WHY PEOPLE BELIEVE WEIRD THINGS

PSEUDOSCIENCE, SUPERSTITION, AND OTHER CONFUSIONS OF OUR TIME

Michael Shermer

Foreword by
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Why do so many people believe in mind reading, past-life regression therapy, abductions by extraterrestrials, and ghosts? What has led to the rise of "scientific creationism" and the belief that the Holocaust never happened? Why, in this age of supposed scientific enlightenment, do we seem to be more dangerously confused than ever?

With a no-holds-barred assault on popular superstitions and prejudices, science historian Michael Shermer debunks these extraordinary nonsensical claims and explores the very human reasons we find otherworldly phenomena, conspiracy theories, and cults so appealing. The editor of Skeptic magazine and the director of the Skeptics Society, Shermer shows how the eternal search for meaning and spiritual fulfillment often results in our thinking being led astray by incredible claims and controversial ideas.

But Shermer also reveals the more dangerous and fearful side of wishful thinking, including Holocaust denial, the effort to incorporate creationism into public school curricula, the recovered memory movement, the satanic ritual abuse scare and other modern witch crazes, extreme Afrocentrism, and ideologies of racial superiority.

Finally, Shermer describes his confrontations with those who take advantage of people's gullibility to advance their own, often self-serving, agendas. As a champion of science and history, he brilliantly exposes the all-too-human figures hiding behind the imposing curtain of myth and superstition.

Compelling and often disturbing, Why People Believe Weird Things is at times an insightful portrait of our immense capacity for self-delusion, but ultimately a celebration of the scientific spirit.

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To the memory of Carl Sagan, 1934-1996. His lecture on "The Burden of Skepticism," gave me a beacon when I was intellectually and professionally adrift, and ultimately inspired the birth of the Skeptics Society, and this book, as well as my commitment to skepticism and the liberating possibilities of science.
I have given the evidence to the best of my ability. We must, however, acknowledge, as it seems to me, that man with all his noble qualities, with sympathy which feels for the most debased, with benevolence which extends not only to other men but to the humblest living creature, with his god-like intellect which has penetrated into the movements and constitution of the solar system—with all these exalted powers—Man still bears in his bodily frame the indelible stamp of his lowly origin.

—Charles Darwin, *The Descent of Man*, 1871
On the evening of March 10, 1995, I entered a 400-seat lecture hall at the University of California, Los Angeles, five minutes before the debate was to begin. There wasn’t an empty seat in the house, and the aisles were beginning to fill. Fortunately, I had a seat on the dais, as I was the latest in a long line of challengers to Duane T. Gish, creationist laureate and one of the directors of the Institute for Creation Research, the “research” arm of Christian Heritage College in San Diego. This was my first debate with a creationist. It was Gish’s 300th-plus debate against an evolutionist. Las Vegas was not even giving odds. What could I say that hundreds of others had not already said?

In preparation, I read much of the creationist literature and reread the Bible. Twenty years ago, I had read the Bible very carefully as a theology student at Pepperdine University (before I switched to psychology), and, like many in the early 1970s, I had been a born-again Christian, taking up the cause with considerable enthusiasm, including “witnessing” to non-believers. Then, during my graduate training in experimental psychology and ethology (the study of animal behavior) at California State University, Fullerton, I ran into the brilliant but eccentric Bayard Brattstrom and the insightful and wise Meg White. Brattstrom was far more than one of the world’s leading experts in behavioral herpetology (the study of reptilian behavior). He was well versed in the philosophical debates of modern biology and science, and regularly regaled us for hours with philosophical
musings over beer and wine at the 301 Club (named for the nightclub's address) after the Tuesday night class. Somewhere between Brattstrom's 301 Club discussions of God and evolution and White's ethological explanations about the evolution of animal behavior, my Christian icthus (the fish with Greek symbols that Christians wore in the 1970s to publicly indicate their faith) got away, and with it my religion. Science became my belief system, and evolution my doctrine. Since that time the Bible had taken on less importance for me, so it was refreshing to read it again.

As additional preparation, I interviewed others who had debated Gish successfully, including my colleague at Occidental College, Don Prothero, and watched videotapes of earlier debates with Gish. I noticed that regardless of his opponent, his opponent's strategy, or even what his opponent said, Gish delivered the same automated presentation—same opening, same assumptions about his opponent's position, same outdated slides, and even the same jokes. I made a note to steal his jokes if I went first. A toss of the coin determined that I would start.

Rather than go toe-to-toe with a man so seasoned in the ways of debate, I had decided to try a version of Muhammed Ali's rope-a-dope strategy by refusing to engage in debate. That is, I turned it into a meta-debate about the difference between religion and science. I began by explaining that the goal of skeptics is not just to debunk claims; it is also to examine belief systems and understand how people are affected by them. I quoted Baruch Spinoza—"I have made a ceaseless effort not to ridicule, not to bewail, not to scorn human actions, but to understand them"—and explained that my real purpose was to understand Gish and the creationists so that I could understand how they can reject the well-confirmed theory called evolution.

I then read parts of the biblical creation story (Gen. 1) to the audience.

In the beginning God created the heavens and the earth.

And the earth was without form, and void; and darkness was upon the face of the deep. And the Spirit of God moved upon the face of the waters.

And God said, "Let there be light"; and there was light... And God called the light Day, and the darkness He called Night. And the evening and the morning were the first day.

And God said, "Let the waters under the heaven be gathered together unto one place, and let the dry land appear"; and it was so.

And God said, "Let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in it itself, upon the earth"; and it was so.
And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind; and God saw that it was good.

And God said, “Let the earth bring forth the living creature after his kind, cattle, and creeping thing, and beast of the earth after his kind”; and it was so.

And God said, “Let Us make man in Our image, after Our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth, and over every living thing that creepeth upon the earth.”

The Bible follows the story of creation with a re-creation story (Gen. 7–8).

And Noah went in, and his sons, and his wife, and his sons’ wives with him, into the ark, because of the waters of the flood.

And the rain was upon the earth forty days and forty nights.

And all flesh died that moved upon the earth, both of fowl, and of cattle, and of beast, and of every creeping thing that creepeth upon the earth, and every man.

And the waters returned from off the earth continually; and after the end of the hundred and fifty days the waters were abated.

These stories of creation and re-creation, birth and rebirth, are among the most sublime myths in the history of Western thought. Such myths and stories play an important role in every culture, including ours. Around the world and across the millennia, the details vary but the types converge.

**No Creation Story:** “The world has always existed as it is now, unchanging from eternity.” (Jainists of India)

**Slain Monster Creation Story:** “The world was created from the parts of a slain monster.” (Gilbert Islanders, Greeks, Indochinese, Kabyles of Africa, Koreans, Sumero-Babylonians)

**Primordial Parents Creation Story:** “The world was created by the interaction of primordial parents.” (Cook Islanders, Egyptians, Greeks, Luiseno Indians, Tahitians, Zuñi Indians)

**Cosmic Egg Creation Story:** “The world was generated from an egg.” (Chinese, Finns, Greeks, Hindus, Japanese, Persians, Samoans)

**Spoken Edict Creation Story:** “The world sprang into being at the command of a god.” (Egyptians, Greeks, Hebrews, Maidu Indians, Mayans, Sumerians)
Sea Creation Story: “The world was created from out of the sea.”
(Burmese, Choctaw Indians, Egyptians, Icelanders, Maui Hawaiians, Sumerians)

The Noachian flood story, in fact, is but one variation on the Sea Creation Story, except that it is a myth of re-creation. The earliest version we have is ancient, predating the biblical story by over a thousand years. Around 2800 B.C.E., a Sumerian myth presents the flood hero as the priest-king Ziusudra, who built a boat to survive a great deluge. Around 2000 to 1800 B.C.E., the hero of the famous Babylonian Epic of Gilgamesh learns of the flood from an ancestor named Utnapishtim. Warned by the Earth-god Ea that the gods were about to destroy all life by a flood, Utnapishtim was instructed to build an ark in the form of a cube 120 cubits (180 feet) to a side, with seven floors, each divided into nine compartments, and to take aboard one pair of each living creature. The Gilgamesh flood story floated (pardon the pun) for centuries throughout the Near East and was known in Palestine before the arrival of the Hebrews. Literary comparison makes its influence on the Noachian flood story obvious.

We know that a culture’s geography influences its myths. For example, cultures whose major rivers flooded and destroyed the surrounding villages and cities told flood stories, as in Sumeria and Babylonia where the Tigris and Euphrates rivers periodically flood. Even cultures in arid regions have flood stories if they are subject to the whims of flash flooding. By contrast, cultures not on major bodies of water typically have no flood stories.

Does all this mean that the biblical creation and re-creation stories are false? To even ask the question is to miss the point of the myths, as Joseph Campbell (1949, 1988) spent a lifetime making clear. These flood myths have deeper meanings tied to re-creation and renewal. Myths are not about truth. Myths are about the human struggle to deal with the great passages of time and life—birth, death, marriage, the transitions from childhood to adulthood to old age. They meet a need in the psychological or spiritual nature of humans that has absolutely nothing to do with science. To try to turn a myth into a science, or a science into a myth, is an insult to myths, an insult to religion, and an insult to science. In attempting to do this, creationists have missed the significance, meaning, and sublime nature of myths. They took a beautiful story of creation and re-creation and ruined it.

To show the absurdity of trying to turn a myth into a science, one has only to consider the realities of fitting two each of millions of species, let alone their food, into a boat 450 by 75 by 45 feet. Consider the logistics of
feeding and watering and cleaning up after all those animals. How do you keep them from preying on one another? Do you have a predators-only deck? One might also ask why fish and water-based dinosaurs would drown in a flood. Creationists are undaunted. The Ark carried "only" 30,000 species, the rest "developing" from this initial stock. The Ark did indeed have separate decks for predators and prey. It even had a special deck for dinosaurs (see figure 14). Fish? They died from the silt churned up by the violent storms of the flood clogging their gills. With faith one can believe anything because God can accomplish anything.

It would be difficult to find a supposedly scientific belief system more extraordinary than creationism, whose claims deny not only evolutionary biology but most of cosmology, physics, paleontology, archeology, historical geology, zoology, botany, and biogeography, not to mention much of early human history. Of all the claims we have investigated at Skeptic, I have found only one that I could compare to creationism for the ease and certainty with which it asks us to ignore or dismiss so much existing knowledge. That is Holocaust denial. Further, the similarities between the two in their methods of reasoning are startling:
1. Holocaust deniers find errors in the scholarship of historians and then imply that therefore their conclusions are wrong, as if historians never make mistakes. Evolution deniers (a more appropriate title than creationists) find errors in science and imply that all of science is wrong, as if scientists never make mistakes.

2. Holocaust deniers are fond of quoting, usually out of context, leading Nazis, Jews, and Holocaust scholars to make it sound like they are supporting Holocaust deniers' claims. Evolution deniers are fond of quoting leading scientists like Stephen Jay Gould and Ernst Mayr out of context and implying that they are cagily denying the reality of evolution.

3. Holocaust deniers contend that genuine and honest debate between Holocaust scholars means they themselves doubt the Holocaust or cannot get their stories straight. Evolution deniers argue that genuine and honest debate between scientists means even they doubt evolution or cannot get their science straight.

The irony of this analogy is that the Holocaust deniers can at least be partially right (the best estimate of the number of Jews killed at Auschwitz, for example, has changed), whereas the evolution deniers cannot even be partially right—once you allow divine intervention into the scientific process, all assumptions about natural law go out the window, and with them science.

It is also important to understand that what may appear to be "warfare" between science and religion, especially when this debate is promoted as "evolution v. creationism," or in this case "Shermer v. Gish," is not a war in most people's minds. Even Charles Darwin saw no problem with integrating his theory with the prevailing doctrines of his age, as he wrote in a letter late in his life: "It seems to me absurd to doubt that a man can be an ardent Theist and an Evolutionist. Whether a man deserves to be called a Theist depends upon the definition of the term, which is much too large a subject for a note. In my most extreme fluctuations I have never been an Atheist in the sense of denying the existence of a God. I think that generally (and more and more as I grow older, but not always), that an Agnostic would be the more correct description of my state of mind" (1883, p. 107).

Many creationists would be surprised to learn that some prominent skeptics either harbor no animosity against religion or are themselves believers. Stephen Jay Gould once wrote, "Unless at least half my colleagues are dunces, there can be—on the most raw and empirical grounds—no conflict between science and religion" (1987a, p. 68). Steve Allen
explained, “My present position as to the existence of God is that though it seems utterly fantastic, I accept it because the alternative seems even more fantastic” (1993, p. 40). Martin Gardner (1996), the skeptics’ skeptic, calls himself a *fideist*, a philosophical theist who says *credo consolans*—I believe because it is consoling. Given a metaphysical problem impossible to resolve through science or reason (like the existence of God), says Gardner, it is acceptable to make a leap of faith. These are hardly fighting words.

Even Pope John Paul II, on October 27, 1996, in an address to the Pontifical Academy of Sciences in Rome, declared his acceptance of evolution as a fact of nature and noted that there is no war between science and religion: “Consideration of the method used in diverse orders of knowledge allows for the concordance of two points of view which seem irreconcilable. The sciences of observation describe and measure with ever greater precision the multiple manifestations of life…while theology extracts…the final meaning according to the Creator’s designs.” Pushing the warfare model, creationists and the Christian right reacted angrily. Henry Morris, emeritus president of the Institute for Creation Research, responded that “the pope is just an influential person; he’s not a scientist. There is no scientific evidence for evolution. All the real solid evidence supports creation.” Cal Thomas, the conservative right-wing author, stated in his *Los Angeles Times* column that despite the pope’s stand against communism, “he has accepted a philosophy that stands at the core of communism.” Thomas explained away this error in the pope’s thinking by concluding that he “has succumbed in his declining years to the tyranny of evolutionary scientists who claim we are related to monkeys.” (All cited in *Skeptic*, Vol. 4, No. 4, 1996.)

For some believers, the warfare model forces an either-or choice between science and religion to account for the woes of civilization. Since a benevolent and omnipotent God could not cause such evil as we see around us, the explanation is obvious, as Judge Braswell Dean of the Georgia Court of Appeals noted in his opinion on whether creationism should be taught in public schools: “This monkey mythology of Darwin is the cause of permissiveness, promiscuity, pills, prophylactics, perversions, pregnancies, abortions, pornography, pollution, poisoning, and proliferation of crimes of all types” (*Time*, March 16, 1981, p. 82). The alliteration is lovely. The sentiment is not.

Nell Segraves, of the Creation-Science Research Center, was no less adamant: “The research conducted by CSRC has demonstrated that the results of evolutionary interpretations of science data result in a widespread breakdown of law and order. This cause and effect relationship
stems from the moral decay of mental health and loss of a sense of well being on the part of those involved with this belief system, i.e., divorce, abortion, and rampant venereal disease" (1977, p. 17). The evolution tree from the Pittsburgh Creation Society (figure 15) sums up this warfare model—evolution must fall, along with the evils of humanism, alcohol,
abortion, cults, sex education, communism, homosexuality, suicide, racism, dirty books, relativism, drugs, moral education, terrorism, socialism, crime, inflation, secularism, that evil of all evils, hard rock, and, God forbid, women's and children's liberation.

The perceived implications of evolution for ethics and religion are what really disturb Gish and the creationists; for them, all other arguments about evolution are secondary. They are convinced that somehow belief in evolution leads to loss of faith and all sorts of social evils. How do we deal with these fears? Here are four brief replies.

- The use or misuse of a theory does not negate the validity of the theory itself. Marx once claimed that he was not a Marxist. Darwin would undoubtedly be spinning in his grave if he knew how the twentieth century has used his theory to justify all manner of ideologies, from Marxism to capitalism to Fascism. The fact that Hitler implemented a eugenics program does not negate the theory of genetics. Similarly, any correlation between loss of faith and belief in evolution cannot touch the theory of evolution. Scientific theories are neutral; the use of theories is not. They are two different things.

- The creationists' list of social problems—promiscuity, pornography, abortion, infanticide, racism, and so on—obviously existed long before Darwin and the theory of evolution. In the several thousand years before Darwin came along, Judaism, Christianity, and other organized religions failed to resolve these social problems. There is no evidence that the fall of evolution-science will either mitigate or eradicate social ills. To blame Darwin, evolutionary theory, and science for our own social and moral problems is to distract us from a deeper analysis and better understanding of these complex social issues.

- Evolution theory cannot replace faith and religion, and science has no interest in pretending that it can. The theory of evolution is a scientific theory, not a religious doctrine. It stands or falls on evidence alone. Religious faith, by definition, depends on belief when evidence is absent or unimportant. They fill different niches in the human psyche.

- To fear the theory of evolution is an indication of a shortcoming in one's faith, as is looking to scientific proof for justification of one's religious beliefs. If creationists have true faith in their religion, it should not matter what scientists think or say and scientific proof of God or biblical stories should be of no interest.

I concluded my meta-debate analysis with a show of goodwill by offering Gish an honorary membership in the Skeptics Society. I was later forced
to retract the offer, however, when Gish refused to retract his characterization of me as an atheist. As Darwin said, "An Agnostic would be the more correct description of my state of mind." I knew Gish had a lengthy section in his presentation on the evils of atheism as a technique to destroy his opponents (who typically are atheists), so I made a point of stating in my introduction, loud and clear, that I am not an atheist. I even called the audience's attention to the man passing out anti-Christian literature, who was now sitting in the front row, and I told him that I thought he was doing more harm than good. Nonetheless, in his opening statement Gish called me an atheist and then proceeded with his automated diatribe against atheism.

The rest of Gish's presentation was his stock litany of jokes and jabs against evolution. He demanded one transitional fossil (I provided several), argued that the bombardier beetle could not have evolved its noxious spray (it could), claimed that evolution violates the second law of thermodynamics (it doesn't because the Earth is in an open system with the Sun as a continuing source of energy), stated that neither evolution-science nor creation-science is scientific (odd for someone calling himself a creation-scientist), and so on. I rebutted all of his points, and in the next chapter I summarize them one by one and provide evolutionists' answers to them.

Who won the debate? Who knows? A more important question to address is whether skeptics and scientists should participate in such debates. Deciding how to respond to fringe groups and extraordinary claims is always a tough call. It is our job at Skeptic to investigate claims to discover if they are bogus, but we do not want to dignify them in the process. The principle we use at Skeptic is this: when a fringe group or extraordinary claim has gained widespread public exposure, a proper rebuttal deserves equal public exposure. Whether my meta-debate tactic worked with Gish, I have no way of knowing, although a number of people who had come to root for Gish thanked me afterward for at least trying to understand them. It is for these folks, and for those in the middle who are uncertain as to which direction to lean, that I think debates such as this can make a difference. If we can offer a natural explanation for apparently supernatural phenomena and make three or four simple points about science and critical thinking so that listeners can learn how to think instead of what to think, then I believe it is well worth the effort.