

A State of Belief Is a State of Being

CHARLES EISENSTEIN

*Department of Science, Technology, and Society
Penn State University
e-mail: cde123@psu.edu*

Abstract—When students in a university classroom are invited to share anomalous stories, the "skeptical" tactics used to debunk them seem reasonable at first, but eventually reveal a worldview that is cynical, arrogant, dogmatic, and unfalsifiable. Because any new evidence can, with sufficient effort, be made to fit a preexisting paradigm, belief is seen to come down to choice. Moreover, like most belief systems, the worldview of the Skeptic has an emotional component, long ago identified by Bertrand Russell and others as a meaninglessness or despair inherent in classical science. The choice of belief therefore extends beyond a mere intellectual decision, to encompass one's identity and relationship to the world. This approach conflicts with traditional scientific objectivity, which enjoins that belief be detached from such considerations. The relationship between observation and belief is more subtle than the traditional scientific view that the latter must follow dispassionately from the former. Indeed, the "experimenter effect" in parapsychology, as well as the mounting problems with objectivity in mainstream science, suggest a need to reconceive science and the Scientific Method in light of the crumbling of the assumption of objectivity upon which it is based.

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For several years now I have conducted a rather unusual activity in my classroom at Penn State. I ask my class—approximately 45 students representing a broad cross-section of the student body—to bring in a story that "doesn't fit into scientific reality." I tell them it could be anything—a ghost story, something with alternative medicine, a UFO sighting, a dream that came true, an experience with a fortune teller or Ouija board ... anything. "If you've never had such an experience," I say, "ask your friends and relatives." The justification I give them beforehand is that by considering what our culture categorizes as "unscientific," we will shed light on what the adjective "scientific" means as well.

When they begin sharing their stories in turn, I unleash a little surprise. I debunk their stories as best as I possibly can, using all the weapons in the Skeptical arsenal. I explain their stories away as confabulation, hallucination, and selective memory. I appeal to coincidence. I contrive mechanistic explanations. I impugn their integrity or the integrity of their friends. I accuse them of attention-seeking. I question their sanity. I imply they were on drugs, drinking too much, emotionally distraught, mentally unstable.

To give the reader a flavor for this exercise, I will share a few samples.

Michelle: "At 3:00 a.m., my mother woke up suddenly to see her mother looking over my brother's bassinet. She got scared from seeing such a thing, and when she looked back towards my brother, the image of my grandma was gone. My mom waited up all night worrying that something terrible happened. At 7:00 that same morning she got a call from her father saying that my grandma had passed away at 3:00 a.m. that night."

My debunking: "Your mother probably knew her mother was gravely ill, and was constantly worrying and obsessing about it, losing sleep (as you imply). In her distraught state, she even started hallucinating. It was just coincidence that your grandmother died around the time she had that hallucination. In fact, probably she didn't die at exactly the same time at all. The hallucination probably happened several hours or even days before her death, but for the sake of a dramatic story your family has remembered them as happening simultaneously. Probably your mother couldn't handle the intensity of the grief, so she created this story as part of her psychological mechanism of denial."

John: "In high school I had three pretty serious automobile accidents. Each time when I called home, my mother picked up the phone on the first ring and said immediately, 'Are you all right?' She only answered the phone like that those three times."

My debunking: "You are wrong, John, your mother answers the phone like that quite often, because she is a worry-bug who constantly imagines something terrible has happened to someone. So of course once in a while she gets it right, and those are the times you remember."

John: "No she's not, she's very sensible and down to earth."

Me: "You only think so because you've bought into it too and don't even notice anymore. You are probably emotionally dependent on your mother's overprotection. Poor baby, are you all right?"

Zack: "When I was around the age of 12, I had a very memorable dream. I was a gold prospector during the gold rush. In the dream I had my land marked off with rope, all my tools together and I was mining at Pikes Peak in California (sic). As the dream continued I went from prospector to having people mine for me. I was becoming more and more wealthy until one day an earthquake took my house and my family. I tried to rebuild but I couldn't. Everything in my life was beginning to fail. I couldn't understand why I was such a loser in life after all I had once achieved. I then woke up in my bed; it was time for school. I slipped on my clothes after my morning preparations. Around lunch time I reached into my jacket pocket to find money for the lunch lady and felt an oversized coin. The coin was dated 1880 and was solid gold. To this day I don't know where the coin came from and why it ended up in my pocket." (Upon questioning, Zack added that it was a \$20 gold piece in excellent condition. These are worth thousands of dollars today. How did such a thing get into a schoolboy's pocket?)

My debunking: "You had been interested in the Gold Rush, so as a joke, your dad or your uncle put that coin in your pocket. Your obsession with the Gold Rush also explains your vivid dream. Or maybe you had the gold piece and knew about it; actually you had it long before the dream, but remember finding it as after. Or, more likely still, Zack, you stole the coin from your dad's coin collection and felt guilty about it, so you made up a story about how it 'suddenly appeared' in your pocket. Come on, admit it!"

Chris was working as an emergency medical technician. Arriving at the scene of an accident, he was trying to decide which victim was the highest priority for treatment when a little girl tugged at his shirt and said, "Help my dad." Chris asked where her dad was and she pointed over the embankment into the woods. Scrambling down, he found a jogger, out of sight of the road, drifting in and out of

consciousness—apparently when the two vehicles collided they also hit the jogger. Loading him onto an ambulance, Chris yelled to a police officer to watch out for the jogger's daughter, but the police officer could not find her. A month later the jogger came to thank him and brought a cake. "How did you find me down there?" he asked. "Your daughter told me." "I don't have a daughter!"

My debunking: "Probably the girl was just a passenger in the car who saw the jogger get hit. She only called him daddy because she was disoriented from the accident."

One more example: Grandma's photo falls off the mantelpiece the moment she unexpectedly dies in another state.

My debunking: "It was just a sudden gust of wind. It was summer, right? Your windows were probably open. A photograph is not that heavy. Probably it wasn't the exact moment of her death. You just connected these two events in the human brain's natural proclivity to find patterns, to the point of projecting them onto random events."

If all else fails, there is always the file-drawer effect: "It was just coincidence. We never hear about the numerous times someone's photograph fell down and the person was perfectly okay, or when someone has a dream that doesn't come true." Another all-purpose response that I like to use when the stories are simply impossible to explain away is, "You are making this up, aren't you, Scott. You want us to think you are special, don't you?" But my favorite response in the college classroom (for recent experiences) is, "Say, Bill, were you drinking a lot around that time?" If it is a second-hand story, I can claim that the narrator was lied to, and that my judgment of the witness's integrity is better than his own. "Your grandmother is obviously mentally unstable, but you can't recognize it." With these techniques, I can explain anything.

As we go around the room, something rather unexpected happens. My first few explanations meet with general assent, judging from the heads I see nodding. (The response of the debunking "victim" is typically a dubious "I guess it could have happened that way," or a defiant, "You are wrong, I know it was real.") But after five or six stories, my efforts begin to seem contrived and my explanations decreasingly persuasive. The charges of selective memory, confabulation, attention-seeking, fraud, hallucination, coincidence, and so forth—along with a little character assassination when necessary—appear perfectly reasonable at first, but soon it becomes clear that the debunker himself is blindly committed to his own dogmatic worldview that is impervious to any evidence.

Let me hasten to add that Skepticism and belief represent two poles that are *both* present, to varying degrees, in any real person. (Throughout this essay I use "Skeptic" capitalized to denote a confirmed unbeliever, as exemplified by organizations that call themselves "skeptical.") Even the most hardened Skeptic has moments when he believes someone just because what is said rings true. Meanwhile, the most fervent believer sometimes finds herself saying, "That couldn't have happened, there must be some other explanation." Curiously, as I listen to my students' stories, I often hear both voices at once. Part of me is amazed even as another part dismisses the story. That latter part always craves proof, more and more proof. No amount is sufficient to quiet that voice, because another interpretation is always possible. At some point a decision to believe is

necessary. If I claimed I could control the flip of a coin, how many consecutive heads would it take to convince you? Ten? Twenty? That is a p-value of 0.000001, but it could still be coincidence, and conventions about p-values are no substitute for certainty. We can still choose to disbelieve. Or we can question the premises of the statistics. For the coin flipping, would you check my background to see if I were a trained stage magician? Would you examine the coin? Ask me to perform shirtless? Under video surveillance? And later, would you wonder whether you had just imagined it? No amount of proof can quench the thirst for certainty.

The unfalsifiable worldview of the Skeptic extends far beyond scientific paradigms to encompass a very cynical view of human nature. The debunker must buy into a world full of frauds, dupes, and the mentally unstable, where most people are less intelligent and less sane than he is, and in which apparently honest people indulge in the most outrageous mendacity for no good reason, for the witnesses are, on the face of it, sincere. How can I account for their apparent sincerity? I have to assume either (1) that this apparent sincerity is a cynical cover for the most base and fatuous motives, or (2) the witnesses are ignorant, incapable of distinguishing truth from lies and delusion.

Most of the Skeptical materials I have encountered invoke "reason" as the highest principle of human thought, implicitly assuming their authors to possess this virtue in superior quantities. Behind most Skeptical explanations is the belief "I am better (smarter, saner, etc.) than you are."

For example, when I offer a trivial mechanistic explanation (a gust of wind) of an anomalous event, I am implying that the witness is too incompetent or stupid an observer to consider it.

When I appeal to selective memory or confabulation, I am implying that the witness's own mentation is out of touch with objective reality . . . but I would not do that with my memories.

When I charge that the witness has been duped, I imply that he is incompetent and gullible, but that a rational, intelligent person like me would never be taken in by the fraud. I also imply that he is a poor judge of human character, unable to tell a conniving charlatan from a sincere person.

Many if not all of my explanations come down to one of the following:

- "I am a better judge of human character than you are."
- "You are missing an obvious explanation that I would have found if I were there"; in other words, "I am a better, more rational observer of reality than you are."
- Similarly, "You are a very poor observer."
- "You are mentally unstable; I would not be subject to such delusions."
- "You are lying; you are a person of inferior integrity."
- "It couldn't have happened because reality just is not like that." (Here I simply deny another person's experience. "I saw a UFO." "No you didn't!")

a "The connections you draw are coincidence; the meaning you derive is your own projection." ("I know how reality works and you don't.")

Clearly, beliefs about the nature of physical reality are connected to beliefs about human nature. These, in turn, determine how we relate to the world. Beliefs are not just thoughts floating around in the head, they are part of our embodiment and they manifest as actions. In other words, a state of belief is a state of being. The Skeptical versus the believing mindset can represent a choice between suspicion and trust, between cynicism and sincerity. When we reject, even intellectually, that synchronicities have any meaning beyond what we project onto them, we are also rejecting that the events of our lives are meaningful. Do things happen for a reason, a purpose? Do we have a destiny? Is there a purpose to life beyond survival and reproduction, or its economic equivalent, the maximization of rational self-interest? The Skeptical mindset says no.

The Skeptical mindset, which is the mindset of classical science, inevitably generates feelings of emptiness, loneliness, and meaninglessness. The traditional rationalist answer is that we just have to face up to it, and not delude ourselves with the comforting fantasies of religion. As Jacques Monod put it:

Man must at last wake out of his millenary dream; and in doing so wake to his total solitude, his fundamental isolation. Now does he at last realize that, like a gypsy, he lives at the boundary of an alien world. A world that is deaf to his music, just as indifferent to his hopes as to his suffering or his crimes.'

The built-in arrogance of the Skeptical position is counterpart to an equivalent loneliness, which is implicit in the fundamental assumption of the religion of science—objectivity. We are discrete and separate observers in a universe of impersonal forces and masses. Along with loneliness comes powerlessness. Just as all life events are reducible to just so many generic particles and forces, so also is our power to affect the universe limited to the physics of $F=MA$. In the final analysis, you, my friend, are a mass. Thus it was that Bertrand Russell wrote:

Even more purposeless, more void of meaning, is the world which science presents for our belief. Amid such a world, if anywhere, our ideals henceforward must find a home. That man is the product of causes which had no prevision of the end they were achieving; that his origin, his growth, his fears, his loves and his beliefs, are but the outcome of accidental collocations of atoms; that no fire, no heroism, no intensity of thought and feeling, can preserve an individual life beyond the grave; that all the labors of the ages, all the devotion, all the inspiration, all the noonday brightness of human genius, are destined to extinction in the vast death of the solar system, and the whole temper of Man's achievement must inevitably be buried beneath the debris of a universe in ruins—all these things, if not quite beyond dispute, are yet so nearly certain that no philosophy which rejects them can hope to stand. Only within the scaffolding of these truths, only on the firm foundation of unyielding despair, can the soul's habitation henceforth be safely built."

A "firm foundation of unyielding despair." Remember, all of us harbor a little

of both Skeptic and Believer inside us. An inchoate dread lurks within the most convinced proponent who says, "Maybe it isn't real. Maybe it was coincidence. Maybe I'm imagining it." It certainly lurks in me, fueling the hopeless quest for certainty. At bottom, perhaps the Sceptics are really seeking the same thing that psi researchers are—liberation from despair. I think deep down they wish to believe that life is more than, to paraphrase Shakespeare, "a sound and a fury, signifying nothing." They would like nothing more than to confirm their intuition, which is universal to humankind, that our lives are purposeful and that life events have a meaning. But since any evidence can be interpreted either way if you try hard enough, the craving for certainty can never be met, at least not from the viewpoint of the objective observer. I once heard a leading Skeptic say that he would love to have incontrovertible evidence of life after death, but that unfortunately it just does not exist. He would welcome it though! And I think he was telling the truth.

The evidence can always be interpreted either way. What my classroom exercise makes apparent is that this interpretation is not neutral, but represents a statement of who I am and how I will relate to the world. Embedded in the rationalist intuitions of classical science, we crave certainty. Scientific ideology, the ideology of objectivity, says that belief should follow evidence. That, indeed, forms the conceptual basis of the Scientific Method. The possibility that evidence follows belief is outside its grasp.

In the end, belief versus unbelief is a personal choice, an inescapably subjective creation of self and world from which not even Occam's Razor can save us. In fact, it can trap us. Because even though the "simplest" explanation for, say, a past-life memory might be "He actually is remembering a past life," this answer calls into question the entire "cathedral of science" (to use Roger Penrose's phrase). The dogmatist asks, "Should we question the consensus of millions of brilliant, dedicated scientists developed over centuries, just to accommodate one little ghost story?" Seen in these terms, the "simplest" explanation is that the subject is lying, deceived, deluded, unstable, stupid, or irrational. Preserving the cathedral of science can justify some very elaborate explanations or, more precisely, "explainings-away" of events that would on the surface seem to challenge it.

The inescapable subjectivity of choice illuminates a striking similarity linking debunking skeptics and psi researchers. Although they disagree on the interpretation of the evidence for psi, they agree that the matter can be resolved through the objective methods of science. (The Scientific Method, which queries through experimentation a universe "out there," embodies objectivity. Moreover, the replicability requirement assumes that the experimenter is fundamentally separable from the experiment—another version of objectivity.) In their quest for proof, Skeptic and researcher alike buy into one of the key assumptions of classical Newtonian-Cartesian physics.

It is perhaps no accident that having bought into a classical paradigm that also happens to deny the existence of psi, psi researchers find the phenomena

strangely elusive in the laboratory. A saying goes, "You cannot dismantle the master's house using the master's tools." Could it be that the very attitude of doubt, the very suspension of belief inherent in a controlled experiment, dilutes the power of the focused intention under study? By holding belief hostage to evidence, might we be cutting ourselves off from a vast realm of experience?

There are frequent hints in the psi research literature that this is indeed the case." Pioneer J.B. Rhine emphasized the importance of the "experimenter effect" as early as the 1940's." When Marilyn Schlitz, a leading psi researcher, invited psi skeptic Richard Wiseman to attempt to replicate her results using the same protocol and apparatus, he got chance—nothing. Then they performed a joint experiment in the same laboratory—again, she got statistical significance, he got chance." Then there are innumerable cases of psychics being suddenly unable to perform in a lab or on national television. When entering these climates of attenuated belief, abilities that were dramatic in so-and-so's living room fade into borderline statistical significance, or fail to operate at all. In a recent talk Edgar Mitchell described how Uri Geller's profound telekinetic abilities were much less pronounced in the lab; of course, everyone knows that he could not perform on the Johnny Carson show.

As we might expect, the above-described phenomenon is open to two interpretations that equally fit the evidence. Obviously, if psi does not really exist, it should be much more difficult to prove under rigorously controlled conditions. It would be harder to cheat. To say that the presence of a skeptic renders psi ineffective is, *from the skeptic's point of view*, an unfalsifiable proposition. To say that a particular person's ability works only at home is an unfalsifiable proposition—to anyone unable or unwilling to visit her at home. One might be able to verify it personally, but it cannot enter the literature of science. This is similar for an ability that works only under uncontrolled conditions—such an ability would be constitutionally impervious to the certainty that comes from control. And what of events that happen only when someone is alone and unmonitored?

In addition to the rather scattered evidence of an experimenter effect, many traditional paranormal techniques explicitly require an atmosphere of appropriate belief. To bend a spoon, you have to *know* that it will bend; to walk on water, you have to *know* that you will not sink. The same principle seems to be at work behind the placebo effect, in which, notably, the physician's belief may be as important as the patient's (hence the necessity for double-blind, not just blind, studies). I am also reminded of a statement attributed to Cheng Man-ching, perhaps the 20th century's greatest Tai Chi master. When asked why none of his students of many decades came even remotely close to his level of attainment, he replied, "It is because you have no faith."

The experimenter effect and, more generally, the influence of a climate of belief upon measurable phenomena present a thorny problem for science, challenging not only its methods but also some of its fundamental premises. At the same time, the principle of objectivity is crumbling from within science as

well. In quantum mechanics, 80 years of interpretation have failed to resolve the measurement problem, while phenomena such as null measurements and the quantum Zeno effect demonstrate that observation can have a direct, intentional effect on measured reality. In neurology and psychology, consciousness is increasingly understood as an emergent phenomenon not localizable to a discrete observing "seat." Where is objectivity if there is no discrete subject? The contagion is affecting biology too, with the growing realization that the phenotypic definition of an organism neglects symbiotic relationships essential to its viability.

The crumbling of objectivity, and with it the certainty implicit in the Scientific Method, poses an enormous challenge to science. Perhaps this explains some of the hostility of establishment science toward psi. On some level, people realize that the ramifications extend far beyond "does it exist or not?" Increasingly, though, science will find it impossible to sweep the "paranormal" under the rug, if only because the classical intuitions that it challenges are not working very well anymore, even within the mainstream. The challenge, then, is nothing less than to reconceive what science is in the absence of objectivity as an absolute principle. The crumbling of objectivity need not herald the end of science as we know it, for there is a spirit of science prior even to objectivity. It is the spirit of intellectual humility, the willingness to hold lightly onto one's beliefs. And this humility is no less valuable when we recognize that evidence may, in part, reflect belief.

If a state of belief is indeed a state of being, then genuine progress in science advances not only what we know, but also who we are. It is no accident that the first Scientific Revolution is associated with the intellectual movement known as the Enlightenment. Could the present revolution in science foretell an equally dramatic change in the human condition? On the individual level too, experiences of anomalous phenomena are traditionally associated with a spiritual awakening; I would hazard a guess that many of today's psi researchers would also associate their entry into the field with some kind of personal transformation.

The notion of growth, in beliefs and in being, offers an alternative to the ideology of objectivity and to the myth of the Scientific Method. A vast body of literature has long recognized that the Method does not describe how individuals actually practice science. Today, with the crumbling of objectivity, its collective validity comes under question as well. My classroom activity suggests an alternative. When faced with two logically consistent interpretations of the evidence, I choose the interpretation that is more consistent with who I am, and who I wish to be. The intellectual humility so fundamental to science represents a willingness to grow into a new set of beliefs. A proliferation of anomalies, whether in science or in life, signals that the old set of beliefs is not working very well anymore, and that it is time to grow. In my classroom, the web of ad hoc explanations; the discounting of obvious sincerity; and the cynicism, arrogance, and despair were associated with a state of being that is not me anymore.

Collectively as well, our culture is rapidly growing toward a new state of belief and a new state of being. The classical mindset of the discrete observer seeking,

as Descartes so famously put it, to become lord and possessor of nature, is now obsolete. Rooted in the illusion of separateness, this mechanistic, materialistic worldview has brought us to the brink of ecological ruin, for it implies, to quote Herman Daly, that "the natural world is just a pile of instrumental accidental stuff to be used up on the arbitrary projects of one purposeless species."ⁱⁱ Yet for several centuries now, our culture has been founded on the discrete and separate self of Descartes, which is also the economic man of Adam Smith, the phenotype of biology, the embodied soul of religion, and the neutral observer of science.

Faced with a convergence of crises, humanity is being led into a more intimate relationship with nature, more connected, with the subject/object distinction less clearly defined. The catchwords of the new era, words like "interconnectedness" and "wholeness," bespeak this shift, which pervades fields as diverse as ecology, quantum mechanics, and Bayesian statistics. We are not separate from what we observe; our facts are not separate from our beliefs; perception and reality are intertwined. As the Age of Separation draws to a close, the old dichotomies are crumbling: man versus nature, matter versus spirit, self versus other. Phenomena like the experimenter effect in psi are merely tiny harbingers of a vast Gestalt, and by pursuing their study, we step across the threshold of a new state of belief and of being that will come to define 21st century science.

Notes

ⁱ Monod, J. (1972). *Chance and Necessity* (pp. 172–173). New York: Vintage Books.

ⁱⁱ Russell, B. (1903). *A free man's worship*. This essay has been reprinted in numerous collections of Russell's work.

ⁱⁱⁱ For a good (though somewhat dated) overview, see Kennedy, J. E., & Taddonio, J. (1976). Experimenter effects in parapsychological research. *Journal of Parapsychology*, 40, 1–33.

^{iv} For example, see Rhine, J. B. (1948). Conditions favoring success in psi tests. *Journal of Parapsychology*, 12, 58–75.

^v Wiseman, R., & Schlitz, M. (1997). Experimenter effects and the remote detection of staring. *Journal of Parapsychology*, 61, 197–207.

^{vi} Quoted in *Adbusters* magazine, Vol. 12, No. 5, September/October 2004. No page numbers are used.