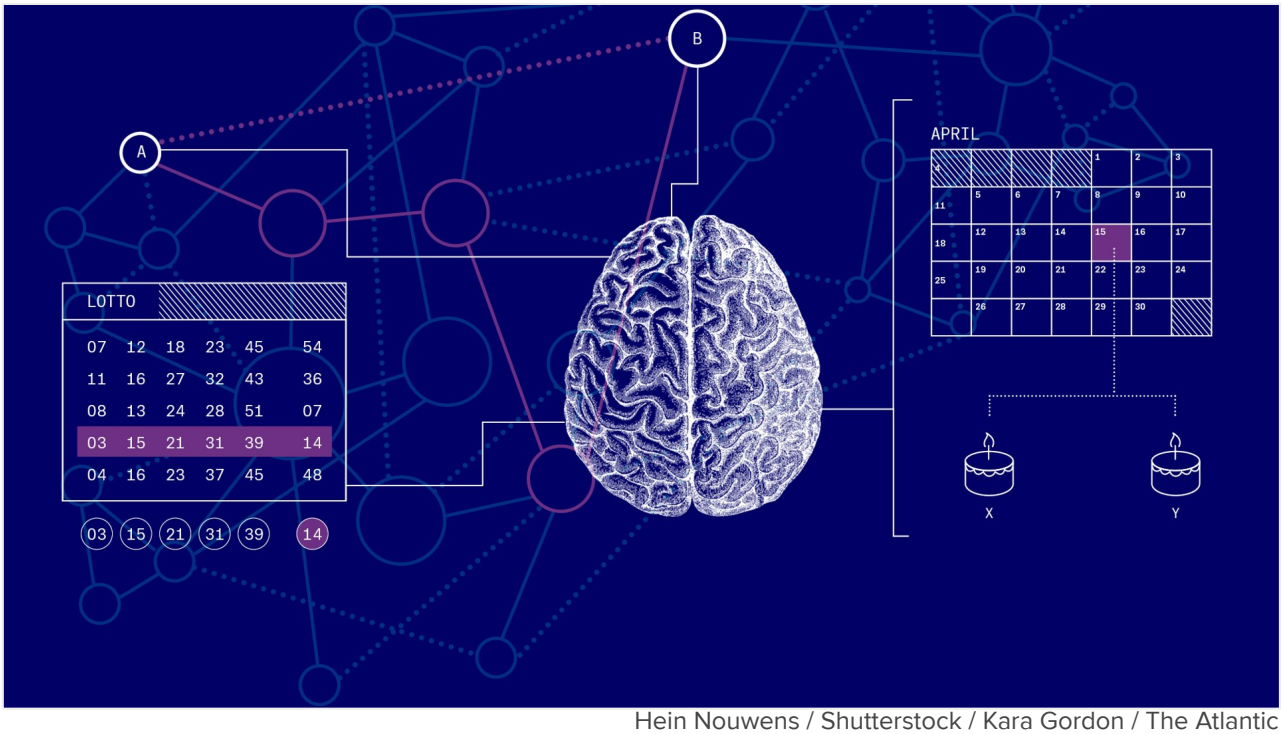
The Atlantic

Coincidences and the Meaning of Life

The surprising chances of our lives can seem like they're hinting at hidden truths, but they're really revealing the human mind at work.



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TEXT SIZE

Towards the end of seventh grade, my middle-school band took a trip to Cedar Point, which was pretty much *the* theme park to which Midwestern middle school bands traveled. (I imagine it still is.) They had this indoor rollercoaster there, called the Disaster Transport. My friends and I were standing in line for this rollercoaster, winding up the dimly lit cement steps, when we turned a corner and came across a huge pile of money.

We picked it up and counted it; it was a very specific amount of money. I

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We had barely had time to whiplash from marveling at our good fortune to guiltily suggesting we should find somewhere to turn it in before a group of older kids ahead of us snatched the cash wad out of our hands. They claimed it was theirs; it was not theirs—they counted it in front of us and exchanged "Whoa"s and high fives. We were hapless, gangly middle schoolers (I was growing out my bangs; it was a rough year). They were confident we would do nothing to stop them, and they were right. So that was the end of that.

Until, Part Two:

A little more than a year later, I went to a summer program at Michigan State University, a nerd camp where you take classes like genetics for fun. One evening, as we were sitting around in the common area, chatting and doing homework, I overheard a kid telling his friends how he'd lost a bunch of money last year at Cedar Point.

With very little attempt at chill I interrupted their conversation and grilled him on the particulars.

Was he there on May whatever date I was also there? He was.

Did he lose the money in line for the Disaster Transport? In fact, he did.

How much money did he lose? $134, exactly.

* * *

Though "What are the odds?" is pretty much the catchphrase of coincidences, a coincidence is not just something that was unlikely to happen. The overstuffed crate labeled "coincidences" is packed with an amazing variety of experiences, and yet something more than rarity compels

us to group them together. They have a similar texture, a feeling that the fabric of life has rippled. The question is where this feeling comes from, why we notice certain ways the threads of our lives collide, and ignore others.

Some might say it's just because people don't understand probability. In their 1989 paper, *Methods for Studying Coincidences*, the mathematicians Persi Diaconis and Frederick Mosteller considered defining a coincidence as "a rare event," but decided "this includes too much to permit careful study." Instead, they settled on, "A coincidence is a surprising concurrence of events, perceived as meaningfully related, with no apparent causal connection."

From a purely statistical point of view, these events are random, not meaningfully related, and they shouldn't be that surprising because they happen all the time. "Extremely improbable events are commonplace," as the statistician David Hand says in his book *The Improbability Principle*. But humans generally aren't great at reasoning objectively about probability as they go about their everyday lives.

For one thing, people can be pretty liberal with what they consider coincidences. If you meet someone who shares your birthday, that seems like a fun coincidence, but you might feel the same way if you met someone who shared your mother's birthday, or your best friend's. Or if it was the day right before or after yours. So there are several birthdays that person could have that would feel coincidental.

And there are lots of people on this planet—more than 7 billion, in fact. According to the Law of Truly Large Numbers, "with a large enough sample, any outrageous thing is likely to happen," Diaconis and Mosteller write. If enough people buy tickets, there will be a Powerball winner. To the person who wins, it's surprising and miraculous, but the fact that *someone* won doesn't surprise the rest of us.

Even within the relatively limited sample of your own life, there are all kinds of opportunities for coincidences to happen. When you consider all the people you know and all the places you go and all the places *they* go, chances are good that you'll run into someone you know, somewhere, at some point. But it'll still seem like a coincidence when you do. When something surprising happens, we don't think about all the times it could have happened, but didn't. And when we include near-misses as coincidences (you and your friend were in the same place on the same day, just not at the same time), the number of possible coincidences is suddenly way greater.

"A coincidence is in the eye of the beholder."

To demonstrate how common unlikely-seeming events can be, mathematicians like to trot out what is called the birthday problem. The question is how many people need to be in a room before there's a 50/50 chance that two of them will share the same birthday. The answer is 23.

"Oh, those guys and their birthdays really get me mad," says Bernard Beitman, a psychiatrist and visiting professor at the University of Virginia, and author of the forthcoming book *Connecting With Coincidence*. That's not the way the average person would frame that question, he says. When someone asks "What are the odds?" odds are they aren't asking "What are the odds that a coincidence of this nature would have happened to anyone in the room?" but more like "What are the odds that this specific thing would happen to *me,* here and now?" And with anything more complicated than a birthday match, that becomes almost impossible to calculate.

It's true that people are fairly egocentric about their coincidences. The psychologist Ruma Falk found in a study that people rate their own coincidences as more surprising than other people's. They're like dreams—

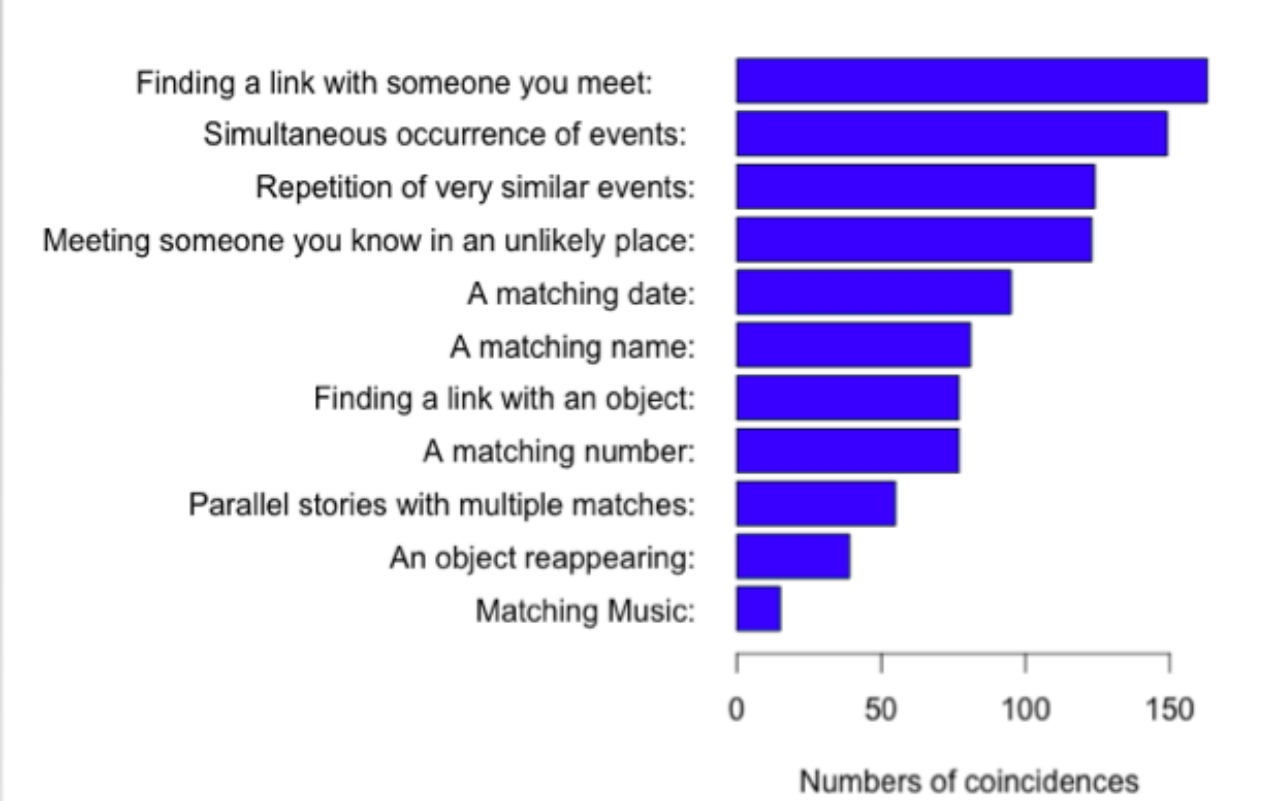
mine is more interesting than yours.

"A coincidence itself is in the eye of the beholder," says David Spiegelhalter, the Winton professor for the public understanding of risk at the University of Cambridge. If a rare event happens in a forest and no one notices and no one cares, it's not really a coincidence.

* * *

I told Spiegelhalter my Cedar Point story on the phone—I couldn't help it. He collects coincidences, see. (A thriller novel called *The Coincidence Authority* has a professor character based on him.) He has a website where people can submit them, and says he's gotten about 4,000 or 5,000 stories since 2011. Unfortunately, he and his colleagues haven't done much with this treasure trove of information, mostly because a pile of freeform stories is a pretty hard dataset to measure. They're looking for someone to do text-mining on it, but so far all they've been able to analyze is how many coincidences fall into the different categories you can check off when you submit your story:

Common Types of Coincidences



David Spiegelhalter

He says he'd categorize mine as "finding a link with someone you meet." "But it's a very different sort of connection," he says, "not like having lived in the same house or something like that. And it's a very strong one, it's not just like you were both at the theme park. I love that. And you remember it after all this time."

And the craziest thing is not that I found someone's money and then that I was in a room with him a year later, but that I found out about it at all. What if he hadn't brought it up? Or "you might not have heard him if you'd been somewhere slightly away," Spiegelhalter says. "And yet the coincidence would have been there. You would have been six feet away from someone who lost their money. The coincidence in a sense would have physically occurred. It was only because you were listening that you noticed it. And so that's why the amazing thing is not that these things occur, it's that we notice them."

"This is my big theory about coincidences," he continues, "that's why they happen to certain kinds of people."

Beitman in his research has found that certain personality traits are linked to experiencing more coincidences—people who describe themselves as religious or spiritual, people who are self-referential (or likely to relate information from the external world back to themselves), and people who are high in meaning-seeking are all coincidence-prone. People are also likely to see coincidences when they are extremely sad, angry, or anxious.

"Coincidences never happen to me at all, because I never notice anything," Spiegelhalter says. "I never talk to anybody on trains. If I'm with a stranger, I don't try to find a connection with them, because I'm English."

Beitman, on the other hand, says, "My life is littered with coincidences." He tells me a story of how he lost his dog when he was 8 or 9 years old. He went to the police station to ask if they had seen it; they hadn't. Then, "I was crying a lot and took the wrong way home, and there was the dog ... I got into [studying coincidences] just because, hey, look Bernie, what's going on here?"

For Beitman, probability is not enough when it comes to studying coincidences. Because statistics can describe what happens, but can't explain it any further than chance. "I know there's something more going on than we pay attention to," he says. "Random is not enough of an explanation for me."

Random wasn't enough for the Swiss psychiatrist Carl Jung either. So he came up with an alternative explanation. Coincidences were, to him, meaningful events that couldn't be explained by cause and effect, which, so far so good, but he also thought that there was another force, outside of causality, which could explain them. This he called "synchronicity," which in his 1952 book, he called an "acausal connecting principle."

Meaningful coincidences were produced by the force of synchronicity, and could be considered glimpses into another of Jung's ideas—the *unus mundus*, or one world. *Unus mundus* is the theory that there is an underlying order and structure to reality, a network that connects everything and everyone.

For Jung, synchronicity didn't just account for coincidences, but also ESP, telepathy, and ghosts. And to this day, research shows that people who experience more coincidences tend to be more likely to believe in the occult as well.

This is the trouble with trying to find a deeper explanation for coincidences than randomness—it can quickly veer into the paranormal.

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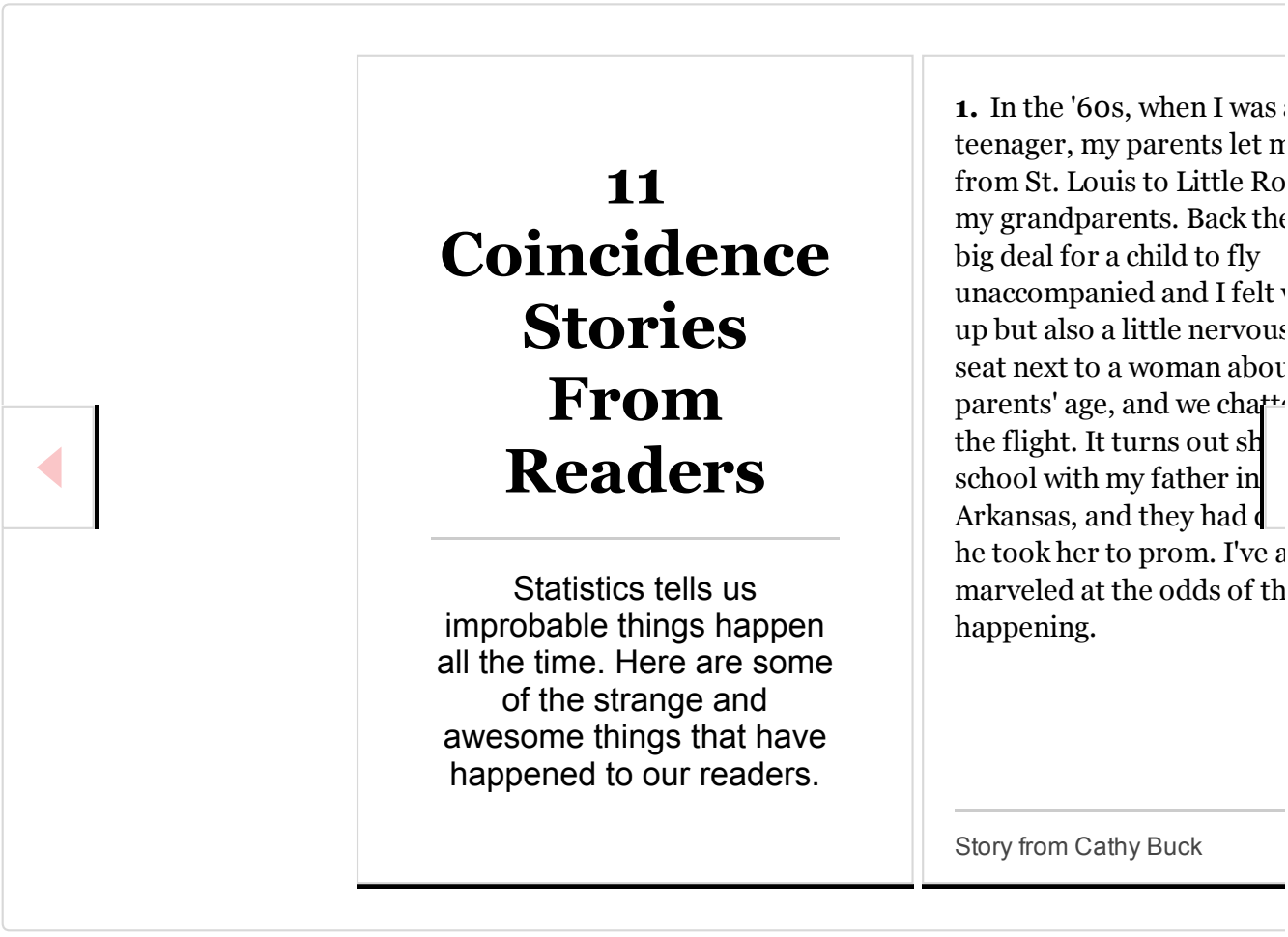

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Beitman, like Spiegelhalter, is interested in sorting and labeling different kinds of coincidences, to develop categories "like an early botanist," he says, though his categories are more expansive and include not only things that happen in the world but people's thoughts and feelings as well. In our conversation, he divides coincidences into three broad categories—environment-environment interactions, mind-environment interactions, and mind-mind interactions.

Environment-environment are the most obvious, and easiest to understand. These coincidences are objectively observable. Something, or a series of things, happens in the physical world. You're at a gin joint in Morocco and your long-lost love from Paris shows up. I found some money and a year later I met the person who lost it.

A nurse named Violet Jessop was a stewardess for White Star Line and lived through three crashes of its ill-fated fleet of ocean liners. She was on the *Olympic* when it collided with the *HMS Hawke* in 1911. In 1912, she was there for the big one: the *Titanic*. And four years later, when White Star's *Britannic*, reportedly improved after its sister ship's disaster, also sank, Jessop was there. And she survived. That one, I guess, is an environment-environment-environment.

Mind-environment coincidences are premonition-esque—you're thinking of a friend and then they call you, for example. But unless you happen to write down "I am thinking of so-and-so [timestamp]" before the call happens, these are cool for the person they happen to, but not really measurable. "We banned premonitions from our site," Spiegelhalter says. "Because, where's the proof? Anybody could say anything."

The things on our minds seem to bleed out into the world around us.

Another sort of mind-environment interaction is learning a new word and then suddenly seeing it everywhere. Or getting a song stuck in your head and hearing it everywhere you go, or wondering about something and then stumbling onto an article about it. The things on our minds seem to bleed out into the world around us. But, though it makes them no less magical, life's motifs are created not by the world around us, but by humans, by our attention.

This is an effect that the Stanford linguistics professor Arnold Zwicky calls "the frequency illusion," and it's not the same as a premonition. It's just that once you've noticed something, your brain is primed to notice it again the next time you encounter it. A word or a concept you've just learned feels relevant to you—you may have seen it hundreds of times before and just never noticed. But now that you're paying attention, it's more likely to pop out at you the next time it whizzes by.

And then the final category, mind-mind, of course, is straight-up mystical. One example of this is simulpathity, a term Beitman coined to describe feeling the pain or emotion of someone else at a distance. His interest in this particular type of coincidence is deeply personal.

"In San Francisco, in 1973, February 26, I stood at a sink uncontrollably choking," he says, clarifying, "There was nothing in my throat that I knew [of]."

"It was around 11 o'clock in San Francisco. The next day my brother called, and told me my father had died at 2 a.m. in Wilmington, Delaware, which was 11 in San Francisco, and he had died by choking on blood in his throat.

That was a dramatic experience for me, and I began to look to see if other people had experiences like this. And many people have."

* * *

This is where we start to leave the realm of science and enter the realm of belief. Coincidences are remarkable in how they straddle these worlds. People have surprising, connective experiences, and they either create meaning out of them, or they don't.

Leaving a coincidence as nothing more than a curiosity may be a more evidence-based mindset, but it's not fair to say that the people who make meaning from coincidences are irrational. The process by which we notice coincidences is "part of a general cognitive architecture which is designed to make sense of the world," says Magda Osman, an associate professor in experimental psychology at Queen Mary University of London. It's the same rational process we use to learn cause and effect. This is one way to scientifically explain how coincidences happen—as byproducts of the brain's meaning-making system.

People like patterns. We look for them everywhere, and by noticing and analyzing them we can understand our world and, to some small degree, control it. If every time you flick a switch, a lamp across the room turns on, you come to understand that that switch controls that lamp.

When someone sees a pattern in a coincidence, "there's no way I can say 'Yes, that was definitely a chance event,' or 'There was an actual causal mechanism for it,' because I'd have to know the world perfectly to be able to say that," Osman says.

Instead what we do is weigh whether it seems likelier that the event was caused by chance, or by something else. If chance is the winner, we dismiss

it. If not, we've got a new hypothesis about how the world works.

Take the case of two twins, who were adopted by different families when they were four weeks old. When they were later reunited, their lives had ... a lot of similarities. They were both named James by their adoptive families, were both married to a Betty and had divorced a Linda. One twin's first son's name was James Alan, the other's was James Allan. They both had adoptive brothers named Larry and pet dogs named Toy. They both suffered from tension headaches, and both vacationed in Florida within three blocks of each other.

"To me, that's a key part of what makes something a coincidence—that it falls in that realm between being certain that something is false and being certain that something is true."

You could hypothesize from this that the power of genetics is so strong, that even when identical twins are separated, their lives play out the same way. In fact, the twins were part of a University of Minnesota study on twins reared apart that was asking just that question, though it didn't suggest that there was any gene that would make someone attracted to a Betty, or likely to name a dog Toy.

Drawing inferences from patterns like this is an advantageous thing to do, *even when the pattern isn't 100 percent consistent*. Take learning language as an example. There isn't going to be a dog, or even a picture of a dog, nearby every time a child hears the word "dog." But if dad points at the family Fido enough times while saying "dog," the kid will learn what the word means anyway.

"Small children are justified in being conspiracy theorists, since their world is

run by an inscrutable and all-powerful organization possessing secret communications and mysterious powers—a world of adults, who act by a system of rules that children gradually master as they grow up," write the cognitive scientists Thomas Griffiths and Joshua Tenenbaum in a 2006 study on coincidences.

We retain this capability, even when we're older and have figured out most of these more obvious patterns. It can still be very useful, especially for scientists who are working on unsolved questions, but for most adults in their daily lives, any new coincidental connection is likely to be specious. From a scientific perspective, anyway. If we realize that, then we wave it off as "just a coincidence," or what Griffiths, a professor of psychology and cognitive science at the University of California, Berkeley, calls a "mere coincidence."

On the flip side, for someone who believes in ESP, thinking of a friend right before she calls may not be a coincidence to them at all, but just more evidence to support what they already believe. The same goes for someone who believes in divine intervention—a chance meeting with a long-lost lover may be, to them, a sign from God, not a coincidence at all.

"You really come across a question of just what belief system you have about how reality works," Beitman says. "Are you a person who believes the universe is random or are you a person who believes there's something going on here that maybe we gotta pay more attention to? On the continuum of explanation, on the left-hand side we've got random, on the right-hand side we've got God. In the middle we've got little Bernie Beitman did something here, I did it but I didn't know how I did it."

In the middle zone lie what Griffiths calls "suspicious coincidences."

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"To me, that's a key part of what makes something a coincidence—that it falls in that realm between being certain that something is false and being certain that something is true," he says. If enough suspicious coincidences of a certain nature pile up, someone's uncertainty can cross over into belief. People can stumble into scientific discoveries this way—"Hmm, all these people with cholera seem to be getting their water from the same well—or into superstition—"Every time I wear mismatched socks, my meetings go well."

But you can stay in that in-between zone for a long time—suspicious, but unsure. And this is nowhere more obvious than in the coincidences that present as evidence for some kind of hidden but as-yet undiscovered ordering principle for reality, be that synchronicity or a sort of David Mitchell-esque "Everything Is Connected" web that ensnares us in its pattern. Meaningful connections can seem created by design—things are "meant to be," they're happening for a reason, even if the reason is elusive. Or as Beitman puts it, "Coincidences alert us to the mysterious hiding in plain sight."

I suppose no one can prove there *isn't* such a thing, but it's definitely impossible to prove that there is. So you're left with ... not much. Where you fall on the continuum of explanation probably says more about you than it does about reality.

* * *

In *The Improbability Principle*, Hand cites a 1988 U.S. National Academy of Sciences report which concluded that there was "no scientific justification from research conducted over a period of 130 years for the existence of parapsychological phenomena."

"One hundred thirty years!" Hand writes. The fact that people kept trying to find proof for the paranormal was "A testament to the power of hope over experience if there ever was one."

But I disagree. It may be that researching the paranormal is partly an act of hope that you'll find something where no one has found anything before. But it seems like often, experiences are the building blocks of belief in the paranormal, or in an underlying force that organizes reality. Even if they're not doing formal research, people are seeking explanations for their experiences. And structure is a much more appealing explanation than chance.

Where you fall on the chance-structure continuum may have a lot to do with what you think chance looks like in the first place. Research shows that while most people are pretty bad at generating a random string of numbers, people who believe in ESP are even worse. Even more so than skeptics, believers tend to think that repetitions in a sequence are less likely to be random—that a coin flip sequence that went "heads, heads, heads, heads, tails" would be less likely to come up randomly than one that went "heads, tails, heads, tails, heads," even though they're equally probable.

So we have psychology to explain how and why we notice coincidences, and why we want to make meaning from them, and we have probability to explain why they seem to happen so often. But to explain why any individual coincidence happened involves a snarl of threads, of decisions and circumstances and chains of events that, even if one could untangle it, wouldn't tell you anything about any other coincidence.

Jung seems to have been annoyed by this. "To grasp these unique or rare events at all, we seem to be dependent on equally "unique" and individual descriptions," he writes, despairing of the lack of a unifying theory offered by science for these strange happenings. "This would result in a chaotic collection of curiosities, rather like those old natural-history cabinets where one finds, cheek by jowl with fossils and anatomical monsters in bottles, the horn of a unicorn, a mandragora manikin, and a dried mermaid."

This is supposed to be unappealing (surely these things should be put in order!), but I rather like the image of coincidences as a curio cabinet full of odds and ends we couldn't find anywhere else to put. It may not be what we're most comfortable with, but a "chaotic collection of curiosities" is what we've got.

ABOUT THE AUTHOR

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