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Science Focus

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EVERYTHING YOU WANT TO KNOW ABOUT

ALIENS



WHY WE WANT TO BELIEVE

**THE MISSIONS SEARCHING
FOR LIFE BEYOND EARTH**

WHAT THEY'LL LOOK LIKE

**THE PEOPLE BROADCASTING
MESSAGES TO ALIEN WORLDS**

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WHY WE WANT TO BELIEVE...

Whether they're tiny microbes or little green men, aliens never fail to capture our imagination. So why do they have such a hold on our collective psyche?

by Sue Nelson

Out of nowhere, an incandescent light dazzles a young woman. After her eyes adjust to the brightness, they widen in fear as a small grey figure emerges...

Several weeks later, the woman is pregnant. There has been no physical conception but the pregnancy dates back to that strange event. At night, shards of memory interrupt her dreams. They are of a strange being not from this Earth.

It's not just sci-fi fans who will recognise this scenario. One of history's most famous stories also features an otherworldly being mysteriously impregnating a young woman. In the Bible, over 2,000 years ago, the angelic visitation resulted in the birth of Christianity. Today, there are plenty of people who view the existence of extraterrestrials not just as a matter of belief, but also akin to a religion. There's even a scientific link between the two.

ALIENS VS RELIGION

Andrew Abeyta, assistant professor of psychology at North Dakota State University in the United States, studies the meaning of life. In 2017, he was co-author of a study called 'We are not alone', which found that people who believe in aliens are less likely to believe in religion.

"Religion is a really robust source of meaning in life. It gives us a sense of purpose. We feel important. It feels like our lives are planned, that they're purposefully designed," says Abeyta. "And when we reject religion, what we argue is that need to explain, that need to find purpose, that desire to feel important and meaningfulness doesn't go away. People who tend to report a stronger belief in UFO conspiracies and little green men and things like that, tend to also report a higher sense of meaning in life. They want to go somewhere else to help restore that meaning. So it's sort of like we're trying to capture this compensatory process."

This doesn't necessarily mean that anyone who leaves the church will start believing in alien abduction. But it does demonstrate a common human desire for answers to an age-old question: "Why are we here?"

Research by the University of Fribourg found that those who believe in a higher purpose, the literal truth of the Bible and divine creation, were also more likely to believe in conspiracy theories.

"Belief in conspiracy theories does tend to correlate with religious belief," says Karen Douglas, professor of social psychology at the University of Kent. "It also correlates negatively with education. For instance, people who are more educated are more likely to reject conspiracy theories. Some studies have also shown that disadvantaged groups are sometimes more likely to believe in conspiracy theories."

TAKE ME AWAY

The desire for escapism through conspiracy theories is understandable. And in some countries, conspiracy theories are extremely prevalent. Earlier this year, an Ipsos poll in the US found that almost one in two Americans think that UFOs exist and have already visited the Earth. The study came out before the pandemic took hold. Since then, many



Jesse Marshall, who initially investigated and recovered some of the debris from Roswell in 1947

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UNEXPLAINED UFO SIGHTINGS

MANY OBJECTS HAVE BEEN MISTAKEN FOR UFOS, FROM NATURAL PHENOMENON SUCH AS LIGHTNING SPRITES AND METEORS, TO EXPERIMENTAL AIRCRAFT AND WEATHER BALLOONS. THE FRENCH UFO RESEARCH GROUP, GEIPAN, FOUND THAT 3.5 PER CENT OF SIGHTINGS REMAINED UNIDENTIFIED. HERE ARE A FEW THAT, SO FAR, HAVE DEFIED EXPLANATION

people are more anxious and uncertain about the future. If the survey was repeated today, would figures go up?

“Conspiracy theories do tend to thrive in times of crisis,” says Douglas. “When people feel isolated and frustrated, they might be more inclined to turn to conspiracy theories in an attempt to make themselves feel better.”

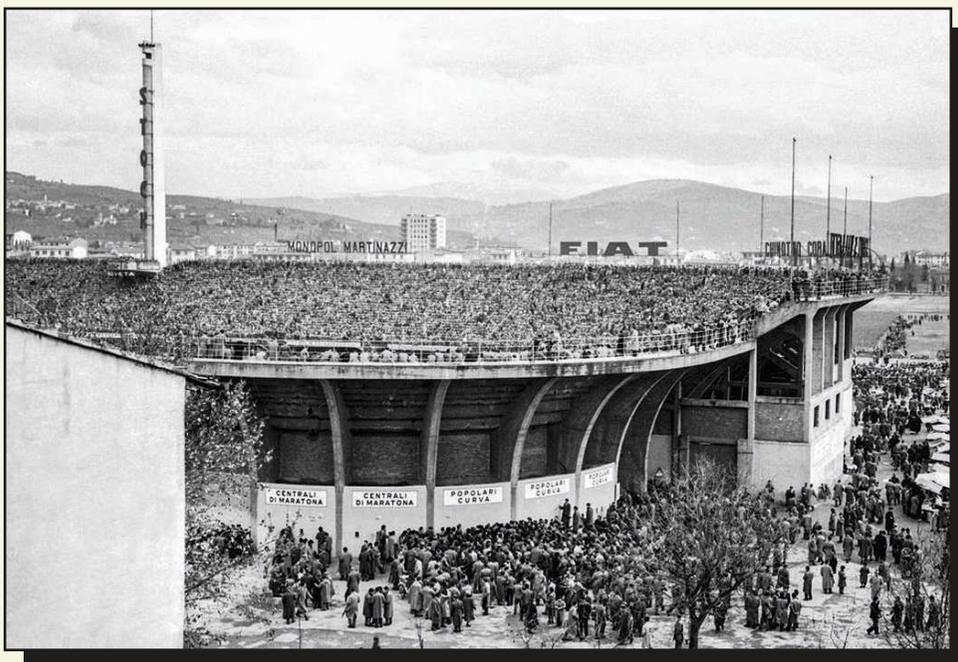
MAKING MEMORIES

The problem with conspiracy theories – whether aliens, 5G masts or vaccines – is that people can also write off a logical explanation as part of the conspiracy.

“People are most susceptible when important psychological needs are not being satisfied,” says Douglas. “Specifically, people need knowledge and certainty, to feel safe, secure and in control, and to feel good about themselves and the groups they belong to. When people are not fulfilled by official or conventional explanations for events, conspiracy theories might seem appealing.”

The most famous UFO conspiracy theory demonstrates this. In 1947, not long after WWII, which had removed certainty in most people’s lives, the Roswell Army Air Field (RAAF) recovered debris from a crashed high altitude weather balloon in Roswell, New Mexico. At least, that was the official story. The *Roswell Daily Record* front page reported it somewhat differently: “RAAF captures flying saucer on ranch in Roswell region”.

The conspiracy that launched a global industry of books, TV series and movies involved a spacecraft and recovered alien bodies. It continues to this day. In 1994, even though the craft was confirmed as a weather balloon as part of the military’s secret Project Mogul, people continue to believe the balloon was a UFO and that its wreckage, and



UFOS STOP PLAY

In 1954, two local football clubs were playing in Florence, Italy, when the crowd stopped watching the game. Instead, around 10,000 fans were looking upwards at a strange craft. It was described by witnesses as either cigar- or egg-shaped along with silvery white threads falling from the sky. Samples mostly disintegrated on contact, but some were examined at the University of Florence and found to contain boron, silicon, calcium and magnesium. While migrating spiders, which use webs as sails, were suggested as a rational answer to this aspect of the sighting, their silk is an organic compound and does not contain any of those elements.

the preserved body of an alien, is hidden somewhere in the Nevada military base, Area 51.

Psychologist Chris French is not surprised. “The important thing is prior belief and then what we call top-down processing,” says the emeritus professor at Goldsmiths, University of London, and former editor of *The Skeptic* magazine. “It’s the way that your beliefs and expectations can shape what you actually perceive.”

A case in point is the common description of UFOs as ‘flying saucers’. The phrase originated just a few weeks before the Roswell incident when businessman and amateur pilot Kenneth Arnold reported, after a private flight, nine unusual craft moving at speeds far greater than any available technology.

“One of the really interesting things is that when he talked about a saucer, he wasn’t talking about the shape of the craft at all,” says French. “He described the motion as being like a saucer skipping across water. But this phrase ‘flying saucer’ was loved by the media. He even drew what he saw at the time – it looks more like a boomerang than a saucer. But what did people then start to report seeing after that? Saucer-shaped craft. It’s a lovely example of the influence of top-down processing.”

If somebody believes in UFOs, that person is then more likely to believe a light in the sky is a flying saucer and either see or recall features of a physical craft than a non-believer. Reliability of memory too is at play.

“Someone maybe is trying to be as honest and sincere as they can possibly be, but they may well end up adding in details of things that perhaps were not, in fact, really there,” says French. “So it’s those basic kind of psychological biases that can often come into play here.”

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SKY LIGHTS

In 1997, thousands of people reported lights across several hundred miles of night sky in Arizona and Nevada in the United States, and Sonora in Mexico. These lights were either stationary, or on a moving V-shaped craft in a triangular formation (artist’s impression above). The United States Air Force stated that the lights over Phoenix were military flares but the V-shaped UFO remains a mystery.

SAUCERS AT SCHOOL

Around 350 children and teachers at Westall High School in Melbourne, Australia, watched five planes surround a silvery flying-saucer-shaped UFO in 1966. The planes attempted to aerially herd the craft for about 20 minutes before it disappeared. A UFO-themed play park commemorates the event and, to this day, witnesses meet once a year to discuss their experience.



THE BRITISH ROSWELL



In December 1980, US airmen stationed at RAF Woodbridge in Suffolk, England were investigating reports of lights in Rendlesham Forest when they saw red and blue lights and a UFO land. It was described as around three metres high and three metres in diameter and appeared to be standing on fixed legs. The material of the craft was like 'smooth, opaque black glass.'

The next day, indentations were seen on the ground and radiation levels recorded. On a separate night, another member of the US Air Force set out to disprove his colleagues with a tape recorder. He reported lights in the sky that looked 'like an eye winking at you' and observed 'a beam coming down to the ground'. Three years later, the US government released a report that described the encounter, which has become known as Britain's Roswell.

While there remain believers, psychologist Prof Chris French – who has also visited the site – is among many of those who are unconvinced. A local forester said the indentations were caused by rabbits, and the levels of radioactivity were not especially high. As for the lights? "I've heard the tape," says French, "and the lights are in complete synchrony with Orfordness Lighthouse nearby."

➤ False memory experiments reveal how easily people can be mistaken. One commonly used test features a list of associated words. French provides a simple example: snooze, snore, dream, nap, bed, blankets. "All these words are closely related to sleep," he says. "When we test memory afterwards quite a lot of people will report the word 'sleep' – even though it wasn't presented."

MEMORIES AND NIGHTMARES

Research into memory and alien abduction at Harvard University also sheds light on human susceptibility. A 2002 study led by Prof Susan Clancy compared three groups: one with conscious memories of an abduction; a second who believed they'd been abducted but couldn't remember it; and a third group with no such claims. The experiment found that the first group of people were more susceptible to false memories. The people who didn't believe they'd been abducted were the least susceptible.

It is a reminder of the power of the mind and the psychological human desire to believe in something. "What you've got there are people who are interpreting various things in their lives,



**“WHAT YOU’VE GOT ARE PEOPLE WHO
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that they can’t explain, as being down to alien abduction,” says French.

There are other theories for belief in aliens. There is ongoing research into whether some of those with alien abduction claims may have experienced childhood abuse. Some studies have found an association with sleep paralysis, where people experience a temporary loss of muscle control either before falling asleep or after waking up and are unable to move or speak. The experience can be extremely frightening and may also be accompanied by hallucinations or feelings of suffocation. This is believed to be the explanation for a belief in the incubus demon, which would supposedly squat on

ALAMY, GETTY IMAGES



The Nazca lines in Peru were created between 500 BC and 500 AD, and some people believe they were designed to attract aliens

someone’s chest as they lay paralysed in fear, often sexually assaulting women. This might explain the tendency of alien abduction memories to include invasive bodily probing.

All the possible explanations reveal further insight into the human psyche. So when we have a deep-rooted need for certainty and meaning, could a pandemic fuel a rise in alien beliefs?

“Conspiracy theories tend to thrive in times of crisis,” says Douglas, “so it definitely makes sense that conspiracy theories are so visible right now. When people feel isolated and frustrated, they might be more inclined to turn to conspiracy theories in an attempt to make themselves feel better.”

Persuading people who believe in a conspiracy theory that the truth is not part of the conspiracy is, of course, another matter. “When we presented scientific information about the safety and efficacy of vaccines before presenting conspiracy theories to participants, the conspiracy theories had less impact on their attitudes about vaccinations and intentions to vaccinate,” says Douglas. Presenting the information afterwards didn’t help because the conspiracy theory “had a chance to stick”.

Considering the global phenomenon of alien contact culture, it may therefore be too late to persuade people that UFOs and aliens are not visiting us on a regular basis – from theories that the Peruvian Nazca lines were built to attract aliens, to the Star of Bethlehem being a UFO (even though the most likely explanation is that the star was a comet).

To add another layer of complexity, the lack of confirmed evidence for aliens doesn’t mean aliens don’t exist. So far over 4,000 known planets have been discovered outside our Solar System. Statistically, considering the size of our Universe, it is far more likely that there is alien life elsewhere.

In June 2020, two physicists even came up with an Alien Civilisation Calculator. It is an update of the famous 1961 Drake Equation for calculating the number of extraterrestrial intelligences in the Galaxy. The new calculator came up with a very specific amount. The answer was 36. Just six short of a number that would have delighted fans of *The Hitchhiker’s Guide To The Galaxy*, because then we would have returned full circle to humanity’s psychological desire to understand the meaning of life. And this time, we’d have an answer. **SF**

by **SUE NELSON**
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