

Introduction

We're All Believers

In April 2009, the leaders of a powerful clan presided over a ceremony on the grounds of their new house of worship. The clan's warriors, known for their fickleness and inconsistency—their success against other tribes depending to a large degree on luck—worried that an adversary had placed a curse on their home turf. Someone had hidden a significant artifact—a symbol of their sworn enemy—under the premises. The American media, typically dismissive of voodoo, had a field day with this little rite. As journalists looked on, two men friendly to the warriors pulled the offending relic from the ground and raised it high. Flashbulbs illuminated a ragged piece of cloth clearly reading the number 34 and the name Ortiz. The new Yankee Stadium had been cleansed.

Why should we, an enlightened society largely adhering to the rigors of science, care so much about a shirt buried in concrete by a construction worker? And why would the president of the Yankees threaten that worker with legal action and demand recompense for the cost of replacing the concrete? The Red Sox jersey itself posed no structural threat to the stadium. So how could that worker “force” the Yankees to dig it up? Because magical powers were attributed to that jersey. (We'll revisit Yankee Stadium in chapter 2.)

Most of the world is religious, and millions more are openly superstitious, spiritual, or credulous of the paranormal. But in this book I argue that we all believe in magic—luck, mind over matter, destiny, jinxes, life after death, evil, and heavenly helpers—even when we say we don't.

Magical thinking can be quite banal. We find occult meaning in the world all around us, every day. Do you own any sentimental objects—say, a wedding ring, a family heirloom, or an autographed baseball? Objects you'd value more than an identical duplicate? That's magical thinking. Do you feel that what goes around comes around, through some universal principle of fairness? That's magical thinking. Do you yell at your laptop when it erases your files? Magical thinking. Do you hope to leave a legacy after you die? Magical thinking. Do you believe that certain events were meant to happen? Magical thinking. Or that you can lift your arm through the power of your conscious thoughts? Magical thinking, even that.

As you will see, those examples all derive from our ongoing flirtation with supernaturalism, a relationship we depend on for our very survival.

Giving Up the Ghost

For the first ten years of my life I went to church every week with my family. Not by choice; I found it boring and hated getting up early and wearing uncomfortable clothes. But we got donuts in Sunday school, I enjoyed a modest version of stardom as a member of the choir, and I was allowed to spend sermons drawing tanks and fighter planes blowing up the illustration of the church on the cover of the program.

And I did believe in, and fear, God. I hated being alone with him in the empty chapel—it gave me goose bumps. For a time I refused to say the word *God* and would spell it out. I even wrote it “G-O-D.”

But things changed around fourth grade, when I discovered a copy of *A Brief History of Time* by Stephen Hawking on my parents' bedroom floor. I read his portrayal of the evolution of the universe,

first with my father and then on my own, and saw that the Big Questions could be answered, or at least approached, by science. God made less and less sense.

I found more books on the big bang and the fabric of space-time and abandoned my belief in a personal creator—but not my obsession with him. I became a strident young atheist, eager to debate anyone who stooped to have faith in an invisible guide. In the copy of *Why I Am Not a Christian* by the British philosopher Bertrand Russell that I purchased for pleasure-reading in middle school, I underlined passages such as, “It would seem, therefore, that the three human impulses embodied in religion are fear, conceit, and hatred.” I struggled to understand humanity’s unshakable hold on magical beliefs—its stock in miracles, gods, a soul—against all reason.

That’s just it: faith is unreasonable, an emotional reaction. But shouldn’t reason triumph in deciphering the workings of the universe? Why cry out for a daddy in the sky to explain things and keep you safe? (I have Freudian interpretations of my conversion, too, but I’ll save those for therapy.) In my Vulcan mind-set, I looked down on the religious as stupid or weak or both.

But I knew too many smart, admirable people who went to church. Besides, I never converted anyone to atheism using logic. So I decided to chillax and pay more attention to what irrational beliefs did for people. Five billion faithful can’t be wrong!

And I realized in myself a continued need for something more. My teen years were dark, and I often thought that life would be easier were I not an atheist. I looked for slivers of evidence to let me believe that we are not simply mortal, finite, arbitrary collections of organic molecules. I read *Synchronicity*, in which the physicist F. David Peat tries to ground Carl Jung’s ideas about meaningful coincidences in the world of quantum mechanics. I read *The Physics of Immortality*, in which the physicist Frank Tipler proposes that our descendants will use computers to re-create all previous humans and continue our existences in a virtual heaven. And I read *The Archaic Revival*, in which the ethnobotanist Terence McKenna considers psychedelics a window into higher

dimensions. (Naturally, I also tested some of those windows.) And here is something I've never told anyone before. For a couple years after giving up God, I still occasionally prayed at night, sending my thoughts out into the vast ether.

I really, really wanted to believe in magic.

In parallel with my search for meaning was the pursuit of the *meaning* of meaning, which led me from physics to psychology. We can't interact with reality directly and in fact can't even be sure it exists; we experience it only through the filter of our own consciousness. What you see, hear, taste, and touch is all a subjective construction in your brain based on sensory input. (Or a neural jack, as in *The Matrix*.) I decided the closest I could come to understanding the ultimate nature of reality was to understand how the mind creates it. In college I set out to design an independent major in consciousness studies before settling on cognitive neuroscience, the rigorous analysis of the interface between matter and mind, existence and experience.

That pursuit has led me here. I can't of course provide for you the meaning of life, and might even speak dismissively (though not derisively) of the meaning you already hold dear. But I'm not ruining Christmas just for fun. (And, arguably, I'm not ruining Christmas at all; telling people why they're biased to believe in Rudolph says nothing about Rudolph's actual existence.) I'm dissecting the sacred because the same magical thinking that leads to sentimentality, altruism, and self-efficacy can also lead to vilification, fatalism, and irrational exuberance, or even depression, obsessive-compulsive disorder, and psychosis. By tearing down everything holy and pointing out the sand it was built on, I'm hoping we can learn how to build meaning back up in constructive ways. I don't want to eradicate magical thinking. I want to harness it.

The Rationality of Irrationality

Far from a sign of stupidity or weakness, magical thinking exemplifies many of the habits of mind that made humans so evolutionarily suc-

cessful. Once you've accepted that the brain constructs reality, and that the brain has evolved like any other organ to help its owner survive and reproduce, it follows that the brain constructs reality in the most useful way possible for its owner. The key word here is *useful*, which is not to say *accurate*. The brain doesn't care so much what's really out there; it just needs to stay alive and be replicated, which might involve telling us a white lie now and again.

Over the past several decades, psychologists have documented a litany of cognitive biases—consistent misperceptions of the world—and explained their positive functions. For example, we overestimate heights when looking down, making us particularly cautious about falling. In the social realm, men overestimate sexual interest from women because the cost of hitting on someone and receiving a brush-off is small compared to the benefit of scoring and spreading one's seed. (A drink in the face is temporary, but a carrier for your genes lasts generations.) And superstitious rituals such as crossing fingers may result from believing we have more control over the world than we actually do, a bias that prevents counterproductive feelings of helplessness.

The behavioral economist Dan Ariely, who has designed many clever studies to tease out our biases, calls the human mind “predictably irrational.” Alternatively, the evolutionary psychologist Martie Haselton and her colleagues have written that “the mind is best described as *adaptively rational* . . . equipped with mechanisms that are constrained and sometimes imprecise, but nevertheless clear products of natural selection showing evidence of good design.”

This design comprises two distinct levels of processing. The *rational* system is slow, deliberate, abstract, and logical. The *intuitive* system is quick, automatic, associative, and emotional. We have the second system to thank for magical thinking.

Thinking and *belief*, as I use the terms in this book, include biases and intimations and feelings. Mere whiffs and glimmers of thought. If you think conscious deliberation drives the car, you're ignoring the vast engine block beneath the hood at your own peril. We run largely on autopilot, and overthinking things (as I and many others are wont to do)

can funk up the works. For example, when an injury disconnects emotional brain centers from neural areas responsible for higher cognition, patients can't listen to their guts and have trouble making even simple decisions. Recall the millipede who was asked how he knows which leg to move next and immediately froze. Sometimes intuitive thinking just gets the job done. And as we'll see, magical thinking is not merely an eccentric extension of healthy biases and shortcuts; it can provide benefits of its own. Most prominently, it offers a sense of control and a sense of meaning, making life richer, more comprehensible, and less scary.

Often, the biologically modern deliberative system is powerless to restrain the ancient associative system it's built on. It makes no difference how clever you are or how reasonable you try to be: research shows little correlation between people's levels of rationality or intelligence and their susceptibility to magical thinking. I "know" knocking on wood has no mystical power. But my instincts tell me to do it anyway, just in case, and I do. A possibly apocryphal tale has the legendary physicist Niels Bohr responding to a friend's inquiry about the horseshoe he'd hung above his door: "Oh, I don't believe in it. But I am told it works even if you don't." (I'd say he was channeling Yogi Berra if they hadn't been contemporaries.) "There are many layers of belief," the psychologist Carol Nemeroff, who has studied magical thinking extensively, told me. "And the answer for many people, especially with regard to magic, is, 'Most of me doesn't believe, but some of me does.'"

Longings and Wisdom

"Magic—the very word seems to reveal a world of mysterious and unexpected possibilities!" the Polish anthropologist Bronisław Malinowski wrote in 1925. "Even for the clear scientific mind the subject of magic has a special attraction. Partly perhaps because we hope to find in it the quintessence of primitive man's longings and of his wisdom—and that, whatever it might be, is worth knowing. Partly because 'magic' seems to

stir up in everyone some hidden mental forces, some lingering hopes in the miraculous, some dormant beliefs in man's mysterious possibilities.”

Malinowski spent several years in the southwest Pacific studying the magical practices of “primitive man.” Much of today's scholarship on magic derives from the anthropological efforts of the late nineteenth and early twentieth centuries, in which the traditions of bushmen and remote islanders were cataloged and scrutinized. Psychologists, sociologists, and historians have still not agreed upon what counts as magic, versus religion, versus science, versus technology. There's plenty of overlap: magic and religion both deal with a spiritual realm. Magic and science both deal with uncovering hidden patterns in the world. And magic and technology both deal with mastering one's environment.

“Although the word ‘magic’ is common in both scholarly and lay discourse,” the psychologists Carol Nemeroff and Paul Rozin have written:

the variety of things to which it refers is far-reaching, ranging from a social institution characteristic of traditional societies, to sleight-of-hand or parlor tricks, to belief in unconventional phenomena such as UFOs and ESP, to sloppy thinking or false beliefs, and even to a state of romance, wonder, or the mysterious. One must at least entertain the possibility that there is no true category here at all. Instead, the term “magic” in current usage has become a label for a residual category—a garbage bin filled with various odds and ends that we do not otherwise know what to do with.

There *is* a common thread that holds together many of the things we tend to call *magic* and excludes many of the things we don't. One recurring theme in the literature—a theme I'm taking as the basis for my definition of *magical thinking*—is what the anthropologist Richard Shweder called a “confusion of subjectivity and objectivity” and the anthropologist Claude Lévi-Strauss called “the anthropomorphism of nature . . . and the physiomorphism of man.” There's the world of the mind, defined by intention and conscious experience, and the world of outside reality, defined by matter and deterministic forces. But we

instinctively treat the mind as though it had physical properties, and we treat the physical world as though it had mental properties. That's magical thinking. We perceive mind and matter mingling together, working on the same wavelength.

The psychologist Marjaana Lindeman similarly defines magical thinking as “category mistakes where the core attributes of mental, physical, and biological entities and processes are confused with each other” and has collected evidence linking these category mistakes under one umbrella. She and collaborators found that people who describe phrases such as, *Old furniture knows things about the past*, or, *An evil thought is contaminated*, or *When summer is warm, flowers want to bloom* as more than metaphor also believe in feng shui and astrology (i.e., that the arrangement of furniture or stars can channel life energy), see more purpose in natural and random events, and are more likely to be religious and hold paranormal beliefs.

One advantage of defining magical thinking as the mingling of psychological concepts with physical ones, rather than simply as holding beliefs that contradict scientific consensus, is that what counts as magical thinking is less prone to change as we learn more about the world. We now know that our planet is a sphere, but learning that it has a personality would constitute a revolution an order of magnitude larger.

The current definition also distinguishes magical thinking from everyday false beliefs such as the notion that toilets tend to flush clockwise in the Southern Hemisphere or that toilet seats transmit HIV, from common biases and states of mind such as germ phobia and wishful thinking, and from credence in possible but unlikely phenomena such as Bigfoot's existence and alien authorship of crop circles.

The Agenda

With our promiscuous mixing of the mental and physical realms, it's hard to break magical thinking into distinct laws, but I've tried. Someone

else might divide the material differently than I have, with different laws, or more laws, or fewer. And things I call magical thinking someone else might dismiss as run-of-the-mill irrationality. Surely, I'll also make what some consider omissions. I've tried to take a consistent approach in mapping the terrain, but the borders remain debatable. Here's a rough guide:

In chapter 1, "Objects Carry Essences," we'll explore how everyday items become emotionally significant by taking on the spirit of their previous owners or unique pasts. In chapter 2, "Symbols Have Power," we'll see that we confuse symbolic associations in our heads for causal relationships in the world. Chapter 3, "Actions Have Distant Consequences," takes up superstitious rituals and our attempts to channel luck through physical acts. Chapter 4, "The Mind Knows No Bounds," covers belief in mind over matter and extrasensory perception, as well as transcendent experiences. In chapter 5, "The Soul Lives On," we'll look at how hard it is to believe that your mind dies when your body does. In chapter 6, "The World Is Alive," we'll see that we often treat inanimate objects as conscious. Chapter 7, "Everything Happens for a Reason," analyzes our insistence that higher powers guide natural events. Finally, the epilogue explores ways to find meaning in life by treating the world as sacred.

For the most part I don't cover explicit and culturally transmitted beliefs in religion, magic, and the paranormal. Plenty of excellent books exist on those. I'm more interested in our shadow beliefs—those inklings of the numinous that we deny—and beliefs we don't even recognize as magical. These habits of mind guide us through the world every day. In very basic ways they provide a sense of control, of purpose, of connection, and of meaning, and without them we couldn't function. So here's my gauntlet: even if you're a hard-core skeptic who walks under ladders and pronounces "New Age" like "sewage," you believe in magic.

And that's nothing to be ashamed of.