

# THE MAN WHO KNEW EVERYTHING

THE STRANGE LIFE OF ATHANASIUS KIRCHER



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# ROME, 1655







he carriage rumbled through the maze of narrow, cobblestoned streets. As it passed by, people pointed and chattered. Queen Christina of Sweden, one of the most brilliant and fascinating women in all of Europe, had just arrived in Rome, and the whole city was clamoring to meet her. But the queen had refused all the invitations to glittering parties. Instead, she wanted to go to a museum.

Not just any museum, mind you—the Kircherian Museum, a collection of the most exotic, unusual, and awe-inducing objects the world had to offer.



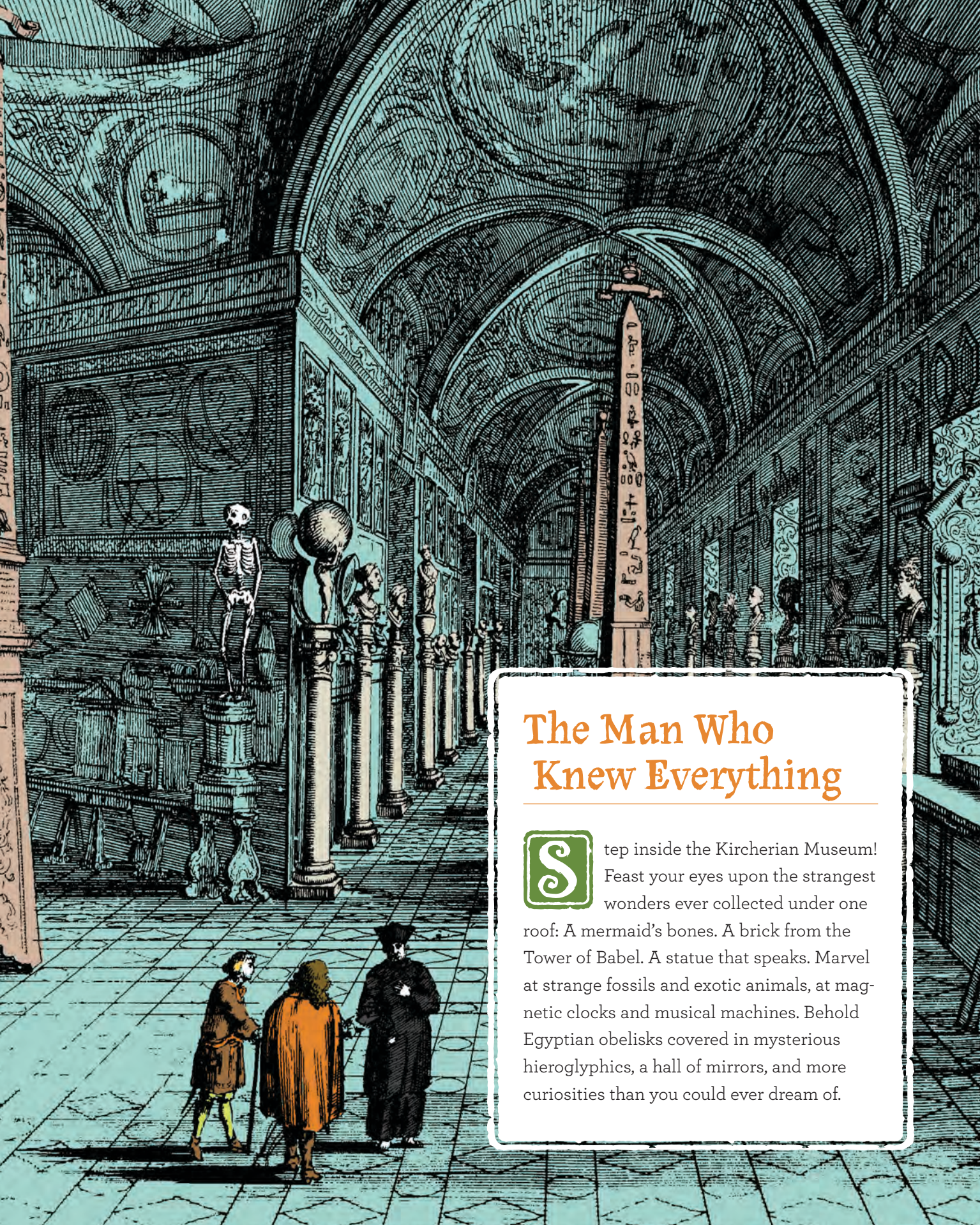


Finally, the queen's carriage stopped before a long, pale-pink marble building, and her coachman opened the heavy, gilded carriage door. A man in dark priest's robes stood by the building's massive carved entrance. But this was no ordinary priest. This was the most famous scientist in all of Europe.

"Athanasius Kircher," Queen Christina exclaimed as she raced up the steps toward him. "I've been dying to meet you."







## The Man Who Knew Everything

**S**tep inside the Kircherian Museum! Feast your eyes upon the strangest wonders ever collected under one roof: A mermaid's bones. A brick from the Tower of Babel. A statue that speaks. Marvel at strange fossils and exotic animals, at magnetic clocks and musical machines. Behold Egyptian obelisks covered in mysterious hieroglyphics, a hall of mirrors, and more curiosities than you could ever dream of.









How did the Kircherian Museum come to hold all these bizarre and fantastical objects? And who was its mysterious owner—the man Queen Christina had turned down all Rome’s wealthy and powerful to meet?

Athanasius Kircher was more than a scientist. He was a star. No single description could contain him. He was an inventor, an author, an adventurer. He published books on music, math, travel, and medicine. He built microscopes and machines. He spoke dozens of languages, and could break secret codes. He claimed to know what lay under the earth, why the sky was blue, and how to tell time using sunflowers and magnets. He had even descended inside an active volcano—and lived to tell the tale! People called him “The Man Who Knew Everything.”



Kircher was a curious man, living in a time when there were many more questions about the world than there were answers. And he believed that by asking the right questions, he could understand all the mysteries of the universe.

Did he always get it right? Not even close! His translations of Egyptian hieroglyphics were nonsense. His speaking statue was a fraud. He gave stories and myths the same weight as facts. Kircher was a showman as much as a scientist—closer to P.T. Barnum than to Albert Einstein. So how did he become his era’s biggest scientific celebrity, and why are people still fascinated by him today?



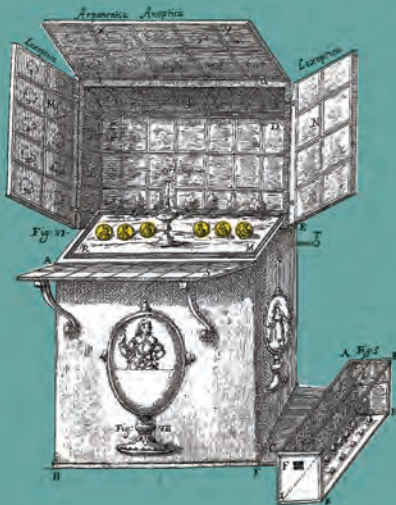
# The Wonders of the KIRCHERIAN MUSEUM

If you had visited the Kircherian Museum along with Queen Christina in 1655, here are some of the things you would have seen.



## THE VOMITING STATUE

A glass of water “vomited” by a statue of a lobster. For a different flavor, you could try the vomiting eagle or the spitting lady. The statues were funny, but they also demonstrated principles of hydraulics—the movement of liquid.



## THE BOX OF MIRRORS

Kircher would place a cat inside to see it spit, snarl, and try to bat away all the “other” cats. Or sometimes he would place a gold coin inside the box and watch people grab at reflections.

## THE FAN CLUB

Scholars, scientists, and other priests—more than 750 pen pals in all—wrote to Kircher from around the world with news of their discoveries and ideas. He displayed all their letters—a bit like an early version of Facebook.







## A BRICK FROM THE TOWER OF BABEL

This brick supposedly came from the mythical tower described in the Bible, which was said to have reached to the moon. If you asked Kircher, he would explain his calculations proving it wasn't really that high.

## THE HIDDEN SHOWER

Kircher loved a joke. On cloudless days, he might predict rain. When his guests scoffed, he'd pull a lever and release water over their heads.

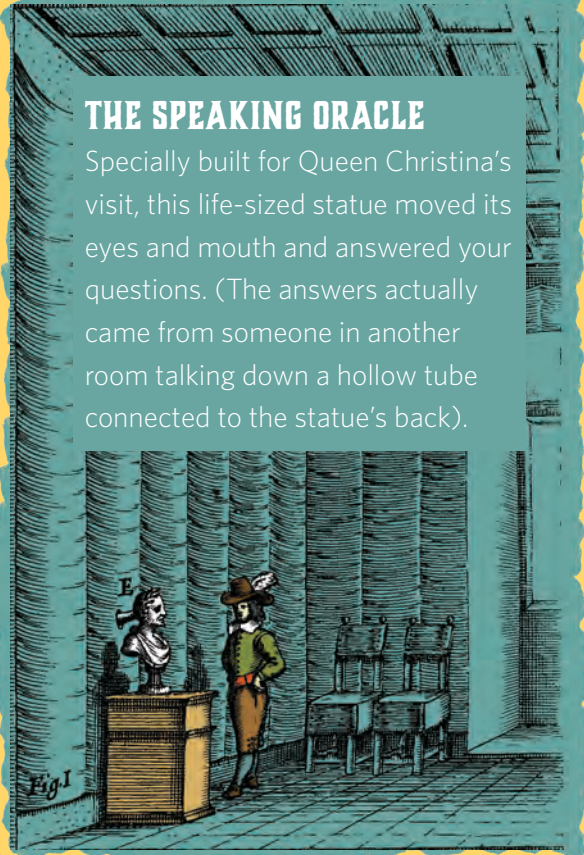
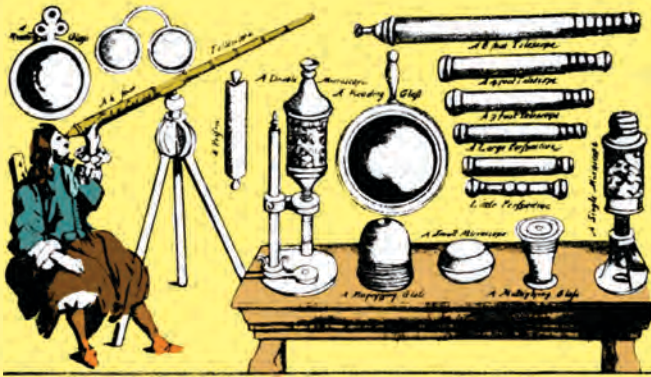


## THE LATEST SCIENTIFIC INSTRUMENTS

The museum had telescopes, microscopes, sundials, astrolabes, and globes. Special guests might even be allowed to try them out.

## THE SPEAKING ORACLE

Specially built for Queen Christina's visit, this life-sized statue moved its eyes and mouth and answered your questions. (The answers actually came from someone in another room talking down a hollow tube connected to the statue's back).



## VENOM-CURING SNAKESTONES

These rocks from India were rumored to be an antidote to snakebites: press the stone against a bite, and it would draw out the poison.

(There's no evidence it really worked.)



## BONES FROM A "RACE OF GIANTS"

In Kircher's time, no one knew that mastodons had once roamed Europe. He decided these old bones must have come from ancient supersized humans.







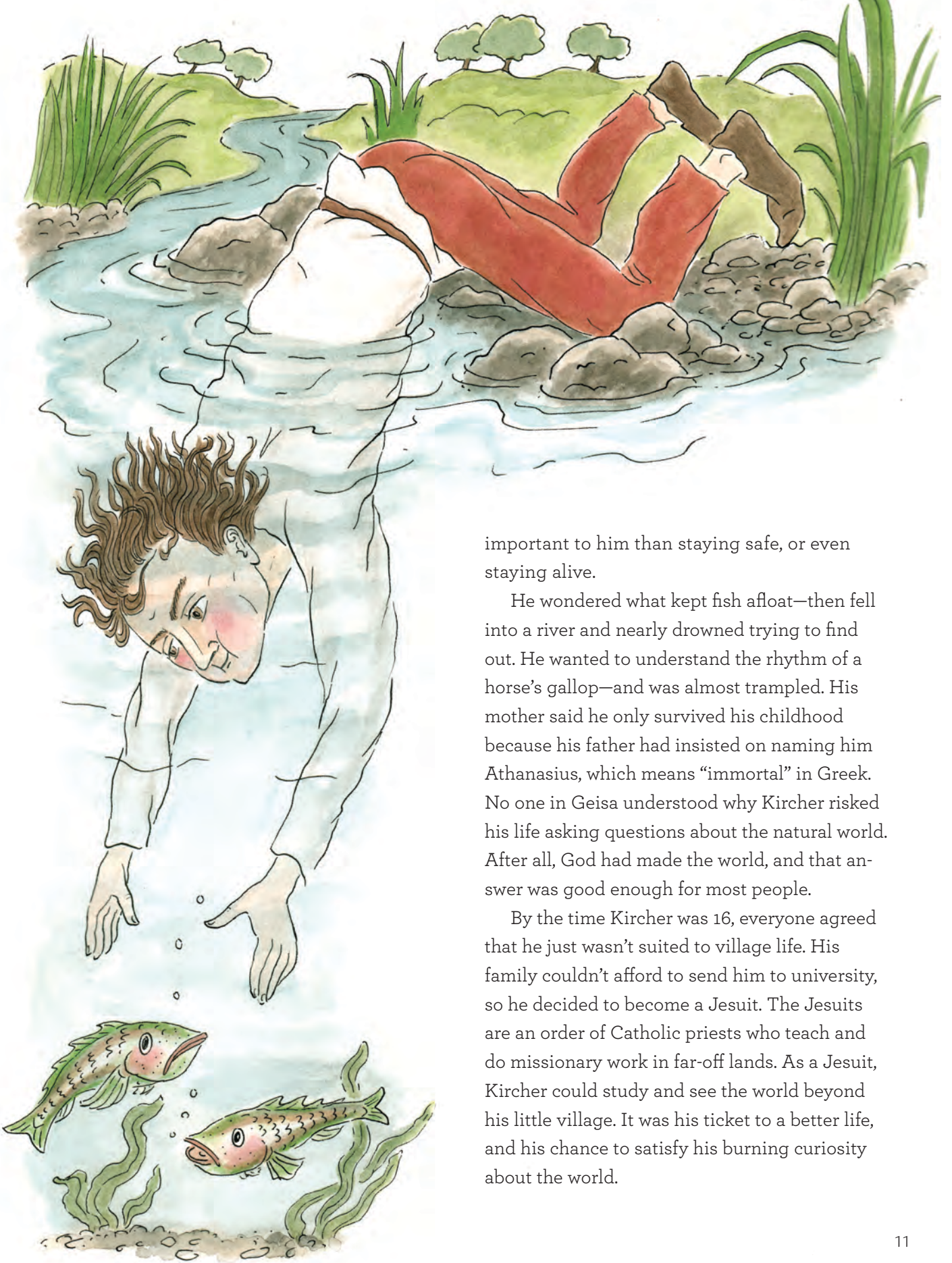
## Big Head, Big Ideas



athanasius Kircher was born in 1602, in the German village of Geisa. Like the others in the village, the Kircher house was part stable, part family home. Pigs and chickens rooted and clucked on the main floor. Upstairs, Kircher, his mother and father, and his eight older brothers and sisters slept and ate. Kircher wanted a better life. He dreamed of being a famous author, a scientist, or a scholar, instead of shoveling manure for the rest of his life.

Everyone in the village agreed that the youngest Kircher boy was special. For one thing, he was smart: before he was 12 years old he could read and write in Latin and ancient Greek. Kircher was different in other ways, too. He was insatiably curious about the world around him, asking questions about everything he saw. (His mother claimed it was because he was born with such a big head.) And he was reckless—finding the answers to his questions was more





important to him than staying safe, or even staying alive.

He wondered what kept fish afloat—then fell into a river and nearly drowned trying to find out. He wanted to understand the rhythm of a horse’s gallop—and was almost trampled. His mother said he only survived his childhood because his father had insisted on naming him Athanasius, which means “immortal” in Greek. No one in Geisa understood why Kircher risked his life asking questions about the natural world. After all, God had made the world, and that answer was good enough for most people.

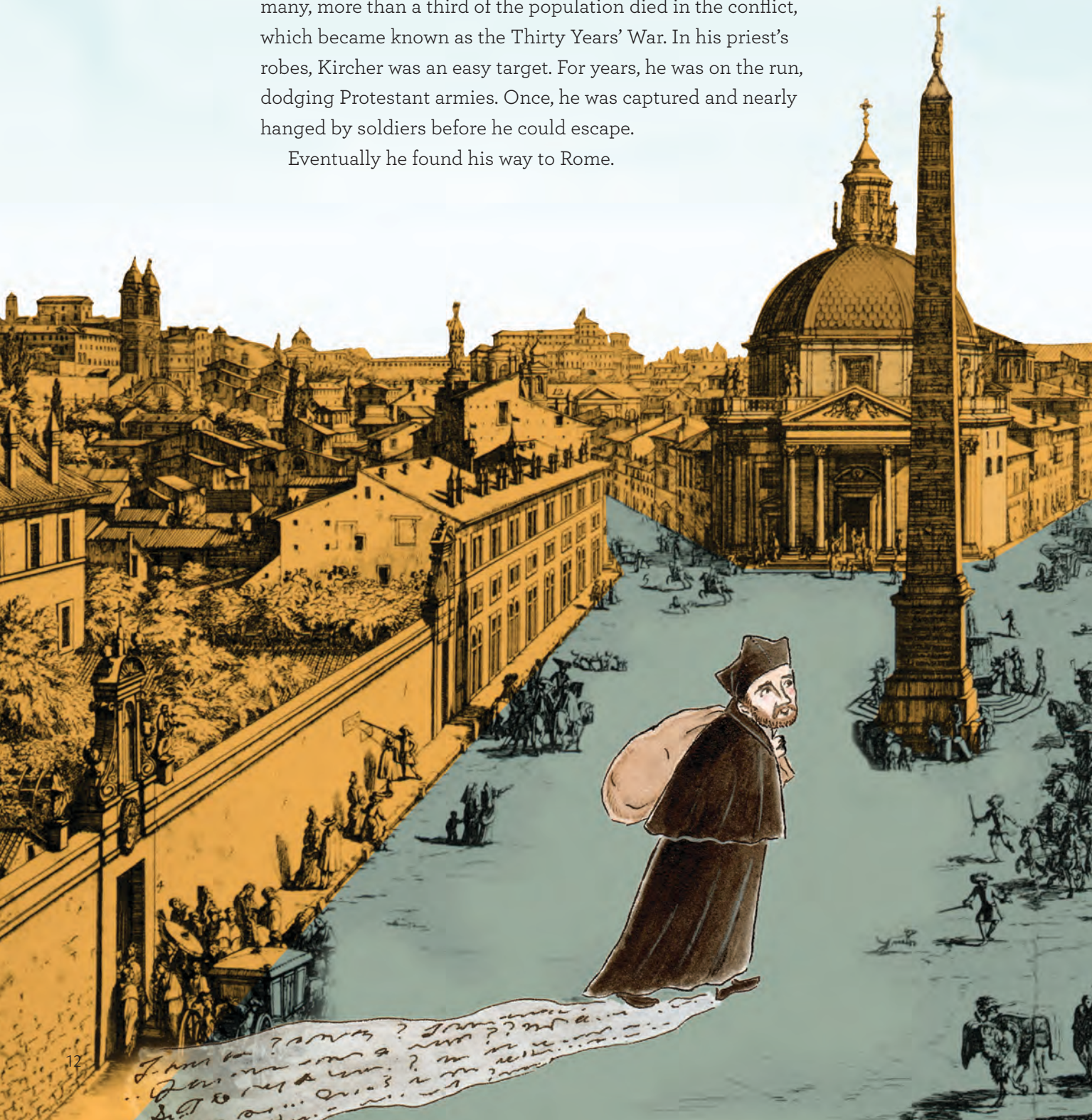
By the time Kircher was 16, everyone agreed that he just wasn’t suited to village life. His family couldn’t afford to send him to university, so he decided to become a Jesuit. The Jesuits are an order of Catholic priests who teach and do missionary work in far-off lands. As a Jesuit, Kircher could study and see the world beyond his little village. It was his ticket to a better life, and his chance to satisfy his burning curiosity about the world.



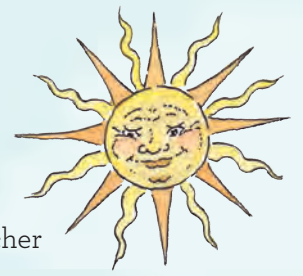
Then war broke out.

Not just any war, but a long, bitter religious fight between Catholics and a breakaway group called Protestants. In Germany, more than a third of the population died in the conflict, which became known as the Thirty Years' War. In his priest's robes, Kircher was an easy target. For years, he was on the run, dodging Protestant armies. Once, he was captured and nearly hanged by soldiers before he could escape.

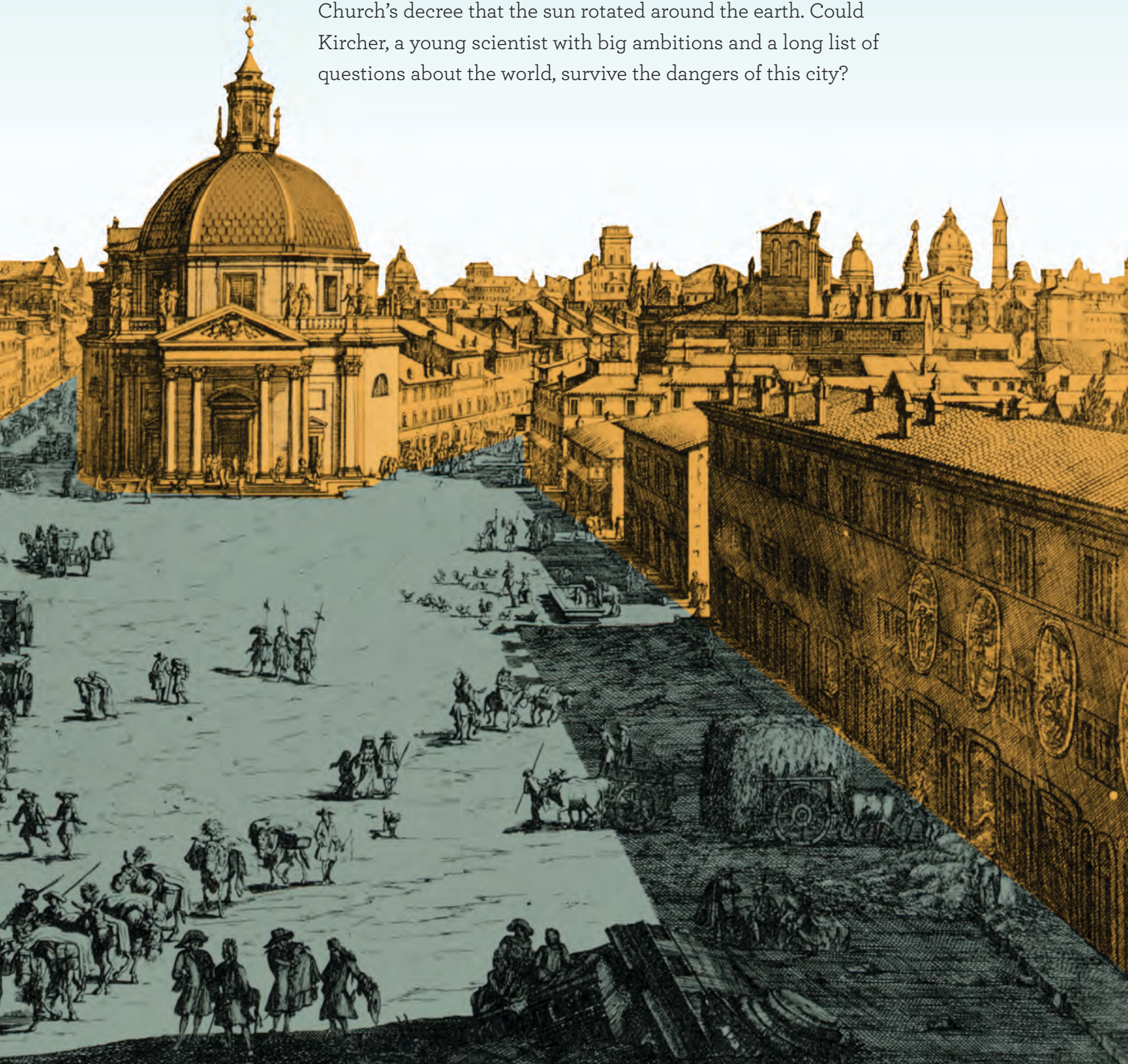
Eventually he found his way to Rome.







Rome! It was a center of learning, art, and science—and strictly controlled by the Roman Catholic Church. When Kircher arrived in 1633, another scientist had just been banished from the city for heresy—believing or saying things that went against the Church’s teachings. The Italian astronomer and physicist Galileo Galilei was thrown out for daring to disagree with the Church’s decree that the sun rotated around the earth. Could Kircher, a young scientist with big ambitions and a long list of questions about the world, survive the dangers of this city?







## Dangerous Times

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Kircher quickly got a job as professor of mathematics at the Roman College, a university for Jesuit priests. Reckless as ever, he didn't let that stop him from investigating anything and everything that interested him. And everything *did* interest him! From math to magnets, from music to medicine, from machines to miracles. Kircher soon became known as the expert with the answers.





## THE EARTH'S BIRTHDAY?

During Kircher's lifetime, most Europeans believed that the world was about 6,000 years old. In 1654, a Catholic bishop named James Ussher narrowed down the time of creation to 6 p.m. on October 22, 4004 BCE. Many scientists were skeptical about this strangely precise claim, but at the time there wasn't much evidence to disprove Ussher.





Kircher lived during a time we now call the Scientific Revolution. Scientists and scholars across Europe were beginning to challenge traditional beliefs and use observation and experiments to help them answer questions about the world. But their new ideas weren't accepted overnight.

Just as Protestants had challenged some of the beliefs of the Catholic Church, the new generation of scientists were questioning the

“facts” that were the foundation of many people’s view of the world.

When a Polish astronomer named Nicolaus Copernicus proposed that the earth rotates around the sun—not the other way around—and then Galileo’s work proved the theory, it turned the world upside down. As science challenged superstition and myth, people no longer knew what to believe. Were any of their traditional notions correct?





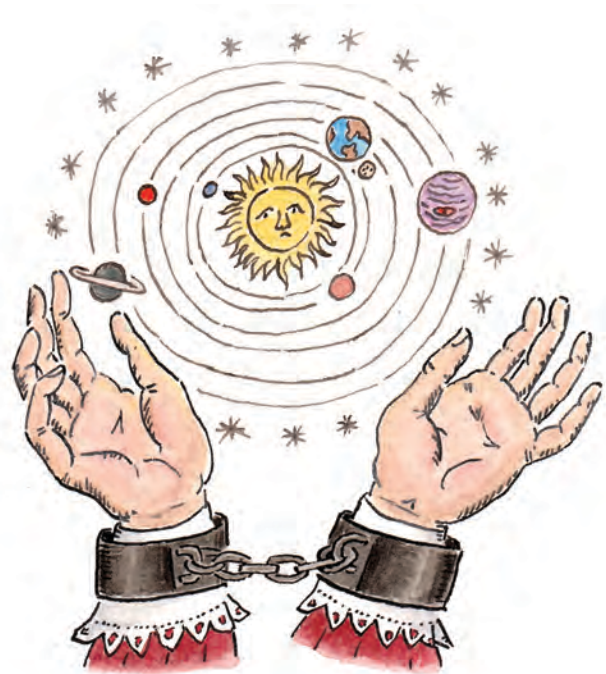
## DID I HEAR THAT RIGHT?

Kircher was fascinated with machines that transmitted sound. He built a giant megaphone, and on Saturday afternoons, he hauled it to the hills outside Rome and broadcast orders for everyone to go to church the next day. The first time he tried it, 2,000 people showed up at the local church. His message had been heard five miles away!





Worried that scientific ways of thinking might shake people's faith in God, the Catholic Church tried to stop the spread of dangerous ideas. They started the Inquisition. People with ideas that threatened the Church were arrested, put on trial, or even executed. Galileo wasn't the only scientist to suffer for his heretical ideas: just 50 years earlier, a scientist by the name of Giordano Bruno was burned at the stake.



## BURNING QUESTIONS

It wasn't just the Catholic Church that persecuted scientists. In 1553, a Protestant doctor named Michael Servetus, who first described the body's circulatory system, was burned at the stake in Geneva, Switzerland.

Kircher knew that if his ideas threatened the Church, he could be banished—or worse. But he wasn't used to playing it safe. Copernicus and Galileo had looked to the skies to find evidence for the earth's place in the cosmos. Kircher looked under his feet instead, and started asking some equally dangerous questions about the world. Were there hidden underground worlds below us? How was the earth constructed? What made the rivers run and the tides flow? How old was the earth? And how could Kircher begin to gather evidence about a part of the world he couldn't even see?