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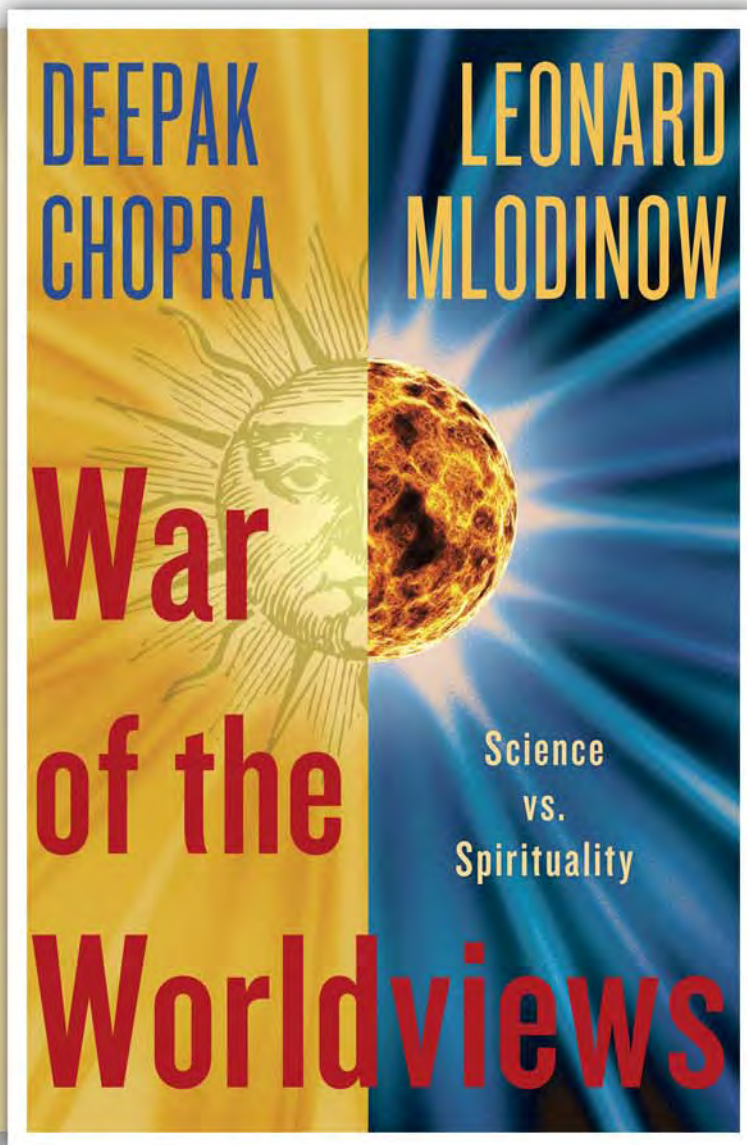
War  
of the  
Worldviews

Science  
vs.  
Spirituality

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# WAR OF THE WORLDVIEWS

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First Edition

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## Foreword

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Nothing is more mysterious than another person's worldview. Each of us has one. We believe that our worldview expresses reality. The Native Americans of the Southwest traveled hundreds of miles to hunt buffalo but never ate fish from their local streams. In their worldview, it was real that fish were the spirits of departed ancestors. In the Old Testament it was real that animal sacrifices appeased God's wrath; to the everyday Roman it was real that the future could be foretold in the entrails of a chicken. To the ancient Greeks it was real that a moral individual could keep slaves and that there existed many gods, of love and beauty, war, the underworld, the hunt, the harvest, the sea.

What happens, then, when two worldviews clash? In 399 BCE three Athenian citizens accused Socrates of refusing to recognize the traditional gods and introducing new divinities instead (he was also accused of corrupting their youth). The penalty for this clash of worldviews, or gods, was death. During his trial Socrates refused to back down or to flee from a certain verdict of guilty. According to Plato, he said, "So long as I draw breath and have my faculties, I shall never stop practicing philosophy." Unfortunately, in many parts of the world today, a clash of worldviews is still met with violence and death.

This book is about a clash of worldviews, but no blows were exchanged. The book came about when two strangers met at a televised debate on "the future of God." The setting was an auditorium at

the California Institute of Technology, and the audience was composed of many scientists and students, but also of laypeople, including Deepak's fans from the surrounding community. Each of them brought his or her own personal beliefs—no doubt some of them were religious—but they also brought their own worldview, which runs much deeper than belief.

In the Caltech debate Deepak served as the defender of a worldview broadly known as spiritual. Since the ideas of physics became an issue, during the question-and-answer period Deepak asked, “Is there a physicist in the house?” Neither Leonard nor anyone else answered. But after the debate, the moderator, who recognized Leonard as a physicist, pulled him out of the audience to ask Deepak a question. Leonard instead offered to teach him about quantum physics. Deepak accepted—to a mixture of laughter and applause—and as we started to communicate, we found ourselves strongly disagreeing about our worldviews. Realizing the depth of our clash, we decided to have it out in this book.

Science has set humanity on a path to unravel the secrets of nature, harness natural forces, and develop new technologies, using reason and observation instead of emotional bias as a tool for uncovering the truth of things. Spirituality looks toward an invisible, transcendent realm discovered within the self. Science explores the world as it is offered to the five senses and the brain, while spirituality considers the universe to be purposeful and imbued with meaning. In Deepak's view, the great challenge for spirituality is to offer something that science cannot provide—in particular, answers that lie in the realm of consciousness.

Which worldview is right? Does science describe the universe, or do ancient teachings like meditation unravel mysteries that are beyond the worldview of science? To find out, this book explores the clash of worldviews on three levels: the cosmos, or physical universe; life; and the human brain. Finally, we also explore the ultimate mystery, God. In “Cosmos” we argue about where the universe came from, its nature, and where it is going. In “Life” we debate evolution, genetics,

and the origin of life. “Mind and Brain” addresses neuroscience and raises all the issues of mind and body. And “God” refers not only to a presiding deity but also to the broader concept of a divine presence in our universe.

This book covers eighteen topics in total, with essays from both authors. Each of us told his side of the story, one topic at a time, but whoever came second on any given topic did so with the other’s text in hand, feeling free to present a rebuttal. Since rebuttals tend to persuade audiences, we tried to be as fair as possible about who got that advantage.

Each of us believes deeply in the worldview he represents. We have written fiercely but respectfully to define the truth as we see it. No one can ignore the question of how to perceive the world. The best we can do—writers and readers alike—is to leap into the fray. What else could be more important?

*Deepak Chopra*

*Leonard Mlodinow*

PART ONE

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# THE WAR

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# Perspectives





# The Spiritual Perspective

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**DEEPAK**

*Who looks outside, dreams; who looks within, awakens.*

—CARL JUNG

If it is going to win the struggle for the future, spirituality must first overcome a major disadvantage. In the popular imagination, science long ago discredited religion. Facts replaced faith. Superstition was gradually vanquished. That's why Darwin's explanation of man's descent from lower primates prevails over Genesis and why we look to the Big Bang as the source of the cosmos rather than to a creation myth populated by one or more gods.

So it's important to begin by saying that religion isn't the same as spirituality—far from it. Even God isn't the same as spirituality. Organized religion may have discredited itself, but spirituality has suffered no such defeat. Thousands of years ago, in cultures across the globe, inspired spiritual teachers such as the Buddha, Jesus, and Lao-tzu proposed profound views of life. They taught that a transcendent domain resides beyond the everyday world of pain and struggle. Although the eye beholds rocks, mountains, trees, and sky, this is only a veil drawn over a vast, mysterious, unseen reality. Beyond the reach of the five senses lies an invisible realm of infinite possibility, and the key to unfolding its potential is consciousness. Go within, the sages and seers declared, and you will find the true source of everything: your own awareness.

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It was this tremendous promise that religion failed to deliver on. The reasons don't concern us here, because this is a book about the future. It's enough to say that if the kingdom of God is within, as Christ declared, if nirvana means freedom from all suffering, as the Buddha taught, and if knowledge of the cosmos is locked inside the human mind, as the ancient *rishis*, or sages, of India proposed, we cannot look around today and say that those teachings bore fruit. Increasingly few people worship in the old ways around the world, and even as their elders lament this decline, those who have walked away from religion no longer even need an excuse. Science long ago showed us a brave new world that requires no faith in an invisible realm.

The real issue is knowledge and how you attain it. Jesus and the Buddha had no doubt that they were describing reality from a position of true knowledge. After more than two thousand years, we think we know better.

Science celebrates its triumphs, which are many, and excuses its catastrophes, which are also numerous—and growing. The atomic bomb delivered us into an age of mass destruction that brings night terrors just to contemplate. The environment has been disastrously disrupted by emissions spewing from the machines that technology gives us to make life better. Yet supporters of science shrug off these threats as either side effects or failures of social policy. Morality, we are told, isn't the responsibility of science. But if you look deeper, science has run into the same problem as religion. Religion lost sight of humility before God, and science lost its sense of awe, increasingly seeing Nature as a force to be opposed and conquered, its secrets stripped bare for the benefit of humankind. Now we are paying the price. When asked if *Homo sapiens* is in danger of extinction, some scientists offer hope that within a few hundred years space travel will be advanced enough to let us abandon the planetary nest we are fouling. Off we go to spoil other worlds!

We all know what's at stake: the foreseeable future looms grimly over us. The standard solution for our present woes is all too familiar. Science will rescue us with new technology—for restoring the

environment, replacing fossil fuels, curing AIDS and cancer, and ending the threat of famine. Name your malady and there's someone to tell you that a scientific solution is just around the corner. But isn't science promising to rescue us from itself? And why is that a promise we should trust? The worldview that triumphed over religion, and that looks upon life as essentially materialistic, has set us on a path that leads to a dead end. Literally.

Even if we miraculously eliminated disastrous pollution and waste, coming generations will still have no model for the good life except the one that has failed us: endless consumption, exploitation of natural resources, and the diabolical creativity of warfare. As a young Chinese student bitterly commented about the West, "You ate the whole banquet. Now you give us coffee and dessert, but tell us to pay for the entire meal."

Religion cannot resolve this dilemma; it has had its chances already. But spirituality can. We need to go back to the source of religion. That source isn't God. It's consciousness. The great teachers who lived millennia ago offered something more radical than belief in a higher power. They offered a way of viewing reality that begins not with outside facts and a limited physical existence, but with inner wisdom and access to unbounded awareness. The irony is that Jesus, the Buddha, and the other enlightened sages were scientists, too. They had a way of uncovering knowledge that runs exactly parallel to modern science. First came a hypothesis, an idea that needed testing. Next came experimentation to see if the hypothesis was true. Finally came peer review, offering the new findings to other researchers and asking them to reproduce the same breakthrough.

The spiritual hypothesis that was put forward thousands of years ago has three parts:

1. There is an unseen reality that is the source of all visible things.
2. This unseen reality is knowable through our own awareness.
3. Intelligence, creativity, and organizing power are embedded in the cosmos.

This trio of ideas is like the Platonic values in Greek philosophy, which tell us that love, truth, order, and reason shape human existence from a higher reality. The difference is that even more ancient philosophies, with roots going back five thousand years, tell us that higher reality is with us right here and now.

In the following pages, as Leonard and I debate the great questions of human existence, my role is to offer spiritual answers—not as a priest or a practitioner of any particular faith, but as a researcher in consciousness. This runs the risk, I know, of alienating devout believers, the many millions of people in every faith for whom God is very personal. But the world’s wisdom traditions did not exclude a personal God (to be candid, I was not taught as a child to worship one, but my mother did, praying at a temple to Rama every day of her life). At the same time, wisdom traditions all included an impersonal God who permeates every atom of the universe and every fiber of our being. This distinction bothers those believers who want to cling to the one and only true faith, whatever it may be for them. But an impersonal God doesn’t need to be a threat.

Think of someone you love. Now think of love itself. The person you love puts a face on love, yet surely you know that love existed before this person was born and will survive after they pass away. In that simple example lies the difference between the personal and the impersonal God. As a believer you can put a face on God—that is a matter of your own private choice—but I hope you see that if God is everywhere, the divine qualities of love, mercy, compassion, justice, and all the other attributes ascribed to God extend infinitely throughout creation. Not surprisingly, this idea is a common thread in all major religions. Higher consciousness allowed the great sages, saints, and seers to attain a kind of knowledge that science feels threatened by but that is completely valid. Our common understanding of consciousness is too limited to do justice here.

If I asked you, “What are you conscious of right this minute?” you would probably start by describing the room you’re in and the sights, sounds, and smells surrounding you. On reflection you’d become

aware of your mood, the sensations in your body, perhaps a hidden worry or desire that lies deeper than superficial thoughts. But the inner journey can go much deeper, taking you to a reality that isn't about objects "out there" or feelings and thoughts "in here." Eventually those two worlds meld into one state of being that lies beyond the limits of space-time, in a realm of infinite possibilities.

Now we face a contradiction, however. How can two realities that are opposites (the way baking a loaf of bread is the opposite of dreaming about a loaf of bread) turn out to be the same? This improbable vision is succinctly described in the Isha Upanishad, an ancient Indian scripture. "*That* is complete, and *this* is also complete. *This* totality has been projected from *that* totality. When *this* wholeness merges in *that* wholeness, all that remains is wholeness." At first glance, this passage seems like a riddle, but it can be deciphered by realizing that "*that*" is the state of pure consciousness, while "*this*" is the visible universe. Both are complete in themselves, as we know from science, which has been satisfied for four centuries with exploring the visible universe. But in the spiritual worldview a hidden wholeness underlies all of creation, and ultimately it is this invisible wholeness that matters most.

Spirituality has been around for many thousand years, and its researchers were brilliant—the very Einsteins of consciousness. Anyone can reproduce and verify their results, as with the principles of science. More important, the future that spirituality promises—one of wisdom, freedom, and fulfillment—hasn't vanished as the age of faith declined. Reality is reality. There is only one, and it's permanent. This means that at some point the inner and outer worlds must meet; we won't have to choose between them. That in itself will be a revolutionary discovery, since the dispute between science and religion has persuaded almost everyone that either you face reality and deal with the tough questions of everyday life (science), or you passively retreat and contemplate a realm beyond everyday life (religion).

This either/or choice was forced on us when religion failed to deliver on its promises. But spirituality, the deeper source of religion, hasn't failed and is ready to meet science face-to-face, offering answers

consistent with the most advanced scientific theories. Human consciousness created science, which ironically is now moving to exclude consciousness, its very creator! Surely this would leave us with worse than an orphaned and shrunken science—we'd inhabit an impoverished world.

It has already arrived. We live in a time of rude atheism, whose proponents deride religion as superstition, illusion, and a hoax. But their real target isn't religion; it's the inner journey. I am less concerned with attacks on God than I am with a far more insidious danger: the superstition of materialism. To scientific atheists, reality must be external; otherwise their whole approach falls apart. If the physical world is all that exists, science is right to mine it for data.

But here the superstition of materialism breaks down. Our five senses encourage us to accept that there are objects "out there," forests and rivers, atoms and quarks. However, at the frontiers of physics, where Nature becomes very small, matter breaks down and then vanishes. Here, the act of measuring changes what we see; every observer turns out to be woven into what he observes. This is the universe already known to spirituality, where passive observation gives way to active participation, and we discover that we are part of the fabric of creation. The result is enormous power and freedom.

Science has never achieved pure objectivity, and it never will. To deny the worth of subjective experience is to dismiss most of what makes life worth living: love, trust, faith, beauty, awe, wonder, compassion, truth, the arts, morality, and the mind itself. The field of neuroscience has largely accepted that the mind doesn't exist but is merely a by-product of the brain. The brain (a "computer made of meat," as Marvin Minsky, an expert in artificial intelligence, dubbed it) is our master, chemically deciding how we feel, genetically determining how we grow, live, and die. This picture isn't acceptable to me, because in dismissing the mind we eliminate our portal to knowledge and insight.

As Leonard and I debate the big mysteries, the great sages and seers remind us that there is only one question: What is reality? Is it the



result of natural laws rigorously operating through cause and effect, or is it something else? There is good reason for our worldviews to be at war. Either reality is bounded by the visible universe, or it isn't. Either the cosmos was created from an empty, meaningless void, or it wasn't. Until you understand the nature of reality, you are like one of the fabled six blind men trying to describe an elephant by holding on to just one of its parts. The one who has hold of the leg says, "An elephant is much like a tree." The one who has hold of the trunk says, "An elephant is much like a snake." And so on.

The childhood fable about the blind men and the elephant is actually an allegory from ancient India. The six blind men are the five senses plus the rational mind. The elephant is Brahman, the totality of all that exists. On the surface the fable is pessimistic: if all you possess is your five senses and your rational mind, you'll never see the elephant. But there is a hidden message so obvious that many people miss it. The elephant exists. It was there before us, patiently waiting to be known. It is the deeper truth of unified reality.

Just because religion didn't succeed doesn't mean that a new spirituality, based on consciousness, won't. We need to see the truth, and in the process we will awaken the profound powers that were promised to us thousands of years ago. Time awaits. The future depends on the choice we make today.

# The Scientific Perspective

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## LEONARD

*The further the spiritual evolution of mankind advances, the more certain it seems to me that the path to genuine religiosity does not lie through the fear of life, and the fear of death, and blind faith, but through the striving after rational knowledge.*

—ALBERT EINSTEIN

Children come into the world believing it all revolves around them, and so did humanity. People have always been anxious to understand their universe, but for most of human history we hadn't yet developed the means. Since we are proactive and imaginative animals, we didn't let the lack of tools stop us. We simply applied our imagination to form compelling pictures. These pictures were not based on reality, but were created to serve our needs. We would all like to be immortal. We'd like to believe that good triumphs over evil, that a greater power watches over us, that we are part of something bigger, that we have been put here for a reason. We'd like to believe that our lives have an intrinsic meaning. Ancient concepts of the universe comforted us by affirming these desires. Where did the universe come from? Where did life come from? Where did people come from? The legends and theologies of the past assured us that we were created by God, and that our Earth was the center of everything.

Today science can answer many of the most fundamental questions of existence. Science's answers spring from observation and

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experiment rather than from human bias or desire. Science offers answers in harmony with nature as it is, rather than nature as we'd like it to be.

The universe is an awe-inspiring place, especially for those who know something about it. The more we learn, the more astonishing it seems. Newton said that if he saw further it was because he stood on the shoulders of giants. Today we can all stand on the shoulders of scientists and see deep and amazing truths about the universe and our place in it. We can understand how we and our Earth are natural phenomena that arise from the laws of physics. Our ancestors viewed the night sky with a sense of wonder, but to see stars that explode in seconds and shine with more light than entire galaxies brings a new dimension to the awe. In our day a scientist can turn her telescope to observe an Earthlike planet trillions of miles away, or study a spectacular internal universe in which a million million atoms conspire to create a tiny freckle. We know now that our Earth is one world among many and that our species arose from other species (whose members we may not wish to invite into our living rooms but who are our ancestors nonetheless). Science has revealed a universe that is vast, ancient, violent, strange, and beautiful, a universe of almost infinite variety and possibility, one in which time can end in a black hole, and conscious beings can evolve from a soup of minerals. In such a universe it can seem that people are insignificant, but what is significant and profound is that we, ensembles of almost uncountable numbers of unthinking atoms, can become aware, and understand our origins and the nature of the cosmos in which we live.

Deepak feels that scientific explanations are sterile and reductive, diminishing humankind to a mere collection of atoms, no different in kind from any other object in the universe. But scientific knowledge does not diminish our humanity any more than the knowledge that our country is one among many diminishes our appreciation of our native culture. In fact, the opposite is closer to the truth. Emotion, intuition, adherence to authority—traits that drive the belief in religious and mystical explanation—are traits that can be found in other

primates, and even in lower animals. But orangutans cannot reason about the angles in triangles, and macaque monkeys do not look to the heavens and wonder why the planets follow elliptical paths. It is only humans who can engage in the wondrous processes of reason and thought called science, only humans who can understand themselves and how their planet got here, and only humans who could discover the atoms that form us.

The triumph of humanity is our capacity to understand. It is our comprehension of the cosmos, our insight into where we came from, our vision of the place we occupy in the universe, that sets us apart. A by-product of this scientific understanding is the power to harness nature for our benefit, or, it is true, to employ it to our detriment. The particular ethical and moral choices people make depend on human nature, and human culture. People dropped boulders on their enemies long before they understood the law of gravity. And they spewed filth into the skies long before they understood the thermodynamics of burning coal.

Promoting good and avoiding evil is the charge of organized religion and spirituality. It is those enterprises—not science—that have often failed to deliver on their promise. Eastern religions did not prevent a history of brutal warfare in Asia, nor did Western religions pacify Europe. In fact, more people have been slaughtered in the name of religion than by all the atomic weapons made possible by modern physics. From the Crusades to the Holocaust, in addition to being a tool of goodness and love, religion has been employed as a tool of hatred. Deepak's universalist and peaceful approach to spirituality is therefore a welcome alternative. But Deepak's metaphysics goes beyond spiritual guidance to offer views on the nature of the universe. Deepak's belief that the universe is purposeful and imbued with love may be attractive, but is it correct?

Deepak criticizes science for its vision of life as “essentially materialistic.” By materialistic, Deepak does not mean to suggest that scientists are focused only on things and the desire to possess them, but that scientists deal only with phenomena we can see, hear, smell,

detect with instruments, or measure with numbers. He contrasts the visible, or detectable, universe studied by science with an implicitly superior but invisible “realm of infinite possibility” that lies beyond our senses, a “transcendent domain” that is the source of all visible things. Deepak argues passionately that only by accepting this realm can science grow beyond its limits and help save the world. But arguing that such a realm can expand the limits of science, that it can help humanity, or that ancient sages taught about it doesn’t make it true. If you think you are eating a cheeseburger, and I tell you that in some other unseen realm it is really a filet mignon, you’d want to know how I know this, and what evidence supports my idea. Only those answers can enable a belief to transcend wish fulfillment, so if Deepak is to be convincing, those questions are the challenges he must address.

The real issue, as Deepak says, is knowledge and how you attain it. Deepak criticizes science for denying “the worth of subjective experience.” But science wouldn’t have gotten very far if one scientist described a helium atom as “pretty heavy” while another noted that “it feels light to me.” Scientists employ precise objective measurements and precise objective concepts for good reason, and the fact that they seek to ensure that their measurements and concepts are not influenced by “love, trust, faith, beauty, awe, wonder, compassion,” etc., does not mean that they dismiss the value of those qualities in other areas of life.

Scientists are often guided by their intuition and subjective feelings, but they recognize the need for another step: verification. Science proceeds in a loop of observation, theory, and experiment. The loop is repeated until the theory and the empirical evidence are in harmony. But this method would fail if concepts were not precisely defined and experiments were not rigorously controlled. These elements of the scientific method are crucial, and it is they that determine the difference between good science and bad science, or between science and pseudoscience. Deepak said Jesus was a scientist. Was he? He probably did not gather a sample of the population and, after being insulted, turn the other cheek to half of them, and lay out the other half with a

solid right hook, then gather statistics on the efficacy of the different approaches. It might seem silly that I object when Deepak calls Jesus a scientist, but it introduces a theme—the use of terminology—that will become important in more substantive contexts later in this book: one must be careful when discussing scientific issues not to use terms loosely. It is easy to use words imprecisely in an argument, but it is also dangerous, because the substance of the argument often relies on the nuances of those words.

I do not suggest that science is perfect. Deepak says that science has never achieved pure objectivity, and he is right. For one, the concepts employed in science are concepts conceived by the human brain. Aliens with different brain structures, thought processes, and sense organs might view matter in completely different, but equally valid, ways. And if there is a certain kind of subjectivity to our concepts and our theories, there is also subjectivity in our experiments. In fact, experiments that have been done on experimenters show that there is a tendency for scientists to see what they want to see, and to be convinced by data they wish to find convincing. Yes, scientists, and science, are fallible. Yet all these are reasons not to doubt the scientific method, but to follow it as scrupulously as possible.

History shows that the scientific method works. Being only human, some scientists may at first resist new and revolutionary ideas, but if a theory's predictions are confirmed by experiment, the new theory soon becomes mainstream. For example, in 1982, Robin Warren and Barry Marshall discovered the *Helicobacter pylori* bacteria, and hypothesized that it causes ulcers. Their work was not well received because at the time scientists firmly believed that stress and lifestyle were the major causes of peptic ulcer disease. Yet further experiments bore out their claims, and by 2005 it had been established that *Helicobacter pylori* causes more than 90 percent of duodenal ulcers and up to 80 percent of gastric ulcers, and Warren and Marshall were awarded the Nobel Prize. Science would also embrace Deepak, if his claims were true.

When theories that people are passionate about are brushed off by



the science community, cries of closed-mindedness often emerge. But the history of science shows that the real reason for the rejection of theories is that they clash with observational evidence. In fact, some very weird ideas, arising sometimes from very obscure and unexpected quarters—ideas like relativity and quantum uncertainty—have quickly gained acceptance, despite challenging conventional thinking, for just one reason: they passed their experimental tests. Proponents of metaphysics and Deepak's spirituality are far less open to revising or expanding their worldviews to encompass new discoveries. Rather than welcoming new truths, they often cling to ancient ideas, explanations, and texts. If on occasion they turn to science in an attempt to justify their traditional ideas, whenever it appears that science does not support them they are quick to turn their backs on it. And when they do employ scientific concepts, they use them so loosely that the meanings are altered, with the result that the conclusions they come to are not valid.

One can't expect science to answer all the questions of the universe. There may well be secrets of nature that will remain forever beyond the outer limits of human intelligence. Other questions, such as those regarding human aspirations and the meaning of our lives, are best viewed from multiple perspectives, both scientific and spiritual. These approaches can coexist and respect each other. The trouble arises when religious and spiritual doctrine makes pronouncements about the physical universe that contradict what we actually observe to be true.

To Deepak, the key to everything is the understanding of consciousness. It is true that science has only begun to address that question. How do those unthinking atoms we are made of conspire to create love, pain, and joy? How does the brain create thought and conscious experience? The brain contains more than a hundred billion neurons, roughly the number of stars in a galaxy, but the stars hardly interact, while the average neuron is plugged into thousands of others. That makes the human brain far more complex and difficult to fathom than the universe of galaxies and stars, and is one reason we have made great leaps in our understanding of the cosmos, while

knowledge of ourselves proceeds at a relative crawl. Is that a sign that our minds cannot be explained?

It is shortsighted to believe that because science today cannot explain consciousness, consciousness must lie beyond science's reach. But even if the origin of consciousness *is* too complex to be fully grasped by the human mind, that is not evidence that consciousness resides in a supernatural realm. In fact, though the question of how consciousness arises remains a puzzle, we have plenty of evidence that consciousness functions according to physical law. For example, in neuroscience experiments, thoughts, feelings, and sensations in subjects' minds—the desire to move an arm, the thought of a specific person like Jennifer Aniston or Mother Teresa, and the craving for a Snickers bar—have all been traced to specific areas and activities in the physical brain. Scientists have even uncovered what they call “concept cells,” which fire whenever a subject recognizes a concept, such as a specific person, place, or object. These neurons are the cellular substrate of an idea. They will fire, say, each time a person recognizes Mother Teresa in a photo, no matter what her dress or pose. They will even fire if the subject merely sees her name spelled out in text.

Science can answer the seemingly intractable question of how the universe came into being, and there is reason to believe that science will eventually be able to explain the origins of consciousness, too. Science is an ever-advancing process, and the end is not in sight. If at some future date we *are* able to explain the mind in terms of the activity of a universe of neurons, if all our mental processes *do* prove to have their source in the flow of charged ions within nerve cells, that would not mean that science denies the worth of “love, trust, faith, beauty, awe, wonder, compassion, truth, the arts, morality, and the mind itself.” To explain something is not, as I have said, to diminish or deny its worth. It is also important to recognize that even if we consider a scientific explanation of our thought processes (or anything else) aesthetically or spiritually unsatisfying or unpalatable, that does not make it false. Our explanations must be guided by truth; truth cannot be adjusted to conform to what we want to hear.

Unfortunately, the current absence of a fully developed scientific theory of consciousness invites just the type of imprecise reasoning that leads to conclusions that conflict with known physical laws. Philosophy and metaphysics cannot explain an MRI machine, a television, or even a toaster. Can they explain consciousness, or why the universe is as we find it? Maybe, but as Deepak offers his explanations of a universal consciousness, I plan to hold to an important principle of science, skepticism. Deepak tells me that in our discussion he is the underdog. The data show otherwise. According to random samples, only 45 percent of the American public believes in evolution, but 76 percent believes in miracles. No presidential candidate can be credible without proclaiming a belief in some higher power, but many have found it politically advantageous to deny the theory of evolution. Science is not the lord of modern life Deepak imagines, but its underappreciated servant.

The answers of science don't come easily. Nobel Prize-winning physicist Steven Weinberg has dedicated his life to the tireless study of the theory of elementary particles, such as the electron, the muon, and the quark. Yet he wrote that he has never found those particles very interesting. Why then has he devoted his life to understanding them? Because he believes that at this moment in the history of human thought, their study offers the most promising way to achieve insight into the fundamental laws that govern all of nature. Some of the ten thousand scientists who worked, many for over a decade, to build the Large Hadron Collider, the multibillion-dollar particle accelerator in Geneva, probably didn't think the long hours of calibrating delicate instruments and fine-tuning spectrometers was all that fascinating either (though many certainly did!). They did it for the same reason Weinberg studied muons. Humans are unlike other animals in the questions they ask about their environment. When dropped into new surroundings, a rat will explore for a while, form a mental map, get safe, then stop probing. But a person will ask, Why am I in this cage? How did I get here? Where's the nearest decent coffee? Humans study science because we have an urge to know how our lives fit into the

greater scheme of the universe. That's one of the defining qualities of what makes us human. But the answers are only edifying if they are true. So to you, the reader, I would suggest that as you ponder Deepak's often very appealing worldview, you keep in mind the words of the iconic Caltech physicist Richard Feynman: the first principle is that you must not fool yourself—and you are the easiest to fool.

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