



Reason and Magic

*The Hidden Lives of the People Who Built the Modern
World, and What They Knew That We Forgot*

*The scientists, poets and physicists who never
split reason from magic*

BY

DAREN READS

Reason and Magic

The Hidden Lives of the People Who Built the Modern World, and What
They Knew That We Forgot

by Daren Reads

© Daren. All rights reserved.

This is an original work.

darenreads.com

Contents

The False Split	5
Isaac Newton	7
Carl Jung.....	9
Nikola Tesla.....	11
Steve Jobs	13
Leonardo Da Vinci.....	15
Ronald and Nancy Reagan, the Astrologer in the White House	17
Arthur Conan Doyle, Who Invented Sherlock.....	19
Johannes Kepler, the Astronomer Who Cast Horoscopes.....	21
W. B. Yeats, the Poet in the Magic Order	23
Srinivasa Ramanujan, the Mathematics of a Goddess.....	25
Wolfgang Pauli, the Nobel Physicist and His Dreams.....	27
John Dee, the Queen's Wizard	29
What They All Knew.....	31

*For anyone who was taught that reason and
magic are enemies. The people who actually
shaped the world never believed that for a second.*

The False Split

We were handed a tidy story about how the world works, and the story goes like this. On one side there is reason: science, logic, evidence, the cold clean machinery of thought that built the modern world. On the other side there is magic: astrology, alchemy, intuition, mysticism, the embarrassing superstitions that grown-ups outgrow. The two are opposites. You pick a side. And the smart, serious, successful people, obviously, picked reason and left the magic behind.

It's a clean story. It's also almost entirely false, and the proof is hiding in plain sight, in the actual lives of the people who built the thing we live inside. Because when you look closely, really closely, at the minds that gave us modern physics, modern psychology, modern mathematics, modern technology, you find something the tidy story can't explain. Almost none of them split reason from magic. They held both, often at the same time, with the same hand. The man who gave us gravity spent more of his life on alchemy. The doctor who mapped the unconscious cast horoscopes for his patients. The genius who saw the equations of the universe believed a goddess whispered them to him in his sleep. These were not lapses, not embarrassing hobbies to be hidden. The non-rational was often the very place their genius came from.

Here's the idea this whole book turns on, and you've maybe felt it without ever quite saying it. The greatest scientists often reached their theories through deeply artistic, intuitive, almost mystical

leaps, and the greatest artists often got their craft down to a precise and ruthless science. The line we draw between the rational and the magical, between the head and the gut, between proof and intuition, is a modern invention, and it would have baffled the people who actually did the work. They moved freely across it, because they understood something we've forgotten: that the mind has more than one way of knowing, and that the biggest leaps almost always come from the way we're now taught to be ashamed of.

So this is a book of surprising lives. Not to convince you that astrology is true or that alchemy works, because that's not the point and I won't pretend it is. The point is stranger and more useful: that the people we hold up as the patron saints of pure reason were, almost to a person, also magicians, mystics, dreamers, and believers, and that this was not despite their genius but woven right through it. Let me introduce you to a few of them. Start with the most famous rationalist of them all.

Isaac Newton

Isaac Newton is the closest thing science has to a founding god. He gave us the laws of motion, the theory of gravity, the mathematics that put men on the moon. If anyone ever embodied pure, cold reason, surely it was him. Except that when scholars finally went through the millions of words Newton left behind, they found something that embarrassed his admirers for centuries and got quietly buried. Newton spent more of his life, and more of his ink, on alchemy and the search for hidden, occult laws than on the physics we remember him for.

He was not dabbling. He spent decades in his laboratory trying to turn base metal into gold, hunting for the philosopher's stone, decoding what he believed were secret truths encrypted in ancient texts. He wrote roughly a million words on alchemy alone, and millions more on biblical prophecy and hidden chronology, far outweighing his strictly scientific output. The great economist who later bought Newton's private papers read them and was so shaken that he said Newton was not the first of the age of reason, but the last of the magicians, the last great mind to look at the whole universe, the visible and the invisible, as one giant riddle left by God to be solved.

And here's the part that should rearrange your whole picture. Newton's "magic" was not separate from his science. His willingness to believe in mysterious forces acting invisibly across empty space, the kind of thing his strictly mechanical contemporaries found absurd and occult, is exactly what let him

propose gravity, a force that reaches across the void with no visible cause, no rope, no contact, just action at a distance, which sounded like sorcery and turned out to be true. The same mind that hunted for hidden occult powers was the mind open enough to see the most important hidden power of all. The wizardry and the physics were the same searching. We kept the half we approve of and hid the half we don't, and in doing so we lost the truth of how he actually thought.

Carl Jung

Carl Jung is one of the founders of modern psychology, the man who gave us the words we still use, introvert and extrovert, the unconscious as a force in everyday life, the idea that there are deep shared patterns running underneath the human mind. He was a physician, a clinician, a scientist of the soul. And in his actual clinical practice, when a patient's case was especially knotted and resistant, Jung would sometimes do something his modern admirers find acutely embarrassing. He would cast their astrological birth chart, to get, as he put it, a further point of view.

He was completely open about it. He studied astrology seriously for decades, corresponded about it, ran his own informal experiments, and described it not as a way to predict the future but as a kind of mirror, a symbolic map of the psyche, the accumulated psychological wisdom of the ancient world preserved in the language of the stars. He thought the planets were, in a sense, the old gods, which were really symbols of the deep forces moving inside us. To Jung, astrology was wrong if you took it as physics and profound if you took it as a language, a rich old vocabulary for the parts of a person that ordinary clinical words couldn't reach.

And this connects to his strangest and most daring idea, the one that got him in the most trouble with the scientific establishment: that meaningful coincidences, two unrelated things lining up in a way that lands like fate, are not always just

chance, that mind and world might be linked in ways our cause-and-effect picture misses. You can think that's brilliant or think it's nonsense, and serious people land on both sides. But notice what it represents. Here is a founder of a modern science deliberately walking back across the line into the territory of meaning, magic, and fate, not out of ignorance but out of the conviction that the rational map had left something real off the edges. Jung did not believe reason and magic were enemies. He spent his life trying to introduce them to each other, certain that a mind using only one of them would only ever see half of what is there.

Nikola Tesla

The man who did more than almost anyone to electrify the modern world, who dreamed up the system that still carries power into your home, was a strange and haunted genius named Nikola Tesla, and the way his mind actually worked looks far less like a logic engine and far more like something out of a vision. Tesla did not design his inventions on paper the way other engineers did. He saw them. Whole machines would appear to him in vivid, involuntary flashes, fully formed, so real and so detailed that he claimed he could build them in his mind, run them, and even inspect them for wear before he ever touched a tool.

He was, by his own account, flooded with these visions his whole life, blinding flashes of light, scenes that overlaid themselves on the room in front of him, an inner world so vivid it sometimes frightened him. He was driven by intense compulsions, especially around the number three, circling a building three times before entering, needing things in counts divisible by three, rituals he could not explain and could not stop. And he came to believe, more and more as he aged, that he was tuned to something larger, that his ideas came to him from outside, that he was a kind of receiver picking up signals from the universe, and late in life he even thought he might have detected signals from other worlds.

We file Tesla under science, and rightly, his work was real and it changed everything. But the engine of that work was not the cool deductive reason we put on the pedestal. It was vision, obsession,

intuition so intense it bordered on the mystical, a mind that received its greatest gifts rather than calculating them. The rigorous engineering came second, the necessary discipline of turning the vision into copper and steel. But the vision came first, unbidden, from somewhere he himself did not fully understand and was content to call the universe. The light in your room was lit by a man who saw it in a trance first. Even our most electric reason runs, at its root, on something we don't have a rational word for.

Steve Jobs

Bring it all the way to now, to the device you are very possibly reading this on, and you find the same pattern wearing modern clothes. The man behind the most influential technology company of our age, who obsessed over engineering and circuit boards and the precise radius of a corner, built his entire approach to creation not on raw analysis but on something he learned sitting on a cushion in silence. Steve Jobs was a serious, lifelong student of Zen Buddhism, and he credited his deepest creative power not to his intellect but to his intuition.

This was not a passing phase. As a young man Jobs traveled to India searching for spiritual truth, came back and practiced Zen meditation seriously for the rest of his life, and came to believe that the discursive, calculating mind was actually the obstacle, that quieting it through meditation let a clearer and more powerful kind of knowing rise up. He said plainly that intuition was more powerful than intellect, and that this conviction had shaped his work more than anything else. The famous leaps, the refusal to do the market research everyone insisted on, the bet-the-company decisions made on a feeling about what people would want before they knew they wanted it, came from that trained intuitive sense, not from spreadsheets.

So the most celebrated product designer of the modern world ran, at his core, on a discipline most people would file under mysticism. He paired it with ferocious attention to craft and detail, the science of the thing, the thousand rational decisions

that turn a feeling into a working object in your hand. But underneath the engineering was the cushion, the silence, the trained intuition, the conviction that the quieted mind reaches truths the busy calculating one cannot. Even here, at the bright humming center of the technological age, the pattern holds. The breakthroughs came from the marriage of the rigorous and the intuitive, and the partner we're trained to dismiss was doing the leading.

Leonardo Da Vinci

Walk into the mind of the man many consider the most complete genius who ever lived, and you cannot find the seam between art and science, because there isn't one. Leonardo da Vinci painted the most famous picture in the world, and he also dissected corpses by candlelight to understand how muscles move, designed flying machines and war engines, studied the flow of water and the growth of plants and the geometry of light, and filled thousands of notebook pages where a study of a swirling current sits beside a sketch of a face beside a mechanical gear, all of it one seamless investigation.

This is where our governing idea comes home most clearly. We're taught that artists feel and scientists think, that one side is intuition and beauty and the other is logic and measurement, and Leonardo simply did not live in that divided world. He got his art down to a science, studying anatomy and optics and proportion with a rigor that would shame a modern laboratory, because he understood that to paint a hand truly you must know exactly how it is built. And he did his science as an art, approaching the machinery of the body and the world with a draughtsman's eye and an aching sense of their beauty, because he understood that to understand a thing you must first be moved enough to look at it with total attention. The precision served the wonder, and the wonder drove the precision.

That is the whole secret this book has been circling, embodied in one person. The greatest work does not come from choosing

between the rigorous mind and the intuitive, feeling, almost mystical one. It comes from refusing the choice. Leonardo was a scientist who used artistic ways to see, and an artist who got his craft down to a science, and the two were not balanced against each other like rivals, they were fused into a single way of being awake to the world. We have spent centuries teaching people to pick a side, to be either the analytical one or the creative one, the head or the heart. Leonardo is the standing proof that the pinnacle of human ability has always lived exactly where we refuse to let people stand: in both at once.

Ronald and Nancy Reagan, the Astrologer in the White House

Now leave the labs and the studios and walk into the most powerful office on earth, because the pattern reaches even there, and more recently than you'd guess. In the 1980s, for a stretch of years, the schedule of the President of the United States, the timing of major announcements, of foreign travel, of speeches, even of when Air Force One would take off and land, was quietly being checked against the stars by a professional astrologer.

It started, as these things often do, with fear. After Ronald Reagan survived an assassination attempt early in his presidency, his wife Nancy, terrified of losing him, turned to an astrologer she trusted, a woman in San Francisco, and began consulting her about which dates were safe and favorable for the president's most important moves. This was not a rumor. It came out publicly through the memoir of Reagan's own chief of staff, who described, with some exasperation, how he had to arrange the most consequential business of the nation around a horoscope drawn up by someone he had never met, and how almost every major move was cleared against the timing of the planets first.

Now you can read this as foolish, and plenty did, and there is a real caution here that I won't skip past, because letting fortune-tellers steer your decisions is a genuine way to give your life away, and we'll come back to that. But notice the simpler fact underneath the scandal. At the very summit of modern rational power, in the most fact-driven, hard-nosed institution we have,

in living memory, the old magic was right there in the room, consulted, trusted, shaping history. It never left. We tell ourselves the modern world ushered the stars and the spirits out the door, and the truth is they walked straight into the West Wing. The split between our reason and our magic was never as clean as the story claims, not in a medieval workshop, and not in the White House.

Arthur Conan Doyle, Who Invented Sherlock

Here is the most delicious contradiction in the whole book. The author who gave the world its most famous symbol of pure cold logic, the detective who solves every case through ruthless observation and deduction and has no patience for the supernatural, was in his own life one of the most devoted believers in spirits and the afterlife who ever lived. Arthur Conan Doyle created Sherlock Holmes, the patron saint of rationalists, and then spent the last decades of his life as a passionate evangelist for spiritualism, convinced the dead could speak to the living and that he had proof.

It went remarkably far. Conan Doyle attended séances, championed mediums, wrote book after book defending communication with the dead, and toured the world preaching it, pouring his fame and fortune into the cause. Most famously, he became convinced that two young girls had photographed real fairies at the bottom of their garden, and he defended the photographs publicly, in print, as genuine evidence of supernatural beings, even as skeptics pointed out they looked exactly like paper cutouts, which, decades later, the women admitted they were. The creator of the world's most skeptical mind had been beautifully, completely taken in.

It would be easy to laugh, and people did. But sit with the strangeness instead, because it tells you something true about how a mind works. The same imagination that could build a

flawless logical machine like Holmes was an imagination hungry for wonder, for meaning, for a universe with more in it than matter, and that hunger did not make Conan Doyle stupid, it made him human, and it sat in the very same skull as the logic. We want to believe people are one thing, the rationalist or the believer, and almost no one is. The man contained both at full strength, the cool deductive genius and the desperate, tender, credulous longing for the dead to not be gone. Reason and magic were not at war in him either. They were roommates, as they are in nearly everyone, if you look honestly enough to admit it.

Johannes Kepler, the Astronomer Who Cast Horoscopes

When modern astronomy was being born, dragged out of the medieval world into the light of real measurement, one of the people doing the dragging was a man named Johannes Kepler, who figured out that the planets move in ellipses and wrote the laws of planetary motion that Newton would later build on. He was, by any measure, one of the founders of modern science. He was also, for his entire career, a working astrologer who cast horoscopes for emperors and nobles and got paid for it.

It's tempting to explain this away, to say he only did the astrology to pay the bills while his real mind was on the science. And there's a little truth in that, he was poor, and the horoscopes brought money, and he was sometimes sharply critical of the cruder astrology of his day. But it's too easy. Kepler genuinely believed the heavens and human life were connected, that the patterns above meant something, and he spent real intellectual effort trying to put astrology on a sounder footing rather than throwing it out. He once called astrology the foolish little daughter of the wise mother astronomy, and his point was not that the daughter should be abandoned, but that the wise mother would starve without the daughter's earnings, that the two were bound together, family.

What you're looking at, in Kepler, is the actual birthplace of modern science, and it is not the sterile, disenchanted thing we were taught to imagine. It is a man gazing at the sky with the

precision of a mathematician and the wonder of a mystic, convinced that the universe was a divine harmony, a piece of music written in geometry, and that finding the laws of the planets was an act of reading the mind of God. The cold equations and the warm mysticism were not at war in him. The mysticism, the conviction that there was a deep hidden harmony to find, was the fuel. He did the brutal arithmetic, years of it, because he believed there was a sacred pattern at the end of it. Take the wonder away and you take away the reason anyone would ever do the work.

W. B. Yeats, the Poet in the Magic Order

We expect poets to be dreamers, so it's less of a shock, but it's worth seeing how far it actually went, because the greatest poet of the modern English language did not merely flirt with the mystical, he organized his entire life around it. William Butler Yeats won the Nobel Prize for literature and is regularly called the finest poet of his century. He was also, for decades and in deadly earnest, a practicing occultist, a member of a secret society of ritual magic, who took his magic at least as seriously as his verse, and arguably more.

Yeats joined a famous order dedicated to ceremonial magic, studied its rituals and symbols, rose through its grades, and treated the whole enterprise not as a hobby but as the central work of his life. He once said the mystical life was the center of everything he did and everything he thought and everything he wrote. His marriage deepened it rather than ending it: his wife discovered a gift for automatic writing, letting her hand produce messages she said came from unseen instructors, and the two of them spent years recording these communications, out of which Yeats built an entire mystical system of history and personality and the turning of the ages, which he then poured back into some of the most powerful poems ever written.

Here is the point, and it cuts against everything we assume about where great art comes from. We like to imagine the poems were the real achievement and the magic was an eccentric private indulgence on the side. But Yeats would have rejected that

completely, because for him the magic was not on the side, it was the root, the soil the poems grew out of, the source of the symbols and the visions and the whole strange architecture of his imagination. The art and the occult were one thing. He got his craft down to an exacting science of rhythm and image, and he reached for that craft into a world of spirits and symbols and ritual, and the two together made the work immortal. Take away the magic and you don't get a more rational Yeats. You get no Yeats at all.

Srinivasa Ramanujan, the Mathematics of a Goddess

In a poor town in southern India, around the turn of the twentieth century, a young clerk with almost no formal training started filling notebooks with mathematics so strange and so advanced that when he finally mailed some of it to the great mathematicians of England, one of them assumed at first it must be a hoax, because no one could simply produce results like these out of nowhere. His name was Srinivasa Ramanujan, and he is now considered one of the most extraordinary natural mathematical geniuses who ever lived, a man who saw truths about numbers that the rest of the field is still mining a century later. And when people asked him where the formulas came from, he gave an answer that made the rational establishment deeply uncomfortable. He said a goddess gave them to him.

He was completely sincere. Ramanujan was a devout man, and he credited his family's goddess, Namagiri, with revealing the equations to him, often in dreams, scrolls of the most complex mathematics unrolling before his sleeping eyes, which he would wake and write down. He famously said that an equation meant nothing to him unless it expressed a thought of God. To Ramanujan, mathematics was not invention, it was revelation, a way of reading the divine mind, and the visions were not a charming story he told afterward, they were, as far as he was concerned, the actual source.

You can believe the goddess was real or believe she was the way his own astonishing unconscious dressed up its leaps so his waking mind could receive them, and it almost doesn't matter which, because either way the lesson is the same and it is enormous. The most rigorous discipline humans have, mathematics, the one we hold up as the very definition of pure logic, produced one of its greatest geniuses through dreams and visions and the felt presence of the divine. The answers came first, whole, by a route that was not logical at all, and the logic came afterward to check them and write them down. That is not how we're told genius works. It is, over and over, how it actually works. The proof is the servant. The vision goes first.

Wolfgang Pauli, the Nobel Physicist and His Dreams

If you wanted to find a mind that was pure, hard, unsentimental physics, you could hardly do better than Wolfgang Pauli, who won the Nobel Prize and gave physics one of its deepest laws, a rule so fundamental it shapes the structure of every atom and therefore of all matter. He was famous among physicists for his ferocious skepticism, for tearing weak ideas to shreds, for a mind that did not suffer fuzziness. And this man, in private, spent years exploring his own dreams and the strange territory of the soul, in close partnership with Carl Jung.

Pauli went through a personal crisis and ended up in Jung's orbit, and what began as therapy became a decades-long collaboration. Pauli recorded thousands of his dreams and pored over them with Jung, hunting for meaning in the imagery the way he hunted for meaning in the equations. The two of them, the hard physicist and the mystical psychologist, wrote together about whether mind and matter might be two faces of one deeper reality, whether the patterns in the psyche and the patterns in the physical world might rhyme. There was even a running joke in physics, the Pauli effect, that experimental equipment had a way of mysteriously breaking the moment he walked into a lab, and the funny thing is that Pauli, the great skeptic, rather enjoyed the idea, half-believed there might be something to it.

Now think about what that means. One of the sharpest scientific minds of the twentieth century did not think the rational and the

mystical were sealed off from each other. He suspected, seriously, that the deepest understanding of nature might require both, that physics alone was telling half the story and the psyche held the other half, and that the truth lived in their meeting. He was not a flake. He was as rigorous as they come. And precisely because he was that rigorous, he could see the edges of what his own discipline could explain, and was honest enough, and brave enough, to go looking past them. The deepest reason often knows exactly where its own map runs out, and the people with the most of it are frequently the ones most willing to step off the edge.

John Dee, the Queen's Wizard

In the England of Queen Elizabeth the First, there was a man who advised the throne, and he was at once one of the finest mathematicians and scientific minds in the country and a full-blown practicing magician, and he saw absolutely no contradiction between the two. His name was John Dee, and he sat at the exact seam where science and the occult were, in his world, simply the same pursuit.

On one side, Dee was a serious scholar. He owned one of the largest libraries in England, advised explorers on navigation, championed mathematics when many still found it suspicious, and even chose the most astrologically favorable date for the queen's coronation, which tells you how normal that kind of thing still was at the highest level of power. On the other side, he spent the later part of his life trying to talk to angels. He believed there was a hidden language, the original tongue God used to create the world, and that through ritual and a scryer gazing into a crystal, he could receive it directly from angelic beings, and he recorded these conversations in enormous detail, building an entire system of magic out of them.

We look back and want to sort Dee into one box or the other, the scientist or the crank, and the man himself would not have understood the question. To him, mathematics and angel-summoning were two methods of the same project: reading the hidden order of a universe written in code by its creator. Numbers were sacred. Geometry was holy. Magic was just the

part of the investigation that reached past what the eye could measure toward what he was sure was there anyway. His was a world not yet cut in half, where the rational and the mystical were one continuous landscape, and a brilliant person walked the whole of it without apology. We did the cutting later. Dee is a window into the undivided mind we gave up.

What They All Knew

So what do we do with this strange parade, this gallery of geniuses who built the rational world and were, almost every one of them, also mystics and magicians and dreamers and believers. The easy reaction is to use it as a license, to say see, the smartest people believed in astrology, so it must be true, and I want to stop you there, because that's the wrong lesson and it's a trap. The point of this book was never that the stars control your life or that goddesses hand out equations or that fairies live in the garden. On the specifics, the skeptics often have the better of it, and I won't pretend otherwise. Newton never made gold. The fairy photos were cardboard.

The real lesson is deeper and more useful than that, and it's about how a mind actually works at its highest power. Every one of these people had access to two ways of knowing, and they refused to give either one up. There is the rigorous way, the logic, the measurement, the proof, the discipline that checks and builds and makes things real. And there is the other way, the intuitive, the visionary, the dreaming, pattern-feeling, meaning-hungry way that leaps before it can justify the leap. Our age has taught us to honor the first and be ashamed of the second, to call the calculating mind smart and the intuitive mind soft, and these lives are the standing rebuke to that whole idea, because the breakthroughs, again and again, came from the part we're taught to suppress, and the rigor came afterward to catch what the leap had already found. The scientists reached their theories through

artistic, intuitive jumps, and the artists got their craft down to a ruthless science, and the giants were the ones who lived in both at once.

So here is what I'd take from them, and it isn't a horoscope. It's permission, and a warning, held together. The permission: stop being ashamed of the part of your mind that knows things before it can prove them, the gut feeling, the dream, the hunch, the sense of a pattern you can't yet defend, because that faculty is not the enemy of intelligence, it is half of it, the half that does the discovering, and the people who changed the world trusted it. The warning, in the same breath: never let it off its leash, never surrender your reason or your agency to it, never hand your decisions to a fortune-teller or your judgment to a feeling unchecked, because the intuition that leaps must always be married to the rigor that verifies, or it curdles into superstition and you give your life away. Use both. That was their whole secret. As one of the greatest scientific minds of all put it, imagination is more important than knowledge, and he did not mean instead of. He meant the two together, the dream and the proof, the magic and the reason, which were never really enemies, and which, in every mind that ever truly mattered, were working side by side the entire time.

*For anyone who was made to choose between the
head and the gut. The people who built your world
refused to choose. So can you.*

