

THE VAGARIES OF RELIGIOUS EXPERIENCE

Daniel Gilbert

Some religious people regard scientists as foul heathens, which is terribly unfair. We aren't all that foul. On the other hand, we do tend to be heathens. The most fundamental principle of science is that beliefs must be predicated on empirical evidence — things that everyone can see, touch, taste, and measure — and in more than two thousand years of recorded history, no one has yet produced a shred of empirical evidence for the existence of God. That hasn't kept most people from believing. For as long as pollsters have been asking the question, roughly 90% of Americans have been claiming to believe in God, and a sizeable majority believes that God takes a personal interest in their lives and intervenes to help them. When President Bush said, "God told me to strike at al Qaeda and I struck them, and then he instructed me to strike at Saddam, which I did," most Americans were not alarmed to learn that their leader was receiving orders that no one else could hear. America is an unusually religious nation, but even in the world's least religious nations the majority of people claim to believe in God.

Scientists understand all this piety and faith by assuming that belief in God is one of the many primitive superstitions that human beings are in the process of shedding. God is a myth that has been handed down from one generation of innocents to the next, and science is slowly teaching them to cultivate their skepticism and shed their credulity. As Albert Einstein wrote:

"(I had) a deep religiosity, which, however, found an abrupt ending at the age of 12. Through the reading of popular scientific books I soon reached the conviction that much in the stories of the Bible could not be true. The consequence was a positively fanatic orgy of freethinking coupled with the impression that youth is intentionally being deceived by the state through lies. It was a crushing impression. Suspicion against every kind of authority grew out of this experience, a skeptical attitude towards the convictions which were alive in any specific social environment — an attitude which has never again left me." (*Autobiographical Notes*, 1949)

Einstein's orgy of freethinking forever changed our understanding of space and time, and the phrase "Religion for Dummies" became, in the view of many scientists, a redundancy.

But this conceptualization of religious belief misses an important point, namely, that people don't believe in God simply because they are told to by their elders, but because they are compelled to by their own experience. William James understood that religious belief grows out of human experience, and he urged scientists to investigate the experiences that spawned it:

"I speak not now of your ordinary religious believer [whose] ... religion has been made for him by others, communicated to him by tradition, determined to fixed forms by imitation, and retained by habit. It would profit us little to study this second-hand religious life. We must make search rather for the original experiences which were the pattern-setters to all this mass of suggested feeling and imitated conduct." (*The Varieties of Religious Experience*, 1902)

If belief in God is compelled by experience, then what sorts of experiences compel it?

Curious Order and Empty Form

Nobody needs God to explain why orgasms feel good and root canals don't. God's job is to provide an explanation for experiences that are otherwise baffling and inexplicable. These curious experiences need not involve seeing angels or speaking in tongues, but may instead be of the garden variety. Consider the ordinary experience of order. The naturalist, William Paley, laid the groundwork for the modern notion of intelligent design when he asked us to imagine what we would conclude were we to come across a watch lying on the ground.

"The inference we think is inevitable, that the watch must have had a maker — that there must have existed, at some time and at some place or other, an artificer or artificers who formed it for the purpose which we find it actually to answer, who comprehended its construction and designed its use." (*Natural Theology*, 1802)

In other words, a watch is not a random assemblage of parts, but a structured, ordered, obviously non-random assemblage of parts — and non-random assemblages require explanations. The existence of an intelligent assembler is a tempting explanation if only because it is at once so familiar and so complete. For most people, the material universe, biological life, and human consciousness are the kinds of curious, complex, well-ordered phenomena that require explanation, and an intelligent designer seems to provide just that.

But there are at least two problems with this explanation. First, explanations that rely on the inexplicable are not explanations at all. They have the form of explanations, but they do not have the content. Yet, psychology experiments reveal that people are often satisfied by empty form. For instance, when experimenters approached people who were standing in line at a

photocopy machine and said, “Can I get ahead of you?” the typical answer was no. But when they added to the end of this request the words “because I need to make some copies,” the typical answer was yes. The second request used the word “because” and hence sounded like an explanation, and the fact that this explanation told them nothing that they didn’t already know was oddly irrelevant.

In another study, experimenters approached people in a library, handed them a card with a \$1 coin attached, and then walked away. Some people received the card on the left, and some received the card on the right.



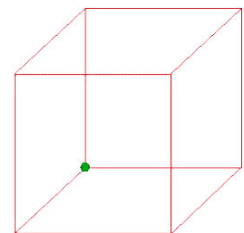
Although the two extra questions on the card on the right— “Who are we?” and “Why do we do this?” — provide no information whatsoever, they do give one the sense that puzzling questions have been posed and then answered. The results of the study showed that the people who received the card on the right were, in fact, less curious and less delighted twenty minutes after receiving it than were people who received the card on the left because only the latter felt that something wonderful and inexplicable had happened. In short, what William Paley did not realize is that statements such as “God made it” can satiate the appetite for explanation without providing any nutritional value.

The second problem with Paley’s argument is that highly ordered phenomena can and do emerge from random processes. If we toss a coin for long enough, we eventually observe some highly ordered strings such as “head, head, head, head, head, head” or “head, tail, head, tail, head, tail.” Statisticians have sophisticated techniques that can help determine whether a particular pattern of coin flips is so unlikely that it (like Paley’s watch) can only be explained by a non-random process. But research in psychology has shown that people have rather poor intuitions in this regard, and that they tend to mistake the products of random processes for the products of non-random processes but not the other way around. For example, if we tossed a coin and it came up heads five times in a row, many of us would suspect that the outcome of these flips was non-random and we would search for an explanation (“Maybe one side of the coin has been worn away” or “Perhaps there is a magnet hidden in the ceiling”).

That’s a mistake. Because while the odds of tossing five heads in a row by random chance are not tremendous, they are not slight. In fact, they are roughly three in a hundred, which are greater than the odds of being killed by a terrorist or infected by HIV — and those odds strike most of us as great enough to justify unusual preventative measures, such as military tribunals, extraordinary rendition, and monogamy. When people look out on the natural world and declare that there must be a God because all of this could surely not have happened by chance, they are not overestimating the orderly complexity of nature. Rather, they are underestimating the power of chance to produce it.

The Illusion of External Agency

Our tendency to underestimate the power of random processes to create order leads us to seek explanations where none are needed. Our tendency to be satisfied by well-formed utterances that are devoid of content compels us to accept explanations when none are provided. Psychological research has uncovered a third tendency that may also play a powerful role in creating the kinds of experiences that compel people to believe in God. If we glance at a Necker cube (named after the Swiss crystallographer who discovered it in 1832) we have the sense that we are looking across at a box that has a dot on its left inside corner. But if we stare for a few moments, the cube suddenly shifts, and we have the sense that we are looking down at a box that has a dot sitting on its lower left edge. (If you have any trouble seeing this illusion, you’ll find a more riveting version at dogfeathers.com/java/necker.html). A Necker cube is an ambiguous object, which is to say that there is more than one way to see it, and our brains happily jump between these different views, trying one and then switching to another. But experiments show that if we are rewarded for seeing the cube one way rather than the other — rewarded with a jellybean, a dollar bill, or a



friendly pat on the back — our brains begin to hold on to the rewarding view, and the cube stops changing. The lesson here is that things can be viewed in many ways, but human brains like the most rewarding view and thus they search for and hold on to that view whenever they can.

Objects may be somewhat ambiguous, but events are thoroughly ambiguous. If there are two ways to see a Necker cube, then there are dozens of ways to see a marriage, a promotion, an illness, or a bankruptcy. When Shakespeare wrote "For there is nothing either good or bad, but thinking makes it so," he was reminding us that events can be thought of in many different ways, and that the way we think of them — identify them, construe them, name them, explain them — determines whether or not we find them rewarding. When we hear "Don't forget to take your umbrella!" as a nagging indictment, we feel annoyed; but when we hear it as a loving reminder, we feel valued. Luckily for us, the human brain tends to search for and hold onto the most rewarding view of events, much as it does of objects.

Our ability to find and embrace the most rewarding view of the circumstances that befall us is nothing short of remarkable, which is why people adapt so quickly and so well to almost every form of tragedy and trauma. When people lose someone they love, they feel sad — but research shows that very few become chronically depressed, and most experience only low levels of short-lived distress. More than half of all Americans experience a traumatic event such as rape, physical assault, or natural disaster, but very few ever require professional assistance. As a leading group of trauma researchers recently noted, "Resilience is often the most commonly observed outcome trajectory following exposure to a potentially traumatic event." Indeed, a significant portion of those who survive major traumas not only do well, but claim that their lives were enhanced by the experience.

Fine. But what does any of this have to do with belief in God? As it turns out, most people do not know that their brains are designed to find and hold on to the most rewarding view of things. Most of the business brains do they do quietly, in the background, offstage, where we can't observe it. As such, we are surprised when experiences we once feared and avoided turn out to be much less awful than we had anticipated, and we are deeply surprised when they turn out to be blessings in disguise. Who knew that widowhood or divorce would be an opportunity to meet the partner of our dreams? Who knew that a heart attack or a prison sentence would lead us to refocus our lives and concentrate on the things that matter? And who knew — when we were making that agonizing decision between the Honda and the Mazda, between Cincinnati and Chicago, between the ballpark and the ballet or the asparagus and the artichoke — that this one would turn out to be so obviously better than that?

Surprises such as these are curious events, and curious events beg for explanation. The proper explanation is that we have brains that avidly pursue the most rewarding view of things. The other explanation is providence. If there is a God who watches over us, who guides our hand when we are uncertain, who leads us to places we might not otherwise go, then unanticipated good fortune makes perfect sense. Things turn out for the best because someone who knows what is best for us is making them turn out that way.

Research suggests that people may mistakenly attribute the good fortune that is the natural product of a helpful brain to the intervention of a helpful agent. For instance, in a study done in my laboratory, female volunteers were told that they would be working on a two-person task that required them to have a teammate whom they liked and trusted. The volunteers were shown four folders, each of which contained the biography of a potential teammate. They were told that before reading the biographies they must choose a folder randomly, and that the person whose biography was in the chosen folder would be their teammate. The volunteers looked at the four folders, chose one randomly, and then read the biography they found inside. What the volunteers did not know was that the experimenter had put the same biography in all four folders, and that it was the biography of someone who was not particularly likeable or trustworthy.

So what happened? As the volunteers read the biography, their brains naturally did what brains do best: They searched for, found, and held on to the best possible view of the teammate ("Her bio says that she doesn't like people all that much, but I bet she's just an exceptionally discerning person"). When volunteers finished reading their new teammate's biography, they were given three other biographies to read, and they were then asked to rate all four of the biographies. Not surprisingly, the volunteers rated their teammate as superior to the others. The volunteers liked their teammates best because they had brains that knew how to find the most rewarding view of their current circumstances.

Now comes the interesting part. After the volunteers read and rated the biographies, the experimenter took the volunteer aside and made a confession. The experimenter explained that while the volunteer had been "randomly choosing" a folder, the experimenter had been using a subliminal message to try to make the volunteer choose the best possible partner. This wasn't true, of course, but the volunteers believed it. Then the volunteers were asked the critical question: "Do you think the subliminal message had any effect on your choice of folders?" The results showed that, by and large, volunteers thought the subliminal message had guided their choice of folders. Although they had been given a relatively dislikeable teammate, their brains had managed to find a rewarding view of that teammate; but because they did not know that their brains deserved the credit for their good fortune, they gave the credit to a subliminal message. After all, they clearly chose the best possible teammate, and there had to be some explanation for their extraordinary luck!

This study wasn't about subliminal messages, of course. Like many psychological studies, this one was meant to be an allegory. It suggests that under some circumstances people can misattribute the uplifting work that their brains have done to a fictitious external source. Brains strive to provide the best view of things, but because the owners of those brains don't know this, they are surprised when things seem to turn out for the best. To explain this surprising fact, people sometimes invoke an external source — a subliminal message in the laboratory, God in everyday life.

Coda

Is God is nothing more than an attempt to explain order and good fortune by those who do not understand the mathematics of chance, the principles of self-organizing systems, or the psychology of the human mind? When the study I just described was accepted for publication, I recall asking one of my collaborators, who is a deeply religious man, how he felt about having demonstrated that people can misattribute the products of their own minds to powerful external agents. He said, "I feel fine. After all, God doesn't want us to confuse our miracles with his."

That's fair enough. Science rules out the most cartoonish versions of God by debunking specific claims about ancient civilizations in North America or the *creatio ex nihilo* of human life. But it cannot tell us whether there is a force or entity or idea beyond our ken that deserves to be known as God. What we can say is that the universe is a complex place, that events within it often seem to turn out for the best, and that neither of these facts requires an explanation beyond our own skins.

[**Note:** The experiments described in this essay are drawn from the following papers: Gilbert, D. T., Brown, R. P., Pinel, E. C., & Wilson, T. D. (2000). The illusion of external agency. *Journal of Personality and Social Psychology*, 79, 690-700; Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of "placebic" information in interpersonal interaction. *Journal of Personality and Social Psychology*, 36, 635-642; Wilson, T. D., Centerbar, D. B., Kermer, D. A., & Gilbert, D. T. (2005). The pleasures of uncertainty: Prolonging positive moods in ways people do not anticipate. *Journal of Personality and Social Psychology*, 88, 5-21.]

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