

Junior

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SKEPTIC



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This Issue's Cover is a digital painting by Ástor Alexander.

THE STARTLING TRUTH BEHIND CLAIMS OF ASTRAL PROJECTION

HELLO!

In the pages of JUNIOR SKEPTIC, we often discover that incredible-sounding paranormal claims are, in truth, *fake mysteries*—misleading stories told by tricksters to fool people.

Today we'll try to solve a genuine mystery! It's a fact that millions of people all over the world have had the bizarre experience of feeling that they temporarily left their bodies behind. During these out-of-body experiences (OBEs), people feel that the thinking, feeling part of themselves has somehow floated free as a spirit. Some people even report that they have looked down from the ceiling to see their own bodies! How can this be? What is really happening?

Let's Find out!



SPIRITS AND ASTRAL PROJECTION

Some characters in fantasy stories have a superpower called “astral projection”—the ability to leave their physical body, travel about as a sort of ghost, and then return to their body. For example, Marvel's Doctor Strange is a sorcerer who uses magic to project his astral form to other places and mystical dimensions.

If such an ability really existed, you might imagine that it would be a rare and special gift. Surprisingly, however, it turns out that it's quite common in real life for people to feel that they've left their bodies. About one in ten people will experience this sensation at least once in their lives! Some have an out-of-body experience only once. Some have several such experiences. A few people even learn to have out-of-body experiences whenever they choose. These people claim that their spirits travel freely, sometimes to other worlds.

Most cultures have some form of belief in astral travel, possibly because out-of-body experi-

ences happen to so many people. Some societies believe that we all travel as spirits when we dream. Others believe that astral projection requires special rituals or drugs that allow gifted shamans to send their spirits to distant places.

Many religions include a belief that we have a spirit or soul that leaves our bodies when we die. These spirits may move on to an afterlife, or perhaps be reborn into a new body. Some people believe that spirits may linger to haunt the Earth as ghosts.

The idea that we have both a physical body and spirit or soul is called “dualism.” Dualism seems naturally correct to most people. Our minds *feel* distinct from our bodies. Most people find it natural to suppose that their mind or spirit inhabits their body, in much the same way that an owner inhabits a house or a driver inhabits a vehicle.

INCREDIBLE TALES

Researchers and other interested people have often hoped that out-of-body experiences might provide scientific evidence that we have a spirit that can separate from our physical bodies. But stories of out-of-body experiences are just that—stories about experiences that people claim to have had. The problem, as SKEPTIC Editor Michael Shermer reminds readers of his book *Heavens on Earth*, is that “Sometimes people just make things up.”

He’s right. Some people do indeed invent fake stories about leaving their bodies. For example, a 2010 book titled *The Boy Who Came Back from Heaven: A True Story* claimed that a boy named Alex Malarkey temporarily left his body and journeyed to heaven after a car crash. But Malarkey later confessed that this story was a hoax. “I did not go to heaven,” he admitted. “I said I went to heaven because I thought it would get me attention.”

Also, memories are not always reliable even when people try their best to be truthful. Researchers have discovered that some people later claim to have had out-of-body experiences that they did not remember happening at the time. These claims are not fibs but mixed up mistakes—false memories based upon stories those people have heard. We should be careful with stories of out-of-body experiences if they are told many years later. It’s natural for the details of stories to change and become exaggerated over time.

Nevertheless, other out-of-body experiences have been described in detail soon after they happened. These are more likely to accurately tell us what those experiences were like. Some stories even include details we can check. Let’s look at one good example.

Susan’s Story

One night in 1970, a university student in England had an experience that changed her life forever. Susan Blackmore and a group of her friends had spent hours that evening trying to contact spirits using a ouija board. As the hour grew late, Susan and two remaining friends drifted away to another room. They sat up listening to music. Susan felt very tired and relaxed.

As she lounged there cross-legged on the floor, Susan began to feel strange. She felt she could vividly see things even with her eyes closed. She

seemed to move through a tunnel of trees, seeing every leafy detail “very, very clearly. In more detail than if I had seen them real.”

Sometime after midnight it seemed to Susan that she was “gently drifting about” near the ceiling. She looked down and saw her physical body sitting below her. She saw a slowly moving “shiny grayish-white” cord connecting her floating spirit self to her physical body. She then “moved up and out and saw below me all the roofs” of her school. She journeyed to a magical island where she discovered that she “could change shape at will.” She soared high “over Italy, Switzerland and then France,” before visiting New York and then Africa. Then she felt herself growing, and “became larger than the whole earth quite quickly.” She grew until she was larger than “the whole solar system,” and then kept expanding until the Milky Way and “many other galaxies” were inside her cosmic spirit body. Soon she felt that she filled the entire universe and could see beyond it into a “whole new set of dimensions.”

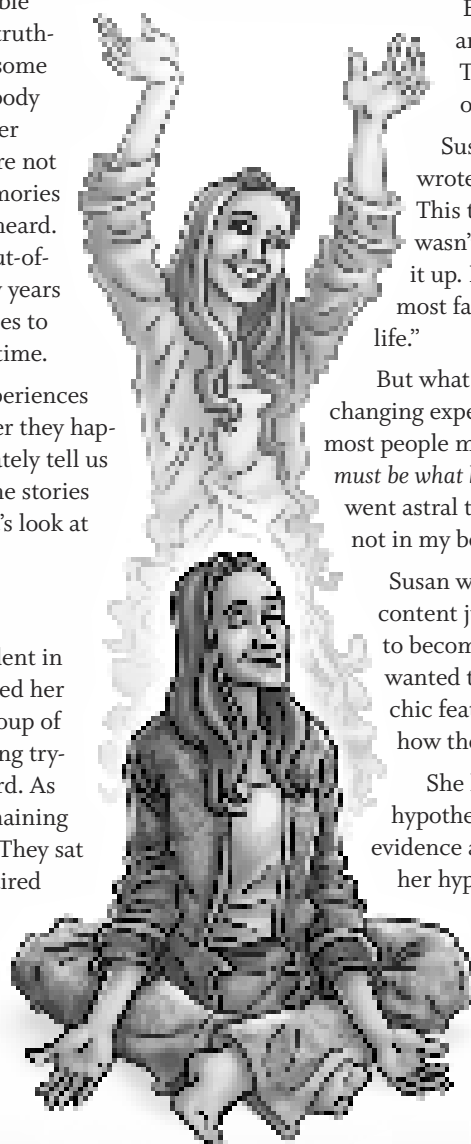
Eventually she shrank back to normal size and returned to hover above her body. Then, slowly, she struggled back into her own body and opened her eyes.

Susan was stunned for days. She carefully wrote down every detail she could remember. This three hour experience really happened. It wasn’t a dream. She knew she wasn’t making it up. It was, she wrote in her diary, “Really the most fantastic thing that ever happened in my life.”

But what was it? How could this amazing, life-changing experience be explained? Susan reasoned as most people might: it *felt* like she left her body, so *that must be what happened*. It seemed obvious to Susan: “I went astral traveling. I was thousands of miles away—not in my body at all.”

Susan was “completely convinced,” but she wasn’t content just to *believe*. After all, she was studying to become a scientist. She wanted evidence! She wanted to prove that astral travel and other psychic feats were real things—and then to discover how they worked.

She had a mystery to solve, and she had a hypothesis (a possible explanation that fits the evidence and can be tested in some way). But was her hypothesis correct? Was the *feeling* that she left her body *caused* by astral projection? Or could her experience be explained better by some other hypothesis she hadn’t thought of yet? There was only one way to find out. She needed to put her hypothesis to the test.



INVESTIGATING SPIRITS

Susan badly wanted to understand her out-of-body experience. But how could she investigate something so weird?

She quickly realized she could test her hypothesis by checking some of the things that she saw during her experience. This turned out to be “most frustrating,” because some details were “exactly right while some small details were wrong.” She was even more confused when she found big differences between her vision and the real world.

The next morning I went out enthusiastically to inspect the roofs and gutters and chimneys. I was shocked: the gutters were not the old-fashioned iron ones I had seen from above but modern plastic, and there were no chimneys at all.

Worse, she had seemed to pass through an entire floor that simply didn't exist. “I remembered having passed up through another room above,” but her friend's room “was on the top floor, with no other room above it. I remembered it all so clearly yet I was wrong.”

Some of the things she saw weren't real—or at least, not part of our physical reality. Yet Susan “could not believe this was all hallucinated.” It simply *felt too real to dismiss*. “The vividness and clarity of the experience” and her “powerful memories of flying free” convinced Susan that there “had to be some other explanation.” Could it be that psychic powers simply “work in strange ways,” or perhaps that the astral world is similar but not the same as the physical world?

Astral Mysteries and Psychic Research

We'll come back to Susan's story, and to her research inspired by her adventure. But she was not the first person to ask such questions, nor to have such an experience.

A hundred years earlier, a woman called Madame Blavatsky founded a mystical religious movement called Theosophy. According to Theosophy, everyone has an astral body and also several other bodies that exist on other planes of existence. Most people's astral bodies “cannot go more than a few feet from the physical one,” claimed one founder of the movement. A few especially gifted psychics could “use the astral form at will,” but only after a “long course of excessively hard” mystical training.

In 1882, a group called the Society for Psychical Research (SPR) was founded in England. This group wanted to

carefully study “psychical” claims such as mind reading and haunted houses (claims we call “paranormal” today). They were especially interested in claims about spirits. At that time many supposed psychics claimed that they could summon forth the spirits of the dead to communicate or even materialize in darkened rooms during rituals called séances. However, investigators discovered that these “spirit mediums” routinely used trickery to fake spirits and fool people.

The SPR researchers knew that frauds and mistakes were very common, but they still hoped to find firm evidence that some haunting and mind reading stories were genuine. They collected all sorts of tales involving spirits, including some cases of out-of-body experiences. Some people claimed they saw the phantom of a person appear on the day that person died, or that someone far away had visited them in their dreams.

An Impossible Visit

One example was the case of a man named Mr. Wilmot. The story goes like this: in 1863, Wilmot was on a steamship journey across the stormy Atlantic ocean. As he lay sleeping one night, Wilmot “dreamed that I saw my wife, whom I had left in the United States, come to the door of my state-room, clad in her night-dress.” According to this amazing tale, Wilmot was not the only person who saw her appear. In the morning Wilmot was astonished to hear that his bunkmate had seen her too! But the biggest surprise was yet to come. When he arrived in the United States to join his wife and children, Mrs. Wilmot supposedly hurried to ask him, “Did you receive a visit from me a week ago Tuesday?” Apparently, she had “lain awake for a long time thinking of me, and about four o'clock in the morning it seemed to her that she went out to seek me.” She seemed to cross the “wide and stormy sea,” all the way to his steamship, and then to visit him where he lay in his cabin. Hearing this story “almost took my breath away,” Wilmot later recalled. He believed that the timing matched perfectly and her description “of the steamship was correct in all particulars, though she had never seen it.”

This case became famous because it appeared to offer strong evidence of a paranormal event. Mr. and Mrs. Wilmot felt they shared an experience across a thousand miles of ocean. Another man had apparently seen this happen. And Mrs. Wilmot supposedly described details she couldn't possibly know unless her strange journey truly did take place. If all that were true, it would change everything.



As Susan Blackmore reflected a century later, if Mrs. Wilmot truly did see unique details of the ship, and “if two people really did see her appearing at exactly the same moment, even though she was far away, then much of science as we know it must be thrown out.” Proof of astral projection would “force a completely new understanding of time, space, mind, and consciousness,” she wrote, adding, “Wouldn’t that be exciting? Wouldn’t it be amazing?”

But was the Wilmot case strong evidence for astral travel? Unfortunately, as Susan learned, “psychic and paranormal claims” often “appear compelling at first sight and crumble on closer inspection.” The Wilmot case was no different. The case had one gigantic problem: there was absolutely no way to check the details of this story because it was *not written down until 27 years afterward!* And although the story was written *as though* it were told in Mr. Wilmot’s own words, he was not even the person who wrote it. It was written “from memory” by another man who had *heard* Wilmot tell the story “several years” earlier. (Wilmot did later look over the story and sign his name to it.)

This was not strong evidence for anything. By the time this story was written, the other supposed witness had died. Even Mr. Wilmot admitted that his bunkmate “might have invented his part from witnessing something unusual in me while asleep.” It’s also completely possible that another passenger had briefly walked into their cabin by accident.

Very old memories were the only evidence in the case. As we’ve seen, memories are not very reliable, especially after such a long time. The Wilmots probably told this story many times over a quarter century. That story naturally would have evolved over time without the couple even realizing it. It’s normal for people to slowly add details that improve an old story, and to forget details that don’t fit. Did the Wilmots really dream of each other on the same night? Did those dreams really match “in all particulars”? By the time the tale was written down, it was far too late for anyone to know or find out.

Besides, was it really such a coincidence for a husband and wife to dream of each other when separated for a long while? If there is one part of this story we probably can rely upon, it is that they missed each other.

Astral Projection Comes Into Focus

As stories like the Wilmot case became well known, some psychical researchers began to focus their attention specifically on claims of astral projection. Two researchers in France conducted experiments in which people seemed able to leave their bodies behind while in a trance. “Projection of the astral body is a certain fact capable of being demonstrated by means of direct experiment,” boasted one of the French researchers.

These claims were declared “the latest achievements of

‘psychical science’” by an English-born author and psychical researcher named Hereward Carrington. After Carrington described the French experiments in books that he wrote, a young man named Sylvan Muldoon was inspired to write him a letter. “I have been a ‘projector’ for twelve years,” Muldoon claimed. He offered to tell Carrington everything about his frequent astral journeys. The two men then collaborated to write two influential early books about out-of-body experiences, *The Projection of the Astral Body* (1929) and *The Phenomena of Astral Projection* (1951).

Muldoon said he was a “youth of twelve” the first time he found himself outside of his body. Late one night he woke up confused, unsure of where he was. “I tried to move,” he recalled, “only to find that I was powerless...fairly glued down, stuck fast, in an immovable position.” He felt a “pandemonium of bizarre sensations” such as weightlessness, pressure on the back of his head, and “zigzagging and head-pulling.” He felt he was “vibrating at a great rate of speed.”

Then suddenly, he saw where he was. “No words could possibly explain my wonderment,” he said. “I was floating! I was floating in the very air, a few feet above my bed.”

He started “moving toward the ceiling,” then seemed to float upright into a standing position. Then he turned and saw something shocking: “There were two of me! ... There was another ‘me’ lying quietly upon the bed!” He saw that his “two identical bodies were joined by means of an elastic-like cable” that stretched as he moved about. He passed out through his closed door like a ghost, and moved from room to room. He felt wide awake, completely conscious. He saw everything clearly. All of his “senses seemed normal, save that of touch.” He watched a car drive by outside. Then, after fifteen minutes as a phantom, Muldoon felt himself pulled back into his physical body.

Muldoon “experienced hundreds of other projections” after this first astral adventure. At first these out-of-body experiences were always “accidental, unintentional,” but he paid close attention to how and when they happened. Eventually he “succeeded in producing the phenomenon at will.”

Muldoon described many “classic” details often included in OBE stories. His experiences felt “too real to deny.” He saw his own sleeping body from above. He believed that “the astral counterpart is the *exact duplicate* of the physical body,” including astral clothing. He claimed to see details of unfamiliar places during astral journeys that he later “verified” by “going there in the physical, and seeing everything exactly as I saw it in the astral.” And, Muldoon and his co-author believed, “The astral and the physical bodies are invariably connected by means of a sort of cord, or cable, along which vital currents pass. Should this cord be severed, death instantly results.”

SEARCHING FOR ANSWERS



SUSAN IN 1978

After her astonishing experience of leaving her body in 1970, Susan Blackmore was totally convinced that paranormal abilities and events were real things. She went on to get a Ph.D. degree in “parapsychology,” a field that grew out of the old idea of “psychical research.” Parapsychologists attempt to study claimed psychic powers using the tools of science. For example, they conduct laboratory experiments where people attempt to communicate using the supposed power of telepathy or sense things at a distance using “extrasensory perception” (ESP).

Susan had exciting ideas about how ESP might work. But her research ran into a serious problem. She wasn’t able to test her ideas about ESP because she could not find any evidence that ESP existed at all! No matter what she tried, the results of her experiments were always the same: nothing. Eventually she was forced to conclude that psychic powers either behave so strangely that they cannot be studied scientifically, or (more likely) that they simply aren’t real.

But her disappointments did not stop her quest to understand out-of-body experiences. After all, she knew for a fact that OBEs really happen. She had one herself! And so she continued to investigate. Eventually she wrote two books on the topic, *Beyond the Body: An Investigation of Out-of-the-Body Experiences* (1982) and *Seeing Myself: The New Science of Out-of-Body Experiences* (2017). She also wrote a book titled *Dying to Live* (1993) about the related topic of “near death experiences” (NDEs).

But she began by reading a stack of other people’s books.

The Literature Deepens

The adventures of frequent out-of-body experiencers like Sylvan Muldoon “are fun and fascinating to read but their theories are plain daft,” Susan decided. Their ideas had many problems (we’ll come back to those problems later). Worse, the various astral projection authors disagreed with each other. For example, some said they travelled to other worlds where helpful spirit guides revealed the secrets of the universe. “But these guides must have no liking for me,” Muldoon wrote, “for I have never yet seen one of them.”

However, these books inspired others to come forward, and inspired researchers to seek more cases (for example by going on the radio and asking people to send in their own

stories). New books collected hundreds of stories and tried to make sense of them. These “case collections” were more useful, because they allowed researchers to compare a large number of out-of-body experiences and begin to look for clues that might help to solve the mystery.

There were patterns, but they weren’t consistent. For example, many OBEs happened while the person was lying down, but they could happen anywhere at any time. People reported OBEs that occurred while they were sitting, walking, driving a car, riding a motorcycle, or even delivering a speech. Many saw their own body. Others did not.

Also, Susan knew these case collections could be misleading. Different researchers might include different stories because of their own beliefs about astral projection. It could also be that people are more likely to tell some stories than others. For example, a person who had an out-of-body experience similar to classic astral projection tales might be more likely to say “that happened to me too!” Someone who had a much different or weirder experience might decide instead to keep her story to herself.

Asking the Right Questions

Researchers needed a way to dig deeper. “One of the first questions my own OBE prompted me to ask was, ‘how common are these experiences?’” Susan said. She knew that a “case collection cannot answer this question, but a survey can.” A survey is a way to gather information by asking people a list of questions. For example, to find out “how common the OBE is we may ask a number of people whether or not they have had one.” Ideally, we’d want to ask a large number of people from all walks of life—old and young, rich and poor, men and women.

Susan conducted her own OBE survey. Other researchers have done the same since the 1960s, asking various groups of people various questions. When all this research is put together, it offers further clues—and further mysteries.

First, surveys reveal that OBEs are shockingly common. Taking the various survey evidence into account, Susan concluded “my best guess is that about 15% of the population has had an OBE.” If her estimate is correct, a *billion* people have felt the sensation of existing outside of their bodies!

These experiences happen most often when people are very relaxed, especially when they are lying on their backs. However, they can also happen when people are sick, stressed, or even in danger, such as during an operation or while drowning or falling from a high place.

Some people are more prone to OBEs, although obvious things like age, sex, religion, and education seem not to make any difference. People who have flying dreams and “lucid dreams” (dreams in which you realize that you are dreaming) are more likely to have an OBE. Waking hallucinations, belief in ESP, and other kinds of mystical experiences are also

linked to a greater number of out-of-body experiences. Finally, people who've had an OBE score more highly on tests that measure "absorption" (the ability to immerse ourselves in books, movies, or daydreams).

What Are Out-of-Body Experiences Like?

Out-of-body experiences are certainly not all the same. For example, quite a few people feel weird sensations such as buzzing noises or vibrations before seeming to leave their body. Nevertheless, "most people simply find themselves outside their body," Susan concluded.

Perhaps half of people see their own physical bodies, though different researchers found different numbers. It's common for people to experience a duplicate astral body, but also common to feel they have no form or exist as a bodiless point in space. It "is impossible to draw any firm conclusions from this muddle," Susan explained, except that people's experiences vary enormously.

Up to three quarters of people find themselves in familiar surroundings during their OBE, though things may look distorted, brighter, dimmer, or vaguer than normal. However, Susan learned, "Others visit entirely impossible or strange worlds of 'heavenly scenes' or 'other realms of existence'." Some meet 'non-physical beings' such as angels, spirits, demons or monsters of various kinds."



THE TUNNEL FROM
SUSAN'S VISION

Some experiences turn out to be more rare than expected. For example, traveling through a tunnel toward a light is a famous part of OBE stories, especially if the person has almost died. Susan passed through a tunnel in her own experience. Some researchers have found this happens in a third or quarter of cases, but other studies have found far fewer examples. Susan also experienced being

connected to her body with a silvery astral cord. Early astral projectors claimed that this cord is *always* part of out-of-body experiences, but these claims were mistaken. Susan learned that cords are "very rare. On this point all the studies agree." She concluded that cords are seen in "perhaps around 5 per cent" of cases.

Seeking Proof

One thing is clear: lots of people have *felt* that they've left their bodies. But have they really done so? How could we tell?

Many out-of-body experiences occur while people are drifting in and out of sleep. For this reason, doubters have sometimes argued that OBEs are "just dreams." People who've had out-of-body experiences say that suggestion is ridiculous. They insist that dreams *feel* completely different. Virtually everyone who has an OBE says it "was more real than a dream." In fact, many people report that these strange experiences feel more *intensely real* than being awake in the physical world! However, those are still just feelings. They don't tell us what's actually going on.

For a hundred years, researchers have struggled to find out whether or not these astral journeys were all in the mind. As one frequent astral projector admitted in 1920, there were at least two possibilities that fit the evidence of his own experience. It could be that the "spirit actually leaves" the body, just as it seemed. Or, it also seemed possible that out-of-body experiences could be a "new brain state...a third level of consciousness, differing from both waking life and ordinary dream, and far more vivid." If that were the case, then it would mean that his "seeming external experiences all originate within the mind," despite feeling so real.

People who believe that spirits can leave on astral journeys have claimed various kinds of evidence. Some pointed out that beliefs in spirits and astral travel have been very common in cultures all around the world throughout history. But belief in monsters, ghosts, and witchcraft are also very common. Beliefs are not good evidence by themselves. A lot of people can believe a thing without it being true.

Nothing came of claims that astral bodies could be detected with scientific instruments. It was often claimed that sensitive psychics had the ability to see astral bodies, but these claims were not useful as evidence. These amounted to people *just saying* that they had an unproven psychic power to confirm other people's unproven claims of psychic power!

It would take much more to prove the reality of astral projection. Researchers needed a way to test whether these apparent journeys literally take place, or only *seem* as though they have. Happily, as Susan realized after her own OBE, there was one way to attempt that.

Many people claim that they have flown to other locations and seen things while outside of their bodies. That could give Susan the evidence that she needed! If it could be proven that a person truly did see details in one location while their physical body was in another, that would be powerful evidence in favor of astral projection.

SEEING THINGS

Susan was frustrated when she checked the details of things she saw during her OBE. Some things were right, but many details were completely wrong. Her visions seemed real but did not match reality. She was able to find this out because she wrote down what she saw and *checked whether it was accurate.*

This is not true for most people who have an OBE. "Very few claim to have seen things at a distance," Susan realized, "and fewer still bother to check up on the details." Most people only see familiar locations, such as their own bedrooms. In cases where people have claimed to accurately see things far away, it's often impossible to check. This was certainly true in the Wilmot case because too much time had gone by.

Susan needed well-recorded cases in which she could confirm that people saw specific details during an OBE that they could not have seen or known about in any other way. She wrote,

I was therefore terribly excited when, in 1991, I read what sounded like a perfect case; the story of a blind woman called Sarah who had seen in minute detail the doctors who were trying to revive her, their clothes, what they said and even the scribbles on the board outside.

However, when Susan contacted the author who reported this case, he admitted that he "had made it up!"

Checking the Details in Person

Susan investigated another case in which a Canadian architect had experienced flying across the Atlantic to London, and apparently also traveled back in time. He saw many details of life in the streets of the city in a period that looked like the middle of the 1800s. When he compared his vision to a map of the city, he found one specific street that he believed he had visited and described in detail. He had never physically visited London, so he asked a friend to describe the area he seemed to visit during his out-of-body experience. He excitedly claimed that his friend "proceeded to describe the character of the street, the buildings, the style...all exactly as I had seen them!"

Could this be the evidence Susan was looking for? She grabbed her camera and hopped on a train to London to find out. She "found it easily enough, but what a disappointment! The houses were absolutely nothing like those of the architect's vision." She "searched and searched" throughout the neighborhood and "found nothing like it." When she dug into

local history, she discovered that the whole area had been green fields during the period when the man's vision appeared to take place. Whatever the man "had seen in his OBE, it was not the actual streets" of the area "either now or in the past."

Susan realized that "claims of true perception would be so important if true" that she and other researchers often forgot to ask the equally important question, "do people see *untrue* things" during out-of-body experiences? The answer, she knew, was "a resounding yes." Whenever details could be checked, other people's out-of-body visions were no more reliable than Susan's own. Usually, a few accurate details were "mixed in with a far greater number of invented or imagined things."

Putting Astral Projection to the Test

Many people see "wonderful visions" during OBEs but "there is no reliable evidence that they have actually seen anything at a distance," Susan concluded. But there was one more thing to try. Some people say that they can astral travel whenever they like. Why not ask these people to send their spirit to a specific place to identify specific, hard-to-guess targets such as large numbers or unexpected objects?

This has been attempted. In the 1960s, for example, a researcher named Charles Tart asked an astral projector he called "Miss Z" to sleep in a laboratory on four different nights. She was hooked up to wires to record her brain activity. Each night, Tart randomly selected a five-digit number. He wrote that number on paper with a black marker. Then he placed that night's number on a shelf high above Miss Z's bed, so that it could be easily seen from near the ceiling but not from the bed. Miss Z was asked to leave her body during the night, float up to the shelf, and read the number. On the fourth night she claimed to succeed, saying the number was 25132. Incredibly, she was right!

There's little chance this was a lucky guess. But was it strong evidence for astral projection? Unfortunately not. Miss Z was left alone in the lab. She was not filmed. There was a window into the lab, but this was covered by blinds. Tart admitted he sometimes "dozed during the night," but believed that the wires prevented Miss Z from sitting up or standing to look at the shelf. However, Tart got weird electronic readings that night. Skeptics have pointed out that some of those readings were of the type we'd expect to see if Miss Z had secretly disconnected the wires. Also, Tart realized it was possible to read the numbers from their reflection in a large clock. Tart also knew that sophisticated cheating "was not impossible." For example, he suggested, Miss Z "might have concealed mirrors and reaching rods in her pajamas" and used these



tools to read the number. With all these problems, Tart wisely warned that his experiment “cannot be considered...conclusive evidence” for astral travel. Susan agreed that “he was right” to think so.

Another, larger study positioned hundreds of targets high up in hospital rooms, so that people might see them if they had an OBE. But no one had an OBE in any of the rooms that had targets.

Susan ran a similar experiment for years herself. It began when she met with a man who said he could astral project whenever he wanted. He suggested that he attempt to project his spirit to her kitchen to see what was there. “I was delighted,” Susan recalled. She suggested setting out a target for him to identify, and asked him, “what sort of thing would you like best?” He suggested “a five-digit number, a word, and a small object.” Susan prepared randomly selected numbers, words, and objects, and changed these targets regularly. From then on, “Every time I met someone who said they could project at will I asked them to visit and many said they would,” Susan said. However, “Only two said they reached my kitchen, saw the words and objects, and neither was correct.”

Problems with Astral Projection Theories

It seemed “more and more obvious” to Susan that astral projection ideas were not able to explain OBEs. “Not only did they face enormous logical problems, but they just didn’t fit with the evidence,” she said.

People have an amazing ability that can mislead our intuition about paranormal claims: *we can easily imagine things that don’t even make sense*. For example, imagine that you found Aladdin’s magic lamp, summoned the genie, and asked him to conjure up a delicious turkey dinner. Poof! It’s easy to imagine a turkey appearing suddenly by magic. In a story this wouldn’t need to be explained. But if someone claimed that this happened in the real world, we might have a few questions! Where the heck did the turkey come from? How did it get there? Who cooked it? Doesn’t a cooked turkey mean that turkey used to be alive? Did it live on a farm? And so on.

Astral projection is just as easy to imagine, and just as hard to explain. To begin with, what are astral bodies made of? If astral doubles were made of some real physical substance or energy, we should be able to detect them. It’s also difficult to explain how a phantom body could hold itself together or function. “Would it have muscles, nerves, and a brain?” Susan wondered. “If not, how would it move and think?”

It’s also unclear where astral bodies go when they travel, and how they perceive things when they’re there. If the astral realm is a different dimension, why do people see familiar places and things during OBEs, including their own physical bodies? Or, if astral travel takes place in our own physical world, why do people see things that don’t match reality?

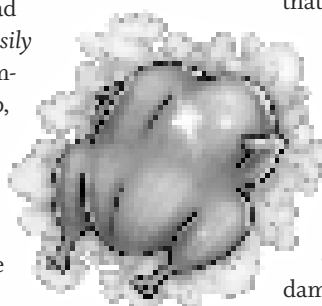
It might not seem obvious, but sight is a very serious problem for astral projection ideas. In the physical world, eyes exist to catch light. Light bounces from objects into our eyeballs, where that light gets absorbed by sensitive cells in our retinas. This causes nerve signals that our brains use to construct an image of whatever we’re looking at. But our eyes could not catch and detect light if our bodies were invisible, as astral bodies are said to be. Instead, light would shoot right through our invisible eyeballs and out the other side. Invisible eyeballs could not see anything.

Could it be that astral eyes do not detect visible light, but “see” in some other mystical manner? Up to half of people say that the objects they saw in their OBEs glowed, had auras, or were transparent. However, it is just as common for people to say their OBE vision was perfectly normal, like seeing the real world with their actual physical eyes.

Some people claim they can see glowing auras surrounding people in the real world. Astral projectors say this is possible because they are using their astral eyes. But if we can use astral eyes in the physical world, why do we have physical eyes at all? Why not use astral vision all the time to see auras and see in the dark? It’s also difficult to understand how damage to our physical eyes could make us blind. Why can’t blind people use astral vision to see the world around them?

But never mind eyes. Why did we evolve *brains*? Astral projectors claim that the astral body is our true self, the part that does our thinking, feeling, experiencing, and remembering. Our thinking selves can apparently float away without any need for a physical body. But our physical brains are expensive—they use a lot of energy. Why would we need them? Also, we know that damage to our physical brains can change our ability to think and remember, and even change our personality. Does physical brain damage somehow alter our astral spirit?

Which brings us to perhaps the biggest problem: how exactly would astral selves connect to and control our physical bodies? Astral bodies are supposedly made of something so otherworldly that they can ignore gravity and pass through walls as though ordinary matter didn’t exist. Yet these phantoms are somehow also supposed to be one with our physical bodies most of the time. If my mystical astral self wanted to raise my physical arm, how would that ghostly desire cause nerve signals and muscle movements here in the real world? There’s no sign that we have some sort of magical Bluetooth connection to allow an astral self to give instructions to our physical bodies. Scientific research shows that our physical actions are coordinated by activity in our physical brains.



SOLVING THE MYSTERY

After years of investigation, Susan understood that astral projection was not a good explanation for OBEs. Her own amazing experience needed another explanation. If nothing leaves the body, reasoned Susan and other skeptical researchers, these experiences must somehow be created by our own brains. We know that our brains *can* generate the illusion that we are seeing and doing things in another world—this happens when we dream. But we also know that OBEs are not ordinary dreams. Dreams feel real, but only while we are dreaming. Out-of-body experiences feel totally real even after they end. Although many OBEs happen in connection with sleep, they can also happen when people are wide awake.

Putting Yourself Together

To help unlock the secret, let's first pause to notice how it feels to be you right this minute. It probably feels like you're some place in particular, and not somewhere else, or everywhere, or nowhere. You feel that your body takes up a certain space—it isn't a mile long, nor is it the size of an ant. Your arms and legs feel like they're in certain positions. You can feel whether you're sitting or standing or lying down, and whether you're moving or still. And, you probably feel that there is a thinking, feeling part of you located in a certain place within your body. For most people, it feels like their thinking self lives right behind their eyes.

This all feels so simple, obvious, and automatic that it's barely worth noticing: "This is me. This is my body. Of course I know these things!" But although it seems effortless, you feel those things because your brain is doing a lot of hard work in the background. Rocks don't have a sense of self, nor feel that they take up a certain space. We do, because our brains constantly gather information from our senses and use it to update our sense of who and what and where we are—what is called our "model of self."

Usually our brains do such a good job that we don't notice anything happening. We just feel like ourselves. But creating a conscious sense of self is a process so staggeringly complicated that scientists don't fully understand how our brains do it. Like any other complicated process, many parts of it can go haywire for various reasons. Our bodies can be damaged. Normal brain function can be disrupted by injury, illness, or lack of oxygen. Our senses can be fooled. Sometimes our brains make mistakes when putting together our sense of ourselves.

For example, people who have lost an arm or leg often have sensations that feel as though they come from their missing limb. They may feel they are gesturing with an arm that no longer exists, or feel unpleasant itching or pain. I've personally felt bizarre changes in my own body during bad

fevers, such as growing to a vast size or stretching so that my feet seemed incredibly far away. People sometimes feel that they are floating, or moving when they are actually still.

In rare cases, things can get much weirder than that. Some people experience sensations that seem to come from one or more *extra* arms or legs—phantom limbs that never existed in the first place. Others feel that their actual physical arms or legs do not belong as part of their body. In other cases, people experience illusions involving their whole body. Some feel they can sense the presence of an invisible double who follows them and copies their movements. Others actually see a copy of themselves. That illusion is like an OBE in reverse: people see a second body, but feel that they exist inside their own physical body, not inside the double. Susan described one very rare condition in which "people report failing to see their own bodies. They can even look down and see no legs; they may even look into a mirror and see no one."

Explaining Out-of-Body Experiences

Susan concluded in 1982 that an "OBE is best seen as an altered state of consciousness," and that everything seen during an OBE is created from memory and imagination. This appears to be caused by a person's brain making a mistake in how it constructs its model of self. Ordinarily our brains make us feel that we exist inside our own bodies. Sometimes, however, brains can lose track of the senses or put things together incorrectly so that a person feels instead that they exist in some location outside of their body.

Susan's explanation fit the evidence, but she knew it was difficult to confirm. "Then in 2002," she said, "everything changed." The prestigious science journal *Nature* published an amazing report by a team of Swiss brain surgeons. They used electrodes to precisely stimulate many parts of the brain of a woman plagued by epilepsy. Happily, they found the problem and stopped her seizures. But they also discovered something else: the exact part of the brain that creates OBEs! As they stimulated this part with a small electric current, the woman felt she was "sinking into the bed." When they increased the current she felt herself float up near the ceiling. "I see myself lying in bed," she told the doctors. Other doctors confirmed that stimulating this area caused other patients to have OBEs too.

This special region of the brain works to combine information from our senses and from inside our body into our model of self. That's an important function! We need an accurate model of self in order to move around in the world. When this area of the brain gets disrupted or confused, our model of self can become distorted in all sorts of bizarre ways. It can make our limbs feel longer or shorter, or generate a sense of another presense in the room—or it can make us feel that we've floated right out of our bodies.

LEARNING TO FLY

Looking back on all this in her recent book *Seeing Myself: The New Science of Out-of-Body Experiences*, Susan reflected just how much she had learned.

After my dramatic experience my original hypothesis was clear: obviously my soul or astral body or spirit had left its body and gone traveling. I was totally and completely convinced and that's why I can understand why others are too. Yet I was wrong and I had to change my mind.

But she wasn't sad to learn she was wrong. She was excited! Her out-of-body experience had posed a mystery so strange that it seemed to be magic. Nevertheless, thanks to investigations by Susan and many others, science solved the mystery after all. It was a joy to finally understand and satisfy her curious mind—especially when that solution only pointed the way to new mysteries to explore!

Tickets to Other Worlds

Susan felt “so grateful for those strange few hours all that long time ago” when she “felt more real, more thoroughly alive, more really ‘me’ than in ordinary waking life.” But though OBEs feel extraordinary, they are not rare. Quite a few people reading this will have one. Amazingly, it is even possible to *learn* how to have experiences that feel like visiting other realities!

Although they were wrong to think they actually left their bodies, astral projectors like Sylvan Muldoon have long offered advice about how to trigger OBEs. Their many techniques combine relaxation and imagination to confuse your brain into thinking you're somewhere else. For example, you might lie on your back, close your eyes, and slowly tense and then relax every muscle in your body. Then you might picture a double of your body floating a couple of feet above you with its back to you. Concentrate on this imaginary double and try to move yourself into it. The various techniques are all said to be extremely hard and may take years of practice.

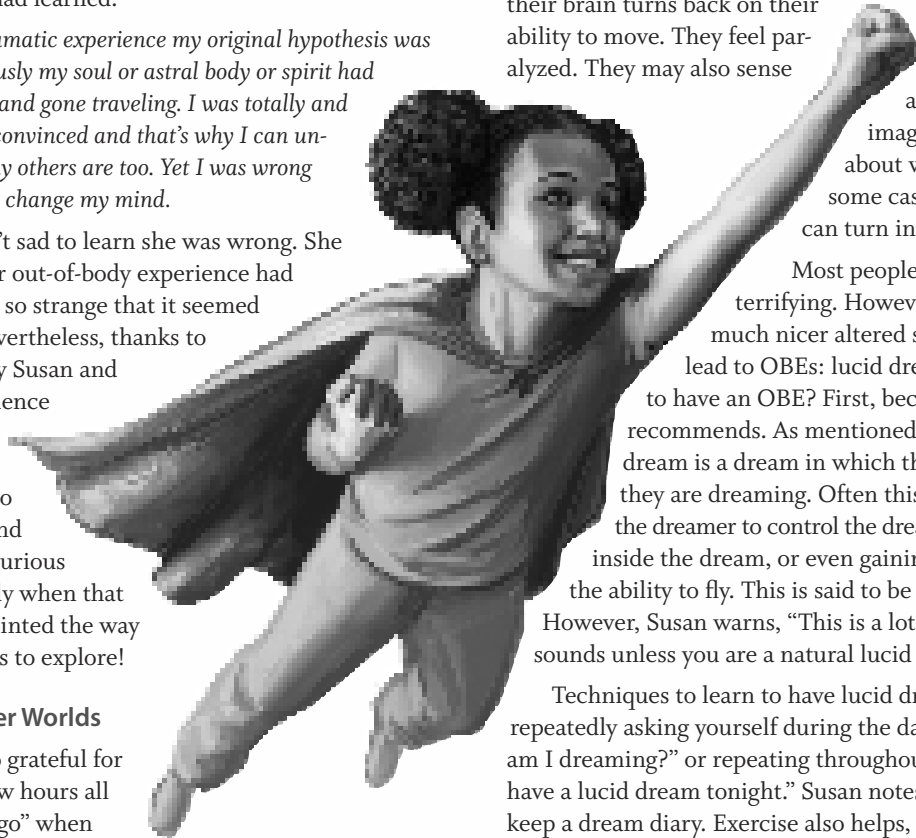
However, there may be an easier way. Many OBEs begin with other altered states of consciousness that occur between sleeping and waking. Muldoon's first OBE happened when he woke up to find himself paralyzed on his bed. This was an

example of “sleep paralysis.” When we sleep, our brains temporarily turn off our ability to move. It's a safety feature, like the parking brake on a car. We might hurt ourselves if our bodies acted out the actions we dream about! However, if our sleep gets disrupted, people sometimes wake up before their brain turns back on their ability to move. They feel paralyzed. They may also sense

a presence, see dream images, or feel confused about where they are. In some cases, sleep paralysis can turn into an OBE.

Most people find sleep paralysis terrifying. However, there is another much nicer altered state that can also lead to OBEs: lucid dreaming. “You want to have an OBE? First, become lucid!” Susan recommends. As mentioned previously, a lucid dream is a dream in which the dreamer realizes they are dreaming. Often this realization allows the dreamer to control the dream—changing reality inside the dream, or even gaining superpowers like the ability to fly. This is said to be incredibly fun. However, Susan warns, “This is a lot harder than it sounds unless you are a natural lucid dreamer.”

Techniques to learn to have lucid dreams include repeatedly asking yourself during the day “Am I awake or am I dreaming?” or repeating throughout the day, “I will have a lucid dream tonight.” Susan notes that it's helpful to keep a dream diary. Exercise also helps, as do naps and video games. “Waking during the night and carrying out some kind of activity before falling asleep again also encourages lucidity,” Susan says. Lucid dreaming isn't harmful, and it can help if you're prone to bad dreams. All the same, younger readers should probably ask their parents before trying these techniques. (“Hey, Mom, can I spend all day gaming and then set an alarm for the middle of the night so I can learn to control my dreams and maybe experience leaving my body?”) Happy dreams!



FURTHER READING

THE SUSAN BLACKMORE BOOKS MENTIONED IN THIS STORY ARE GREAT PLACES TO DIG DEEPER—ESPECIALLY HER UP-TO-DATE NEW BOOK *SEEING MYSELF* (2017). TO LEARN MORE ABOUT THE PARANORMAL RESEARCH THAT LED HER TO BECOME SKEPTICAL ABOUT PSYCHIC CLAIMS, SEE HER MEMOIR, *IN SEARCH OF THE LIGHT: THE ADVENTURES OF A PARAPSYCHOLOGIST* (1996).

