



THE MAPMAKER'S BEST FRIEND

King Roger II and Al-Idrisi

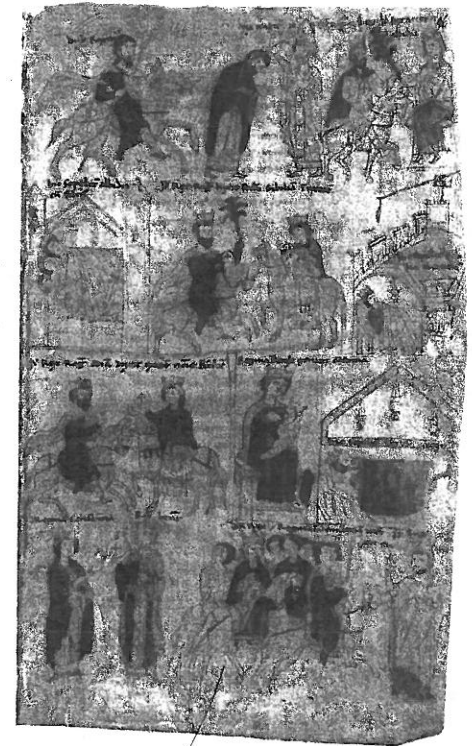
IT IS THE year 1145, and two men stare down at a drawing table in the royal palace of the kingdom of Sicily, amid the hot scent of lemon and orange groves. They are an unlikely pair. One is the large, hoarse-voiced king of Sicily, a Christian. The other man is a diplomatic, gentle-voiced scholar from North Africa, and a Muslim.

Although it is the time of the first Crusades, when Christian knights and Muslim warriors are hacking each other to pieces in the Holy Land, the king and the scholar are friends. The king gives money and support, gathering information from travelers, traders, and pilgrims. The Muslim is using this research to create the greatest map of the 12th century.

The king, Roger de Hauteville, born in 1095, was the grandson of Norman warlords, descendants of Norsemen who had wandered into Italy looking for things to steal and people to kill. Unlike the Normans who invaded England in 1066, these southern Normans quickly realized they could get a better grip on power, not by crushing the cultures of the people they had defeated, but by working with them and learning from them. In Sicily, the de Hautevilles joined

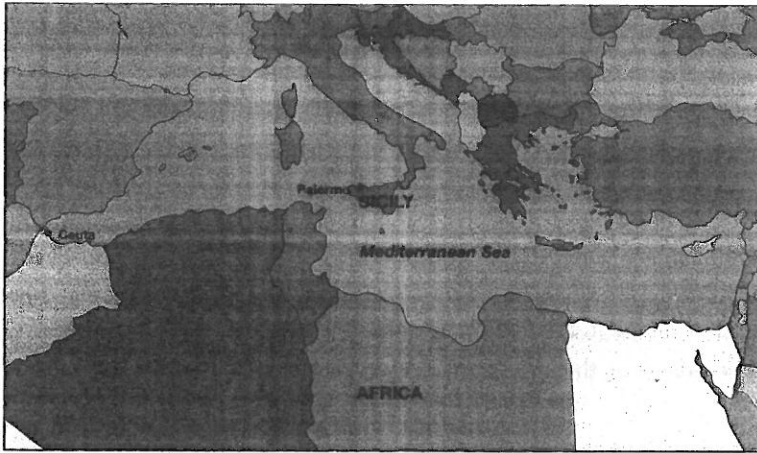
Christians and Muslims into a society that, for a few shining years, was the most multicultural, educated, and tolerant in Europe.

Roger II was almost five years old, studying under Greek and Muslim tutors in the palace at Palermo, when the man who would become his best friend was born in the Muslim city of Ceuta, at the western end of the Mediterranean. The boy was named (take a deep breath) Abu Abdallah Mohammed ibn-Muhammed ibn-Abdallah ibn-Idris al-Sharif al-Idrisi (sometimes it's "Edrisi" or "Edris"). *Al-Sharif* means "the noble"; unlike Roger's family, al-Idrisi's ancestors were true aristocrats, descendants of the Caliphs who ruled Malaga in Spain.



Set up almost like a comic strip, this illuminated manuscript shows important events in Roger's life, including his three marriages and his coronation as King of Sicily.

King Roger II and Al-Idrisi



Today's map of Roger's Sicily and al-Idrisi's Africa.

Al-Idrisi's schooling was even better than Roger's. He studied at the university in Cordoba, Spain. Then, like some hippie from the 1960s, he traveled Europe and North Africa, writing poetry. Perhaps al-Idrisi was also on the run from political rivals back home. In any case, he accepted a strange invitation that came his way in the year 1138 from the newly crowned Christian king of Sicily, Roger II. Al-Idrisi might have heard that this Roger was not like other Christians; he wanted to expand not only his empire but also his mind. Roger's court was becoming famous as a place where doctors, mathematicians, astrologers, and poets – many of them Muslim – held debates in the pleasure gardens and wrote in the shade of Roger's stone courtyards.

Did Roger want al-Idrisi's advice on expanding his power into Muslim lands? At its closest point, Sicily is only 150 kilometers (90 miles) from North Africa. Roger knew that whoever wanted to master the central Mediterranean Sea and its trade had to control that southern coast – and control the Muslim princes who were always plotting to win

back the orange and lemon groves of Sicily that the Normans had so recently captured from them.

Just three years before al-Idrisi arrived in Sicily, ambassadors from Byzantium and Venice complained to the Holy Roman Emperor about Roger. The Byzantines and Venetians wanted Roger to leave Africa to its "rightful" rulers – the other Christians. They mistrusted the Sicilian king; he spoke Arabic and, after capturing Muslim towns, usually let his Muslim subjects have their own courts of law and the freedom to practice their own religion. Roger just didn't act like a good Christian. Look at how he behaved when Baldwin, the Norman king of Jerusalem, sent emissaries to Sicily to beg Roger to conquer a North African kingdom and convert it. Roger's Christian warriors urged the king to act on this splendid idea. But Ibn al-Athir, an Arab who wrote a history of Roger's court, tells us that the king lifted his foot and farted, and then told his knights, "By my faith, here is better counsel than you give."

Other Christian rulers thought Roger showed too much respect for Muslims. When al-Idrisi arrived at the Sicilian court, as a sign of extra courtesy and favor, he was allowed to ride a mule into Roger's presence. The king, crowned in Byzantine-style with pendant pearls hanging down to his shoulders, stepped down from his throne and went forward to greet his guest. Muslim historians of Roger's court tell us that, before long, al-Idrisi was seated beside the king, where he could whisper in Roger's ear.

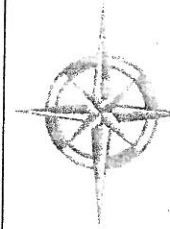
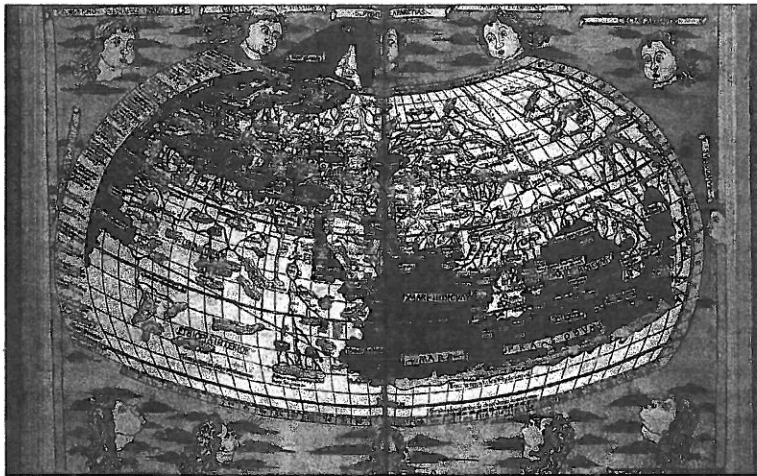
Some of their conversations were more public. Ibn al-Athir tells the story of how news arrived one day that Roger's expedition took the Muslim city of Tripoli and killed many Muslim defenders. The Christian knights cheered but al-Idrisi, seated at the king's side, showed no emotion. Roger turned to his friend and demanded, "Where was your god? Has he forgotten his people?" Al-Idrisi boldly replied, "If my God was far away, he was taking part in the capture of Edessa, which has just been taken by the Muslims from the Christians." The Christian

knights jeered and yelled. But the king said, "By God, do not laugh at him! This man always speaks the truth."

Indeed, the Christian king and his Muslim scholar-friend were so close, Sicilians gossiped that Roger had secretly converted to Islam. But the true basis of their friendship was that they were working together on Roger's grand project: the world's most beautiful and accurate map. It was to be made of silver, engraved with outlines of coasts and islands.

They started, as most medieval mapmakers did, with the writings of Claudius Ptolemy, the ancient Greek-Egyptian. But they weren't content to repeat his observations – or his errors. Al-Idrisi's own writings say that he and Roger also consulted Muslim geographers such as Ibn-Hawqal, who had visited Palermo around 872. After carrying out what al-Idrisi calls "an exhaustive and detailed investigation" of such geographical classics, the two mapmakers decided to launch their own independent inquiry.

All of Claudius Ptolemy's original maps are lost, but many later mapmakers tried to reconstruct them according to directions in his writings. This is from a German edition of the Cosmographia published more than 1,100 years after Ptolemy's death.



PTOLEMY

Claudius Ptolemy, a Greek living in Egypt, influenced mapmaking from his own lifetime (around 150 AD) until about 1500. His insights were more useful, and his mistakes more damaging, than any other ancient scientist. His maps had all disappeared by the Middle Ages, but some of his books survived.

One of his greatest works was his *Geographia*. This book explained scale – that is, showing distance and area accurately by having a large measure of distance equal a tiny measure of length on the map. Ptolemy told how the world could be divided into zones, or latitudes – from zones near the equator with a hot climate and 12 hours of daylight all year round, right up to the highest latitudes with a frigid climate and very short winter days. He explained that a grid of lines, running from north to south and east to west across the world, would let people reading maps locate any place, anywhere. Helpfully, Ptolemy even listed 8,000 places, with their coordinates, which later mapmakers consulted when they were drawing up their charts of the world.

Unfortunately, Ptolemy's two biggest errors held back science for more than 1,400 years. He was convinced that the Earth was the center of the Solar System and everything revolved around it. And he insisted that the Earth consisted mostly of land surrounding the vast Mediterranean Sea. It was not until the 1540s that Gerard Mercator finally cut Ptolemy's Mediterranean down to size, and the astronomer Copernicus showed that the Earth revolves around the sun.

The king ordered “experienced travelers”—sailors, traders, pilgrims — to come from all over his kingdom to Palermo for questioning. Then he and al-Idrisi compared these fresh reports with existing maps and, using an iron compass, sketched maps on a massive drawing board.

After years of research, the two were ready to proceed with the ultimate map. Another Muslim historian, al-Safadi, wrote that the king had 400,000 drams of silver brought to al-Idrisi, who ordered silversmiths to turn it into a silver sphere “like those in the heavens.” Roger was so pleased that, although his friend used only a third of the silver, the king told him to keep the rest.

The large, flat map, or planisphere, measured about 3.5 x 1.5 meters (11 x 5 feet) and weighed about 180 kilograms (400 pounds). But what this glittering object was made of was less precious than what was engraved on its surface — the outlines of the known world.

South is at the top of al-Idrisi's world map; turn it upside down and suddenly you recognize the Mediterranean and Black Seas, and even Arabia.



There are many problems with al-Idrisi's vision of the world. England is just a tiny blip floating off the coast of Europe. And Africa reaches to Antarctica — you cannot get to India by sailing around it. But the mapmakers got the Nile River right. The map shows how the Blue Nile flows from Ethiopia, and the White Nile flows from the Mountains of the Moon in central Africa (something British geographers didn't confirm until the middle of the 19th century). The map even sketches in Scandinavia and Japan. Like the ancient Greek geographers, al-Idrisi believed that the Earth was round, and calculated its circumference to be about 37,000 kilometers (23,000 miles) — it's actually more like 40,000 kilometers (25,000 miles).

The planisphere wasn't as sophisticated as Chinese maps of the time. But al-Idrisi was way ahead of the mapmakers of northern Europe, who were more concerned with showing the way to heaven than depicting the outlines of the Earth.

Al-Idrisi wrote a book to accompany his planisphere — *Nuzhat al-Mushtaq fi'kbtiraq al-afar* (*The Book of Pleasant Journeys into Faraway Lands*). Better known as *The Book of Roger*, it is an encyclopedia of information about the peoples of the known world, “their seas, mountains and measurements . . . crops, revenues and all sorts of buildings . . . and all the wonderful things relating to each.”

Again, the hardworking mapmakers got some things marvelously wrong. On the island of Wak-Wak, they report, trees grew talking fruits shaped like women's heads; all day, these fruits called out “Wak Wak!” *The Book of Roger* reported that the people of Norway were born neckless, and that “England is set in the Ocean of Darkness . . . in the grip of perpetual winter.”

After fifteen years of labor, in January 1154, al-Idrisi announced that the silver map and book were finally complete. But by now Roger was an old man. He died later that same year.

Within six years his kingdom began to fall apart. Roger's heir, King William the Bad, was no Roger. After his father's death, William couldn't defend Roger's African conquests, so cities such as Tripoli slipped back into Muslim hands. Thousands of Christians fled back to Sicily, where William hadn't paid much attention to ruling.



ANCIENT MAPS

The Romans worked on maps that tried to portray the world to scale, but none of them survive. What do survive are cartograms, maps in which the land is distorted to show how to get from A to B, for use by their armies and traders. One of these, the Peutinger Map, shows towns in the order in which you'd reach them as you marched along a Roman road. There are hardly any twists or curves, and Europe and the Near East are shown as if they are parallel, like guitar strings.

After the Roman Empire fell and life in the West became violent and chaotic, mapmakers made maps that drastically simplified their world. These maps were mainly diagrams to help people on the journey to heaven. Most were in what's known as the T-O design. Earth was a circle (the O) divided into three parts by a T of water – the Mediterranean, the Nile, and the Danube River. The holy city of Jerusalem is shown at the center of the world. Asia or the Orient is on top (which is why we say we "get oriented" when we find direction). Europe is on the left and Africa is on the right.

The monks who made these maps gave them amazing decorations. So, on many maps from the Middle Ages, you can't recognize the shapes of continents, but you can see saints, mermaids, and monsters.

On the morning of March 9, 1161, rebels stormed the palace, threw open the dungeons, and armed the prisoners. William and his family were put under guard. A mob from the streets of Palermo swarmed over the palace like locusts. Muslim scholars were hunted down in the halls and killed. Rioters started throwing books, documents, and tax records into a bonfire in the courtyard. Anything of value was carried away. The great silver planisphere engraved with a map of the world disappeared that day, and was never seen again.

What was also lost in Sicily that day was the idea of a kingdom where people of different faiths could live, debate, and study in peace. Roger's son and his family survived the riots and regained control over Sicily – but they turned their attention to staying secure inside their walls. Across Europe it was the same. The best minds of the Middle Ages closed against the outside world. People who wondered about what lay beyond their own horizons risked being condemned as heretics. Mapmaking turned into a question of how to portray the world to prove the supremacy of Christianity, and how many monsters you could draw to cover the blank spots that made up most of the map.

Luckily the rioters did not destroy al-Idrisi's other major work, *The Book of Roger*, with its draft maps. In fact, King William commissioned another book, *Gardens of Pleasure and Recreation of the Souls*, from his father's old friend. After writing it, al-Idrisi went home to Ceuta and grieved for Roger, his Christian friend who once shared his desire to understand the world. "The extent of his learning cannot be described," al-Idrisi wrote, "so deeply and wisely has he studied. . . . His dreams are worth more than the waking thoughts of most mortals." As al-Idrisi knew, a mapmaker's best friend is someone who is interested in the stories his maps have to tell.