

The Fascinating Science Behind Why We See 'Faces' In Objects

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Diane Duyse had already taken a bite of her grilled cheese sandwich when she noticed something in the bread. It was the face of a woman—more specifically, the Virgin Mary—that was, she said later, "looking back at me." She placed the sandwich in a clear plastic box, surrounded it with cotton balls to protect it, and placed it on her nightstand, where the Virgin watched over her for the next decade. When word got out about Duyse's sacred sandwich, the Hollywood, Florida, resident discovered that she wasn't the only one who could see the face: The grilled cheese went viral, and in 2004, she sold it, missing bite and all, to a Las Vegas casino for \$28,000.

It might seem strange to see the Virgin Mary in the burnt pattern of a grilled cheese, but in fact, it happens all the time: She's appeared in a pretzel, window glass, and a brain scan. People have found the face of Jesus in foods as diverse

as tortillas, chapatis, and Cheetos. The phenomenon isn't reserved for religious iconography; Ringo Starr, the Beatles's drummer, has shown up in high-speed images of water drops bouncing off a lotus leaf, and Elvis has popped up *everywhere*, from potato chips to water stains. There is an entire Twitter account dedicated to the faces seen in mundane objects from stand mixers to coffee lids, and even a museum in Chichibu, Japan, near Tokyo, that houses more than 1700 rocks that look like human faces, including (you guessed it!) Elvis Presley's. People can discern faces in meaningless clouds, inkblots, the surface of the Moon, and the grille of their car—so much so that automobile designers consider how a new model's "face expression" could affect sales.



Human brains are exquisitely attuned to perceiving faces—in fact, there's an entire region of the brain called the fusiform gyrus that is dedicated to it. Its functions are evident even from early childhood: Studies have shown that shortly after birth, babies display more interest in cartoon faces with properly placed features than in similar images where the features are scrambled.

The "face neurons" in people with healthy brains are so overactive that they scream *FACE!* in many situations where there are no actual faces to be found. Those sophisticated face-detection skills, combined with our brain's compulsion to extract meaning from the sensory chaos that surrounds us, is why we see faces where there aren't any. Typically these sightings are nothing more than our mind's interpretation of visual data, but some artists have purposely exploited our natural predisposition to see illusory faces: Salvador

Dalí's *Paranoiac Face* features a woman's face comprised of a hut and seated villagers, and his *Madonna of the Birds* depicts the Virgin Mary's face composed of a flock of birds.

Don't worry—there's nothing wrong with you if you see faces in things. Pareidolia is an ordinary phenomenon, one that's widespread across people and cultures—but there are a variety of individual differences in human pareidolia. For example, researchers have found that women see faces in things more than men do, and proposed that the difference may be related to women's greater interest in social information, and their superior ability to decode emotions from facial expressions.

Others have found that paranormal and religious believers are more prone to pareidolia than skeptics and nonbelievers. Although believers and nonbelievers had equivalent sensitivity to faces, the paranormal and religious believers had lower thresholds for reporting that a face was present than nonbelievers did, possibly due to being more open to the suggestion that the images might contain faces. This finding could help explain the many apparitions of religious imagery in food items.

Pareidolia can be exacerbated in cases of fatigue and in some neurological diseases, such as Lewy body dementia (when protein deposits called Lewy bodies develop in nerve cells). On the flip side, when the fusiform gyrus is damaged due to a stroke or trauma, our ability to recognize faces is impaired. This rare condition is known as prosopagnosia, or face blindness. In extreme cases, prosopagnostic patients become unable to identify their own faces in the mirror, though they have no trouble recognizing objects other than faces.

It may not be a strictly human phenomenon either. Research has shown that rhesus monkeys see illusory facial features on inanimate objects such as toasters or sliced vegetables. It's not yet known whether any other species, particularly non-primates, are also receptive to pareidolia.



Pareidolia extends beyond human likenesses: In 2007, a "monkey tree" in Singapore attracted thousands of visitors, who swore that a bizarrely shaped callus growing on a tree was a manifestation of either the Chinese deity Sun Wukong (also known as the Monkey King) or the Hindu monkey god Hanuman. Last year, the picture of a wooden board featuring three dark spots in the shape of a dog's face went viral on Twitter, with tens of thousands of retweets and numerous joking appeals to those knowledgeable in witchcraft to free the dog's soul from the piece of wood.

People have seen illusory faces in mountains, articles of clothing, domestic appliances, and many other improbable settings. In fact, given our neural circuitry, you could say it's hard *not* to see faces everywhere you look. Case in point: In 2011, two Canadian urologists said they saw the face of a man, contorted in a silent scream, in the scrotal ultrasound images of a patient affected with acute testicular pain.

A sick man's scrotum may or may not be the unlikeliest place where observant people have found a recognizable face, but the finding does demonstrate that the brain makes much ado about nothing. So maybe don't scrutinize your next grilled cheese sandwich too closely—or you may find it staring back at you.