



## **Skeptics and True Believers: The Exhilarating Connection Between Science and Spirituality**

*Chet Raymo*

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Years ago, noted science teacher and writer Chet Raymo embarked upon his own quest to reconcile the miracle stories he learned as a child with the science he learned as an adult. *Skeptics and True Believers* is the culmination of that search—a passionate, ever-inquisitive statement that science and religion can mutually reinforce the way we experience the world.

Acknowledging that the scientific and the spiritual communities are increasingly split, Raymo builds strong bridges between them. He illustrates his argument with an array of thought-provoking stories, such as the remarkable migratory flight of a small bird called the red knot; the long, glorious glide of the Comet Hyakutake across the night sky; a hilarious alien abduction that didn't happen. Together, they are compelling evidence that religion should embrace the reliable knowledge of the world that science provides, while at the same time science should respect and nourish humankind's need for spiritual sustenance. "Miracles are explainable," Raymo paraphrases the writer Tim Robinson, "it is the explanations that are miraculous."

For anyone drawn to reflect on life's meaning and purpose, Chet Raymo's uncompromising skepticism and reverence for mystery will affirm and inspire.

## Skeptics and True Believers: The Exhilarating Connection Between Science and Spirituality Details

Date : Published June 1st 1998 by Walker Books (first published 1998)

ISBN : 9780802713384

Author : Chet Raymo

Format : Hardcover 288 pages

Genre : Religion, Nonfiction, Science, Philosophy, Spirituality, Christianity, History, Theology

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### Chazzle says

The book grabbed me right away, in its discussion of fairy tales, and that atoms, black holes, and all sorts of scientific concepts are really just man-made concepts denoting the unseen. Already, I could tell this would be a perception-altering book. And it was.

Had I been the editor, I would've deleted much of what the author learned in his encounters with other thinkers, such as Stephen Hawking and Pierre Teilhard de Chardin. Or, at least, I would have forced him to express the lessons much more in his own language, which is top-rate, to better match the rest of the book, if nothing else. (Of course, the likes of Hawking et al are also first-rate communicators; it's just that the bridge from quotations from their works to the general flow of the book was a bit rickety.)

That said, I should add a second warning that probably no ready will be 100% simpatico with the opinions of Chet Raymo.

OK, warnings aside, this is one of the deepest, most wonderful books I've read in a long time. It really caused me to view many things from perspectives that I've never dreamed of, and made for exhilarating reading, especially in the passages popularizing science. The book describes the miracle of everyday occurrences. For example, there is a species of bird whose DNA suffices, without training from parent birds, to guide the baby birds in flight from a northernmost Canada to southernmost South America. Think about it - it is a miracle.

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### Joel Roberts says

disappointing. i had hoped for a balanced read, but it was terribly lopsided and bias. the author probably dedicated 10% of the book to spirituality, and most of that he approached with a hostile and somewhat smug tone. moreover, i had a difficult time taking the author seriously when he made false statements about Christianity and inappropriate blanket statements on religion and faith.

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### bkwurm says

Interesting read. The author highlights the fact that while we embrace the technological and medical benefits of science, we frequently hold beliefs that contradict scientific thinking.

While the bulk of the book was focused on a brief debunking of those beliefs, for me, the most thought provoking bit was the illustration of just how scientifically illiterate we all are. This was done by asking which of the following terms the reader could confidently provide a reasonable explanation for : - ESP, PCR, Yeti, SETI, cosmic microwave background radiation, Adam and Eve, parallel processing, cellular automata, reincarnation, Loch Ness Monster, hot fusion, superconductivity, Shroud of Turin, Close Encounters of the Third Kind, the Genome project, the Bermuda Triangle, scanning tunneling microscope, horoscope.

As the author points out, the vast majority of us can do so for the terms that the scientific community considers bogus but few of us could do so for the terms derived from actual science. Food for thought

indeed.

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### **Thomas Stark says**

Raymo seems uninterested in why anyone chooses (if that's the word) to become a Skeptic rather than a True Believer. He suggests that skepticism will be the result of serious study of science, as occurred in his life. Why does he believe this?

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### **Lori says**

I discovered Chet Raymo's writing some time ago and have been picking up his works whenever I discover them - usually at used book stores or Friends of the Library sales. Some of the then cutting-edge science he writes about in this 1998 book is no longer cutting-edge, but there's still plenty to consider. As a religious naturalist I appreciate his insistence on scientific rigor. As a minister, I appreciate his acknowledgement that we are drawn more to poetry and story than to cold facts, presented in mind-numbing abstraction. There is much here in common with the work of Connie Barlow and Michael Dowd, as Raymo speaks also of "The Great Story" - a new, scientifically supported, story of creation. I'll be going back through a few essays, marking pages for future reference.

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### **Frank Jude says**

Skeptics are children of the Scientific Revolution and the Enlightenment; they accept the evolving nature of truth and are willing to live with uncertainty; since they hold their truths tentatively, they tend to be tolerant, more interested in refining their own views than in proselytizing others. True Believers tend to look outside of life and nature -- to god, spirits, extraterrestrials, angels -- for salvation. Their world is black and white, with Truth provided by revelation by a source more reliable than the mind; their universe is human-scaled, they are fearful of diversity, comforted by dogma and love to evangelize.

A recent Gallup poll indicates that nearly half of Americans believe in a geologically young Earth despite the fact that not a shred of evidence can be adduced in favor of the idea and a mountain of evidence is arrayed against it. These folk are True Believers, but so are most New Agers who may think of themselves as 'progressive' though in fact they are quite reactionary.

Raymo points out that we are a culture/society divided. We embrace the technological and medical fruits of science, but hold religious beliefs that stand in flat-out contradiction to the scientific way of knowing. What is wonderful about this book is that Raymo shows how a fusion of knowledge with religious feeling need not weaken the rigor of scientific skepticism. In fact, it can create a truly integrated spirituality that remains open to the new cosmology -- skeptical, empirical, ecumenical, and ecological -- and offering liturgical expression. His model, though using theistic language, can also work for non-theistic folk with 'spiritual' orientations. It is much in line with my Zen Naturalism.

I heartily recommend this book to all those with religious feeling and scientific, rationalistic understanding. I'd also LOVE to see True Believers read this, and see if they might not feel at least a bit inclined to step into wide-open uncertainty science invites us into. One metaphor Raymo uses is that scientific knowledge is an

island in a sea of mystery. If we can understand that this finite island exists within an infinite sea of mystery, than the growth of the island does not diminish the sea. In fact, the growth of the island increases the length of the shore along which we encounter mystery. It is Raymo's assertion that we are at our human best as creatures of the shore, with one foot on land and one in the sea. Bureaucrats, technocrats and drudges keep to the high ground. New Agers flounder in water over their heads with near horizons. At the shore, the creative work of the mind is done -- the work of the artist, poet, philosopher, and scientist. I'll meet you there!

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### **Willowwind says**

I have a fondness for Raymo. His writing has grace, humor and good science. This book is a gentle discussion of why the way that people approach belief leads to such conflicts in our perceptions of the world. An elegant philosophical bridge between the anthropological orientation of Atran, Rue and Boyer to the more socio-political works of Kirsh and Charles Freeman.

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### **Greg Simpson says**

Very good. Raymo, a retired physics and astronomy professor at Stonehill College in Massachusetts, is a skeptic who "just can't leave the idea of 'God' alone!" Although not a religious believer in an anthropomorphic, gray bearded, omniscient "sky father," he believes the concept of God can be subsumed into a reverent attitude toward the natural world. If we divest "religion" of all its supernaturalism, we are still able to get a sense of "the divine" inherent in nature. He discusses the differences between those like him, whom he calls skeptics, and the traditional religious believer, people he refers to as "true believers." Both see the world in quite different ways, of course, but both can share a sense of awe and wonder when confronted with our universe. Very interesting book.

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### **Trisha says**

Technically this book doesn't exactly qualify as "spiritual reading" and yet as far as I'm concerned it's one of the best "spiritual" books I've read in a long time. Possibly because Raymo sees things of the spirit as being firmly connected to everything else about the world in which we live. But the problem, according to Raymo, is that religion, with its deplorable history of rejecting what science keeps discovering, has made it difficult to keep that in mind. While not much of a scientist, I tend to agree with him (which is why I kept underlining and highlighting so much of this book!) Raymo expands upon the title of his book by examining two separate ways of dealing with our questions of faith. The first is the way of the Skeptics - those who, despite a deep-seated sense of "something" mysterious and profound at work in the evolution of the universe, have a hard time accepting the black and white answers that have been handed down for generations by the catechisms and doctrines religion espouses, preferring to trust that the human mind's ability to try making sense of the world is part of "God's plan." And so skeptics are comfortable looking at the world in shades of gray even though it means they are continually struggling with issues of faith and plagued by doubts. "True believers" on the other hand need to cling to the simple and certain truths that dogmas and doctrines provide and so anything that threatens that certainty is rejected -- even though it often means ignoring physical evidence that what they insist on believing is contrary to the laws of nature and science. Raymo identifies himself as belonging to the former group, adding that he "...believes words like God, soul, sacred, spirituality, sacrament and grace can retain currency in an age of science, once we strip them of outworn

overlays. . ." His book looks at the difference between the way we tend to know things and the way we go about continuing to insist on believing things even though there is evidence to the contrary. But at the same time he is passionate in insisting that science can enhance rather than diminish what we can know of the sacred. "Can we remain alive to the sacredness of nature and the specialness of human creation? Yes. Can we collectively worship an Absolute that exists beyond all possibility of human knowing, that creates and animates the universe? Yes. Can we live morally, with a shared sense of responsibility to each other and to the planet? Yes. But only if we begin with what reason tells us to be true and redeem our knowledge by our wisdom and our art, accepting the unalterable consistency of fact and meaning." For those of us who resonate with this view Chet Raymo's candid approach to the kinds of questions and doubts that plague us is a wonderful blend of skepticism and reverence. I'm convinced that a healthy spiritual life depends on both.

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### **Sharon Crosby says**

For anyone who finds the difficulties with religion because of its obvious conflict with scientific truth, Raymo sympathizes but goes on to discuss the connection between science and religion, a connection which many who espouse religion certainly would not accept or understand if they are fundamentalists. There is more than one kind of truth -- factual truth being just one kind. Great explanation of the the difference between scientific theory and religious belief.

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### **Mdaly says**

Tagline promised a lot more than it delivered. While Chet was pretty good at explaining the science his musings on religion were extremely poor and mostly anecdotal. He seemed to rely a lot on his memory of being brought up as a Catholic yet he never even engaged with the central tenet of Christianity, Christ. He naively gives scientists the benefit of the doubt in this discussion. He doesn't mention that most scientific enquiry these days is 'sponsored'. Such study is rarely neutral but typically done with a desired outcome. I think this was why he stuck to the safety of cosmology most of the time. He never entered into a discussion around the ethics of scientific experimentation on humans.

He seemed to almost obtusely single out Christian fundamentalist religion as his religious model. And when he dealt with miracles and other religious phenomena he chose topics he could easily dismiss. Interestingly, he said that he spent time in Ireland. It would have been an interesting study if he had applied his scientific skepticism to the Knock apparitions of 1879, where 15 people, of different ages and different families, claim to have witnessed a Marian apparition that lasted for 2 hours.

His dismissal of the soul fell into the same anthropomorphic fallacy he accused religious people of doing. He seemed to think the short human lifespan, so insubstantial when put against the age of the universe, was proof that we are fleeting specks in an uncaring firmament. Yet he never explained why the Universe's age should be the measure against which God's plan for mankind should be measured. He seems to imply that if God's plan was the creation of mankind well he should have got on with it sooner rather than leaving homo sapiens as the afterthought at the end of Time. That is illogical on so many levels. At no point did he reference theologians on the subject but stuck with the same tried and trusted sources that confirmed his view. He never once mentioned 'Natural Law Ethics'. It would appear in his view faith went from paganism to fundamentalism in one fell swoop. He even avoided mention of the patrimony of the Church in promoting science, hence the calendar we use today!

I was getting frustrated with Chet's obvious anti-Christian bias, Christ was reduced to the role of MiddleEastern guru, and hoping to get to the substance of his argument sooner. But it turns out the substance of his argument is that we should revert to some sort of nature worship. What a let down!

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## Eric\_W says

Raymo is a physicist and astronomer who cannot quite accept the idea of God, nor quite leave it alone. He makes the case that science is part of the "traditional religious quest for the God of creation." He defines a vital religious faith as having three components: a shared story of the universe and our place in it (cosmology), a personal response to the mystery of the world (spirituality) and a public expression of awe and gratitude (liturgy). Before getting into his argument, he identifies two "postures" that reveal the schism in our culture: Skeptics and True Believers. The Skeptic trusts the human mind to make sense of the universe, accepting the "evolving nature of truth" and a measure of uncertainty.

True Believers look to the outside for help in understanding God, spirits, extraterrestrials, looking beyond human capabilities. "They are repulsed by diversity, comforted by dogma, and respectful of authority." Many great religious leaders can be counted among the Skeptics and numerous scientists, blindly accepting the authority of science, fit into the category of True Believers. Our culture is woefully schizophrenic. We embrace the fruits of technology and science while often holding religious beliefs flatly contradicted by scientific evidence. A 1993 poll revealed almost 50% of Americans believe in a geologically young earth despite overwhelming evidence to the contrary. A two-to-one majority of Americans picked religion when queried which explanation they would choose between conflicting religious and scientific explanations. Raymo finds his miracles in the wonders of the world: the Red Knot a bird that flies 9,000 miles to return to specific feeding grounds without ever having been there. This ability is apparently coded in its DNA, an extraordinarily simple sequence of paired nucleotides that enables profound complexity. "Miracles are explainable; it is the explanations that are miraculous." Ironically, what the Skeptic believes is often harder to imagine than what the True Believer accepts: the impossibly twisted strands of DNA reproducing themselves flawlessly, versus the familiar finger of God imparting life to Adam. The Skeptic is willing to believe the unfamiliar. "Certainly it is easier to believe in fairies than in DNA. It is also more consoling, more selfedifying, more entertaining. Fairies play into the whole gamut of human emotions: love, fear, power, powerlessness, 'the land of lost content' of childhood. But 'fairies' are a concept we can do without and still make perfect sense of the world. We cannot do without the concept of DNA whether we are Skeptics or True Believers." Science is deliberately boring, he says. It is the "one human endeavor that has proven relatively immune to the passions that divide us. There is no such things as Jewish science, Christian science, Muslim science, Buddhist science. There is no such thing as male or female science, black or white science, Democratic or Republican science." That doesn't mean it can't be misused or misinterpreted or argued about, but it remains a tool "for human improvement that is anchored in repeatable, verifiable observation, rather than in prejudice and passionate conviction." "Give me evidence for your belief," Raymo asks, to which the response often is, "It makes me feel good," or "The truth is out there." "They have become, in short, True Believers by default. And fair enough. Certainly it is better to feel good than to feel bad. But the price the True Believer pays for feeling good can be a chasm between intellect and intuition, and exile from a scientific story of the universe that, like it or not, is our best story, a story that is empirically reliable and therefore ultimately more meaningful than any mishmash of New Age enthusiasms. The choice, on the face of it, is between a hard truth or an easy high." Yet, to use his metaphor, "knowledge remains an island in a sea of mystery." We all yearn to be part of something greater than ourselves. Yet finding the proper balance between yearning and learning is essential. . . "We learn by hard experience that miracles don't happen. . . . We cannot be fully human without both. . . . Yearning without learning is seeing Elvis in a crowd. . . [or] following whatever current guru offers the most promising prospects of eternal life. . . . Learning without yearning is pedantry, scientism, idées fixes. . . believing that we know it all, that what we see is what

we get, that nothing exists except what can be presently weighed and measured. . . science without a heart, without a dream, without a hope of beauty.. . Yearning without learning is seeing the face of Jesus in a gassy nebula. Learning without yearning is seeing only the gas.”

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### **Lump says**

The book is certainly not objective or neutral, but it would be pretty boring if it was, so that's fine. I get it, and I think the points made are rational and valid, but personally I greatly respect "True Believers" in some ways, and even envy them. I think some things are better left unscrutinized and picked apart, for their beauty and the positive effects they can bring, the comfort they can give. There is no need to categorically belittle "True Believers" the way Raymo does, but I'm strongly in favor of critical thinking.

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### **Kimberly says**

I liked the points presented in the book. Chet Raymo is a good author who points out the pros and cons of both Science and Religion. An excellent read for the open-minded.

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### **Alan Michael Wilt says**

An accessible and enlightening review of the connections/disconnections between science and religion.

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### **BJ Richardson says**

I had to plow through the first 2/3 to get to the good stuff. His argument isn't with Christianity, it is with fundamentalism. Of that I don't have a problem. But he paints his argument against fundamentalism (what he calls "true believers") in such a way that most Christians, of any stripe, would be offended. If you can wade past this, and his dogmatic (shall we say fundamentalist?) view of the superiority of science (skepticism) over religion, there is a lot to be gleaned in the last few pages.

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### **Linda Branham Greenwell says**

A very thought provoking look at the perspectives from each point of view

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### **TJ says**

The author is a little too smug for me. And he's so definite skeptics are the best and true believers are fools who believe in anything. I was hoping for a better examination of faith and science and the interplays, instead I got a book bashing religion and people who believe in religion.

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## **Nancy says**

Raymo does not convince me with his New Story. If you take away man's belief in immortality, you take away his hope and motivation for goodness. Raymo says that angels and other miraculous events can't be real because they can't be scientifically proven. I say, that's why they're miracles.

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## **Amy says**

Raymo presents the idea that people are divided into two categories: Skeptics and True Believers. Clearly labeling himself a skeptic, he proceeds to explain how religion needs to catch up to science and incorporate science. While he makes some fascinating points and explains the wonder of nature and science, he dismisses many treasured religious concepts.

Personally, I consider myself to be a very scientific person, but a few of Raymo's chapters and ideas were hard for me to swallow. While he professes that it is illogical to say something is impossible just because you, individually, don't believe it's possible, he seems to think a lot of things are impossible.

I enjoyed the book because he presented his ideas, which often oppose my own, in a way that did not seem arrogant or condescending. However, I guess my own skeptic mind just cannot allow me to fall into his arena of true belief. He has not converted me to a religion of scientific wonder, but I appreciated reading his perspective.

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