

BRILLIANT!

28

**CATHOLIC SCIENTISTS, MATHEMATICIANS,
AND SUPERSMART PEOPLE**

Written by David Michael Warren
Illustrated by Jaclyn Warren





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SECOND EDITION

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*To the grown-ups of tomorrow:
Xander, Luke, Jacob, Gemma, Lydia
and especially our precious
Jamie, Leo, and Jehanne.*

*May your wonder and curiosity
about the natural world
lead you to contemplate its cause.*

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Foreword

The book you are about to read is an amazing account of some of the most intelligent and gifted people who ever lived. Some are scientists or doctors. All of them cared about humanity and about nature. They made new and groundbreaking discoveries. They combined scientific genius with an eagerness to help others. In short, they were *Brilliant!* They were also Catholic. In fact, some of them are recognized by the Church as saints. They are examples for us not only because of their ingenuity, but also because of their faith, hope, and love.

If an invisible hand wiped their names from the pages of history, it would wipe out a great deal of our knowledge. We would not understand the age and formation of the Earth and the entire universe. We would not know the laws of plant and animal life, how stars form, or how our planet moves. Gone would be our modern calendar, our understanding of genetics, and many cures for horrible diseases. No one can turn back the clock and see what would have happened. Perhaps pioneers other than those you will read about in these pages would have made those discoveries. We will never know. But we do know that the contributions these twenty-five people made to human knowledge are irreplaceable. Their stories show us that intelligence and faith, science and holiness, do go together. In fact, they are made for each other.

In the pages to come, you will meet great Catholic scientists who believed in God. The work of Saint Albert the Great on plants and animals is known today as a groundbreaking masterpiece. The devout Frenchman Louis Pasteur founded microbiology and paved the way for modern medicine. The Belgian priest who saw Einstein's equations in a new way learned that the universe has been expanding from the moment of the Big Bang.

This book tells the truth. It is also illustrated with love and creativity. Each of the images tells a part of the story, capturing some unique aspect of that person. We can feel a bit of the awe, wonder, and joy of discovery that they must have felt as they set out to understand God's creation.

—Chris Baglow, PhD, director of the Science and Religion Initiative of the McGrath Institute for Church Life at the University of Notre Dame

Introduction

Have you heard these lies? You cannot be a true scientist and believe in God. Science proves that Christianity is outdated and mistaken. Certain parts of the Bible do not line up with modern science, so the whole thing is false and worthless. Not one of these statements is true.

A few years ago, my wife Jaclyn took her middle-school art class on a field trip to study mural paintings. One of her students saw a painting of Jesus and asked, “Why are we looking at paintings of God when he isn’t even real?” Jaclyn responded with her own question, “Why do you think God isn’t real?” His answer was short: “Because, science.” This view is fairly common. Recent studies show that many people today—even many Christians—believe that religion and science are opposites. Sadly, people feel forced to choose between the two. Some even leave their faith behind because they think they have to “choose” science. But it doesn’t have to be this way!

Students of science, math, philosophy, and religion are all searching for the same thing: truth! The same God who made the universe and all of creation also gave us logical minds so that we could use science and math. Scientific theories like the Big Bang and evolution don’t threaten the Christian faith at all. Some of the greatest scientists, mathematicians, and inventors of all time believed in God and lived out their Catholicism. There were popes who encouraged and even paid for cutting-edge scientific research. You’ll read about many of these supersmart innovators in this book.

Every biography and illustration in the following pages tells the story of a man or woman who was both devoted to God and influential in an intellectual field. Every one of them stands as proof that intelligence and faith can work together in a kind of harmony that leads to new discoveries that benefit the whole world. It’s worth noting that there are many, many more brilliant Catholic people than this book can contain. I bet you are one of them! So, don’t believe the lies. Don’t settle for any faith that tells you to turn off your brain. Ask the biggest questions you can so that you may find and know the Truth!

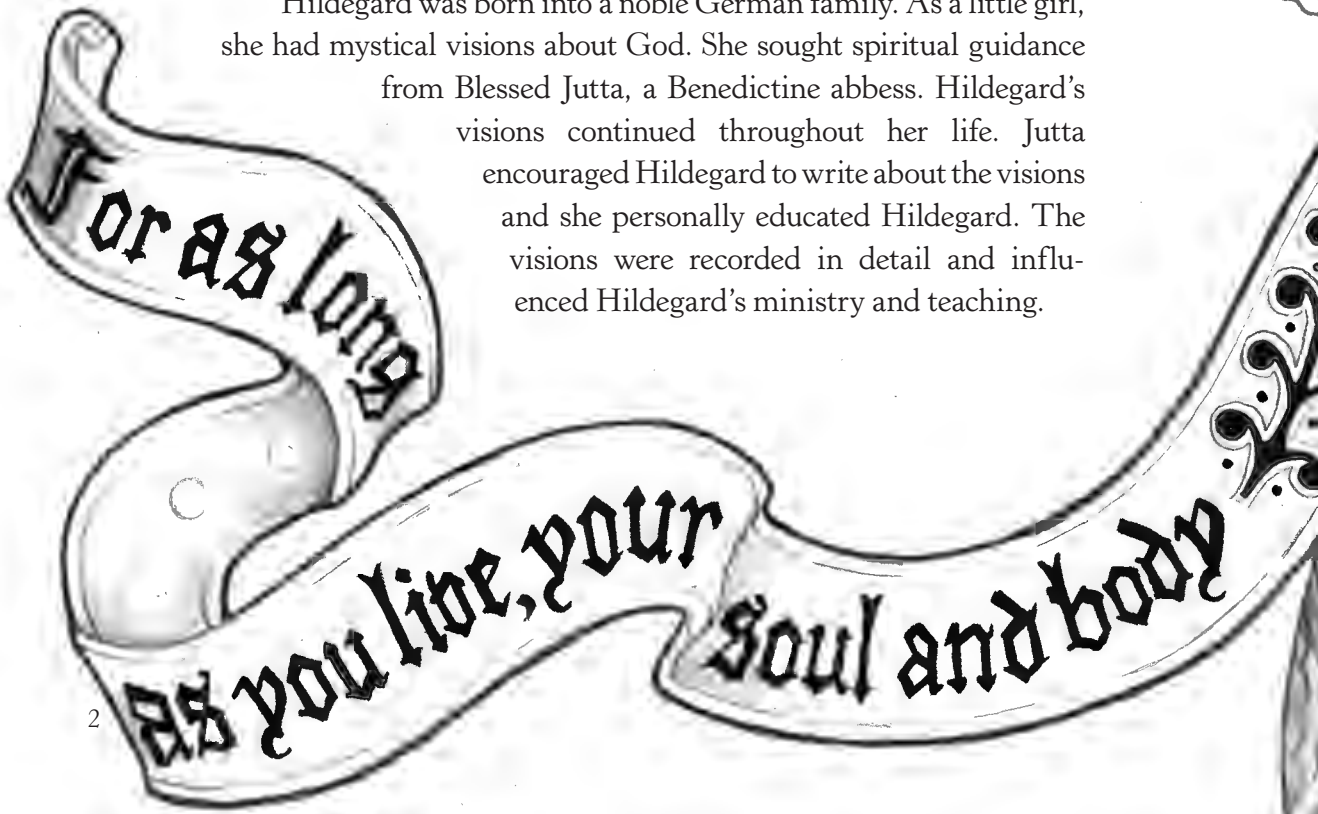
Saint Hildegard of Bingen

Philosopher, Pharmacist, Playwright, Musician, Botanist, Doctor of the Church

(1098–September 17, 1179)

How would people react if you claimed to see things that they could not? What if you spent countless hours staring at plants or writing in your own language? Would people think you were crazy? Hildegard did all these things, but she was not crazy—she was a visionary woman of immense talent and religious insight. She became the **abbess** of two monasteries, composed music, and practiced the art of herbal medicine. She also wrote much about God and the Bible. Eventually, she became a world-famous scientist, saint, and a **Doctor of the Church!**

Hildegard was born into a noble German family. As a little girl, she had mystical visions about God. She sought spiritual guidance from Blessed Jutta, a Benedictine abbess. Hildegard's visions continued throughout her life. Jutta encouraged Hildegard to write about the visions and she personally educated Hildegard. The visions were recorded in detail and influenced Hildegard's ministry and teaching.





By the age of fifteen, Hildegard entered the monastery at Disibodenberg, Germany. There, she devoted her life to God. She prayed and worked together with other nuns. For Hildegard, this commitment meant using study, art, and other creative outlets as tools to grow closer to God. Hildegard studied the Psalms carefully. She wrote at least sixty-nine pieces of music based on them. Today, these songs make up one of the largest collections of music from the Middle Ages. Hildegard also wrote the first-known morality play, *Ordo Virtutum*. This kind of play teaches a valuable lesson. She developed a secret language, *lingua ignota*, with its own vocabulary and rules of grammar.




Hildegard was gifted in science. She knew medicine and **botany**. She studied herbs and their medicinal effects. Skilled at treating illnesses, Hildegard helped sick patients in the monastery's hospital. She wrote two long books about medicine: *Physica* and *Causae et Curae*. She also stressed the importance of spiritual healing.

Hildegard understood that both females and males have the same human dignity. Both are made in the image and likeness of God. This is different than what most people believed at the time. She also wrote about God's love, the relationship between soul and body, and the Eucharist.

By the time of her death in 1179, Hildegard had done several notable things. At the age of thirty-eight, she became the **prioress** of the Disibodenberg monastery. Later she founded a new monastery at Bingen. She stood up to an anti-Catholic emperor named Frederick Barbarossa. She also stood up to a group who taught false information about Christianity. Hildegard left behind a collection of mystical writings that are still valuable to read today. For her great scientific gifts, many Germans call Saint Hildegard the founder of scientific natural history. In 2012, Pope Benedict XVI canonized Hildegard a saint and declared her a Doctor of the Church. We celebrate her feast day on September 17.





GOD - THE
MOST TRUE
MOST SWEET
MOST POWERFUL
FROM ETERNITY
CAN BE KNOWN
THROUGH HIS
EFFECTS

Saint Albert the Great

Patron of Scientists and Philosophers

(c.1200–November 15, 1280)

Imagine if a single person wrote an encyclopedia's worth of knowledge, discovered a new chemical, translated Greek philosophers, and won almost every argument he ever had. It would be fair to think that this person was a natural-born genius or had some secret explanation for his amazing intellect. Well, Saint Albert the Great (also known as Albertus Magnus) was not born a genius. He worked very hard before he earned the nickname "Teacher of All Things." Albert did have an explanation for his intellectual breakthroughs other than hard work: the Virgin Mary.

Albert was born in Germany and studied at the University of Padua. In 1223, Blessed Jordan of Saxony suggested that Albert join the Dominicans. Albert did so, but his smart peers made him feel overwhelmed. He prayed to the Blessed Virgin for help. He asked for knowledge, firm faith, and speech that would lead people to Christ. His prayer was answered. Albert grew in knowledge and boldness. After he completed his studies, he became a respected teacher in Germany. He commented on the works of Aristotle, an ancient Greek philosopher (384–322 BC), and taught people how to understand them.

Albert gave speeches and engaged in debates. He met teachers who taught things against the Catholic faith and he faced attacks from intellectual people. Albert worried that his faith would be shaken. Again, he turned to Mary in prayer. Mary told him that he would not lose his faith. She also said that he would be given a sign when his death was near. He would know that his life was coming to an end when he lost his gift for public argument. His confidence was restored.

Albert was also very interested in the natural sciences. He wrote scientific papers about the stars, the Earth, plants, and animals. He conducted experiments with **silver nitrate** and other chemicals. Albert was the first to discover the dangerous chemical known as **arsenic**. He was intrigued by falcons and wrote about them at length in a large book about animals. In addition, Albert spent long hours studying bees and their behavior. His writings, which fill up thirty-eight volumes, are like an encyclopedia of information. His work is still impressive eight hundred years later.

In 1245, Albert became the first German Dominican to hold the title of Master of Theology. He became a professor at the University of Paris. He taught many scholars, including the young Saint Thomas Aquinas, who became one of the Church's greatest theologians. Aquinas was often teased in class because he didn't say much and had a large body-build, but Albert saw something special in him. Albert said, "You call this young man a dumb ox, but I tell you, one day this ox will bellow so loud that it will resound throughout the whole world!" Of course, Aquinas became a wonderful teacher and fellow saint!

Albert spent countless hours in adoration before the Blessed Sacrament. His friends often found him praying and thinking deeply near the Eucharist. Albert became a bishop in 1260. He only traveled by foot and refused to ride a horse. He earned a second nickname,

“Bishop Boots.” Being a bishop did not last long. Albert convinced the pope that he could better serve the Church as a problem-solver. He spent his time helping people sort out their differences.

In the late 1270s, Albert recognized the sign of his approaching death that Mary had told him about years before: he lost a public debate. He understood that this meant he could return to God like a simple child. He left these words for his students, “Strive with all your powers . . . that you may attain the knowledge of [Jesus’] Divinity through the wounds of His Sacred Humanity.” He passed away in a Dominican friary in Cologne on November 15, 1280.

Today, interest in Albert remains strong. Readers can find references to him in Dante Alighieri’s *Divine Comedy*, Mary Shelley’s *Frankenstein*, and even J. K. Rowling’s *Harry Potter* series. Albert was named a saint in 1931 and given the title Doctor of the Church. Many schools are named after him today.

