices.

He wasn't the only one who wanted to get there. Most Europeans were wild to find a way to reach the Indies. (*Indies* was a catchall word for all the lands of East Asia.) And mostly because of a book. Almost everyone who could read had seen it. (At first there were only handwritten copies but then, thanks to Gutenberg, there were lots of copies.) The book was by Marco Polo, and it told of his trip to China (back in the 13th century). It told of golden palaces and jewels and wonders beyond imagining. Marco Polo had done some exaggerating—still, a few traders had been to China and brought back silks and spices and tales of splendid cities.

Whoever could find a fast, safe way to get to the Orient (another word for East Asia) would become rich and famous. Everyone agreed about that. But the only way to get there was by land, through Turkey and the Middle East. That route had become dangerous: rival Islamic empires—Ottomans, Turkomans, Mamluks, and Timurids—were fighting for control of the region. In addition, there were thieves who preyed on merchant caravans. (That doesn't mean they got on their knees to God. If you want to say that, you spell it *prayed*. If you spell it with an *e*, it means they robbed the caravans.)

Prince Henry was determined to have his sailors get to Cathay (China) by sailing around Africa, and finally the Portuguese did it. But one man dreamed of reaching China and the Indies by another, even faster, route. His name was Christopher Columbus.

**Do you notice** that the Chinese seem to have thought of a lot of things before Europeans did? The Chinese were weaving silk and making beautiful artifacts when most Europeans were still living primitive lives.



With a jackstaff, sailors could measure the Pole Star's distance from the horizon and find their position at sea.