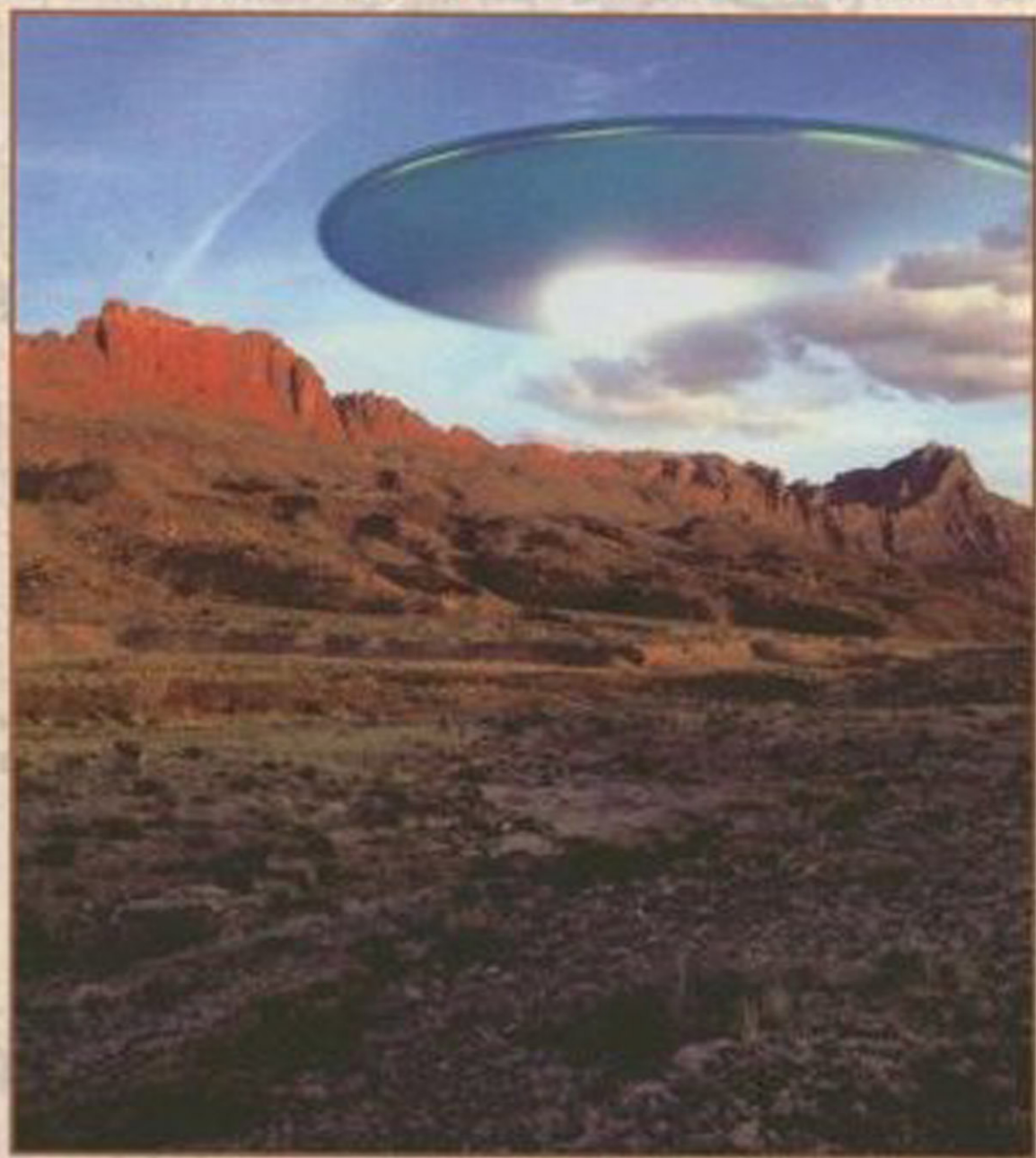


THE GREENHAVEN ENCYCLOPEDIA OF

PARANORMAL PHENOMENA



PATRICIA D. NETZLEY

THE GREENHAVEN ENCYCLOPEDIA OF

PARANORMAL PHENOMENA

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PARANORMAL PHENOMENA

by Patricia D. Netzley
Loren Coleman, *Consulting Editor*

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Preface

Paranormal phenomena are events, circumstances, or things whose existence has not been proved by science. Such phenomena include psychic abilities like telepathy and precognition; experiences that suggest the spirit survives the body's death, such as reincarnation and ghost sightings; encounters with unknown beasts such as bigfoot or the Loch Ness monsters; and sightings of extraterrestrials and their spacecraft. Some of these phenomena have been reported on multiple occasions, perhaps in several locations, whereas others are apparently one-time events. For example, whereas ghost sightings have been reported throughout history and throughout the world, sightings of creatures like the Flatwoods Monster—a large-headed creature that supposedly emerged from a crashed alien spaceship near Flatwoods, Virginia, in September 1952—appear to be one-time events.

When reported, such sightings are typically met with skepticism regarding whether the person claiming to have encountered the phenomenon really did see or experience something unusual, to the point of the most ardent skeptics accusing the person making the claim of being mentally unstable. In other cases, the witnesses are simply said to have been mistaken in identifying what they observed. For example, particularly bright stars or planets are often misidentified as extraterrestrial spacecraft; in poor lighting a large dog may be mistaken for a mysterious beast. On occasion, though, an observation really does seem to defy explanation—and when it is reported by multiple credible witnesses, skeptics have a harder time

dismissing it as the product of mental instability or mistaken identification.

Still, skeptics are reluctant to accept as real any observation whose possibility cannot be proved scientifically. In fact, most skeptics say that only phenomena with clear, scientifically accepted explanations are real. This logic has been applied to sightings of mysterious beasts, such as the Loch Ness monsters and bigfoot. If years of scientific exploration have not uncovered any hard evidence of the beast, the argument goes, the beast must not exist, no matter how many people have reported seeing it.

Believers in the paranormal counter such skepticism by noting that something can be real even if science cannot prove its existence. They point out that there have in fact been cases in which the passage of time has provided the proof that skeptics demanded. For example, until the late nineteenth century skeptics ridiculed people who claimed to have seen a kraken, described as a many-armed sea monster of enormous proportions. Then, in the 1870s, after several creatures fitting this description washed up on beaches in Newfoundland and Labrador, skeptics were forced to acknowledge that the kraken (now known as the giant squid) was real. Believers in the paranormal say that scientists will eventually have to acknowledge the existence of all kinds of currently unexplainable phenomena.

Such acknowledgements tend to come grudgingly, if they come at all. Skeptics demand a great deal of evidence before accepting any unusual observation as credible—and their view of what constitutes evidence is very different from that of be-

lievers. For example, when scorched earth is found at a site where some people say an extraterrestrial spacecraft, or UFO, once landed, believers in UFOs take this as proof that the UFO landing actually occurred. Skeptics, on the other hand, say that reports of the landing were invented after the discovery of the scorched earth, which must have some ordinary, though unknown, cause. Similarly, when a person claims to have foreseen an event, believers take this as proof that precognition (the ability to see the future) is real, whereas skeptics attribute the apparent prediction of the future to coincidence.

These differing views of the same phenomena have led to passionate arguments between those at either end of the believer-skeptic spectrum. Meanwhile, in the

middle are those who struggle to decide what to make of reports of various paranormal phenomena. To help readers reach an informed opinion, the *Greenhaven Encyclopedia of Paranormal Phenomena* presents both sides of various debates related to the paranormal. This volume provides information about the most frequently or widely reported paranormal phenomena, along with a sampling of lesser-known phenomena. The people, places, and events associated with such phenomena are also discussed. In addition, through its extensive bibliography the encyclopedia points readers toward the works of notable believers, skeptics, and researchers into the paranormal, with the aim of furthering objective explorations into the subject and its continuing controversies.



abominable snowman

Also known as the yeti, the abominable snowman is said to be a hominid, or humanlike creature, that inhabits the Himalaya Mountains in Tibet, Nepal, Bhutan, Sikkim, and Mustang. There is great controversy over whether this creature exists, and controversy too among believers regarding whether the abominable snowman is actually several different species of hominid. Westerners generally believe that there is only one type of hominid in the Himalayas, while natives living in the region believe that there are many species.

Physical Appearance Still, people who claim to have seen an abominable snowman describe it in similar ways. Except for height estimates that vary from 3 feet to 10 feet (.91m to 3.05m), the creature is said to have a stocky, muscular, tailless body covered in thick, short, coarse, reddish brown or black hair. Its face is either said to be hairless or so white as to make it seem hairless. The head is cone shaped, or slightly pointed. The creature also has apelike arms hanging down to its knees, which it sometimes uses to swing through the trees. Most of the time, however, the creature is said to walk on all fours while in the forest and on two legs while crossing open stretches of snow.

Despite eyewitness reports, many scholars think that the abominable snowman is a mythical creature. For more than two hundred years Tibetans have told stories of seeing two types of hominids, the *meh-teh* (“manlike not-a-man thing”) and

the *dzu-teh* (“big thing”), in caves or deep thickets in Himalayan forests. In such tales the creature is depicted as a monster, uprooting tree trunks, raiding villages, and carrying off yaks and humans for food. People who claim to have seen a real abominable snowman, though, describe no such behavior. Instead, they tell of a highly reclusive, perhaps nocturnal, creature that avoids human contact and eats only plants.

Historical References The first written reference to such a creature appeared in 1832 in the *Journal of the Asiatic Society of Bengal*. B.H. Hodgson, a British subject living in Nepal, claimed that he had encountered a hairy, tailless biped while in northern Nepal; however, he concluded that he had seen an unusually large, upright orangutan (though these apes only live in the tropical jungles of Malaysia and Indonesia). In 1889 Major L.A. Waddell wrote in his book *Among the Himalayas* that native guides, known as Sherpas, had told stories of similar creatures and that he himself had seen a large humanlike footprint in the snows at an altitude of 17,000 feet (5,100m). The Sherpa told him it was *yeh-teh* (“that thing”), an ape-man who had long inhabited the area. Like Hodgson, though, Waddell dismissed the notion that the print had been made by anything but a known animal. He decided the print had been made by a massive bear.

In the late nineteenth and early twentieth centuries, Westerners visiting the Himalayas continued to report seeing huge

humanlike footprints, sometimes as large as 2 feet (.609m) long, at altitudes above 13,000 feet (3,900m). The first such account to be taken seriously by Westerners was that of Lieutenant Colonel C.K. Howard-Bury, who was on a 1921 reconnaissance expedition to Mount Everest. While climbing from Kharta to Lhakpa La in Tibet, he spotted several dark figures at an elevation far above his own. The distance was too great to make out any details about these figures, but he guessed them to be men. Later, in a snowfield at an altitude of 20,000 feet (6,096m), he found seemingly human footprints. Yet because these prints were three times the size

of a man's and appeared to have been made by a naked foot rather than by a boot, he could not believe they were human. Instead, he speculated that the figures he had seen had actually been large gray wolves and that the footprints' humanlike shape had been caused by double tracks and distortions of soft snow. His Sherpa porters, however, disagreed. They told him that the footprints were from beasts they called *meh-teh kang-mi* ("manlike not-a-man creatures"). When Howard-Bury mistakenly wrote these words as *metoh kang-mi* ("snow creatures") in his official report of the incident, and a newspaper reporter from the *Calcutta*

Statesman newspaper mistranslated Howard-Bury's words as "abominable snowman," the Himalayan hominid received the name by which Westerners would come to know it.

Modern Sightings It was not until four years later, however, that the abominable snowman became well known throughout the Western world, thanks to media reports of a sighting by a British photographer with the Royal Geographical Society. While at an altitude of 15,000 feet (4,500m) near the Zemu glacier in the Himalayas, photographer N.A. Tombazi spotted a dark, hairy, and naked humanlike figure walking about 200 to 300 yards (183 to 274m) away from him, occasionally uprooting bushes and plants as it walked. Eventually the creature disappeared into heavy brush. When Tombazi reached the area he saw sixteen human-shaped footprints, about 6 to 7 inches (15.3 to 17.8cm) long and 4 inches (10.1cm) wide, in the snow. He was certain that these tracks had been made by a biped as yet unknown to scientists.

In 1970, on the Himalayan mountain of Annapurna, similar tracks were found by British mountaineer Don Whillans, who also claimed to have seen an apelike creature walking upright in the moonlight near his campsite and to have heard an odd cry that his Sherpa guides said was its call. Other notable sightings include that of American mountaineer Craig Calonica—who, in September 1998, claimed to have seen two abominable snowmen walking together on the side of Mount Everest—and Italian mountaineer Reinhold Messner—who, in 1986 and 1997, made four sightings in the Himalayas and claimed to have photographed the creature's footprints. Numerous other mountaineers and some zoologists claim they have seen

and/or photographed abominable snowman footprints in the Himalayas as well.

Physical Evidence Perhaps the best-known abominable snowman photograph was taken by mountaineer Eric Shipton in 1951 at an altitude of 18,000 feet (5,486m). It shows a humanlike print more than 9 inches (22.9cm) in length and resembles other footprints found by zoologist Edward Cronin in 1972. By some estimates, a human with a print this size would be more than 8 feet (2.4m) tall. Nonetheless, skeptics suggest that it could have been made by a human, perhaps a trickster wanting to convince the world that abominable snowmen are real. Skeptics dismiss other hominid photographs as well, attributing them to fraud or to misidentification. Indeed, some photographs taken by Englishman Tony Wooldridge in March 1986, while he was traveling alone through the Himalayas in India, caused quite a sensation until experts concluded that the photos were actually pictures of a rock formation that Wooldridge had apparently mistaken for a stationary man-beast.

Also believed to be frauds or misidentifications are various abominable snowman remains that have been found in various parts of Tibet and Nepal, including supposed yeti pelts, scalps, skeletons, and hands. Consequently, there is no undisputed evidence that the abominable snowman is real. However, given the number and the credibility of witness reports, some scientists suspect that the creature does indeed exist. Those who think the abominable snowman is real hypothesize that it is some sort of evolutionary link between apes and humans, though they disagree on just how closely related to humans this creature might be. They have also speculated that this creature has survived from prehistoric times not only in the Himala-

yas but also in other parts of the world, where people have sighted similar hominids, such as the North American Sasquatch or bigfoot.

SEE ALSO: bigfoot; Sasquatch; yeti

Aerial Phenomena Research Organization

Founded in 1952 in Tucson, Arizona, but disbanded in the late 1980s, the Aerial Phenomena Research Organization (APRO) was the first worldwide group of civilians committed to investigating UFO sightings. Its founders, Jim Lorenzen and his wife, Coral, wrote books about UFOs while working, respectively, as an electroengineer at Kitt Peak Observatory and as a journalist who wrote articles on scientific topics for the general public. Eventually the Lorenzens' dissatisfaction with government investigations into sightings of UFOs led them to assemble their own team of investigators dedicated to finding out whether aliens from outer space were visiting Earth. APRO members worked in more than fifty countries, collecting and studying UFO sightings from both civilians and military personnel.

Over nearly four decades, APRO members amassed thousands of UFO reports, and in the 1970s, the organization began putting its files on microfilm. This work resulted in roughly one thousand sighting reports on at least three microfilm reels. The first such reel contains information of reports made prior to December 1956, the second from December 1956 to 1962, and the third from 1962 to 1966. In addition to the microfilm, the archives consist of at least eighteen filing cabinets with approximately fifteen thousand sighting reports.

Jim Lorenzen died in 1986 and Coral Lorenzen in 1988, after which no one was

willing to maintain APRO's records. Consequently, the group's governing board, after some internal debate, turned over its archives to two UFO enthusiasts, Brian Myers and Tina Choate of Scottsdale, Arizona. At this point APRO officially ceased to exist.

SEE ALSO: ufology

agogwe

Reported to live in the forests of East Africa, the *agogwe* ("little furry men") are said to be two-legged humanlike creatures that stand about 4 to 5 feet (1.2 to 1.5m) tall and are covered with curly, reddish brown hair. The creatures initially came to the attention of Westerners in 1937, when Captain William Hitchens claimed to have seen two unknown creatures during a lion hunt several years earlier; the name *agogwe*, he said, was provided by his native guide. Other hunters and tourists in the region subsequently claimed to have seen the same "furry men," and similar humanlike creatures have been reported in other parts of Africa as well. Some cryptozoologists consider the *agogwe* to be a population of what they call proto-pygmyes: small, fur-covered, primitive, humanlike beings. Some say that proto-pygmyes might be relics of early forms of human beings, such as *Australopithecus*, whose prehistoric fossil remains have been found in East Africa. Skeptics, however, have suggested that what Hitchens and others saw was actually some type of monkey.

SEE ALSO: cryptozoology

alien abduction experiences

Beginning in 1965 hundreds of people have reported being abducted by aliens from another planet, who then subject

them to various physical exams, procedures, and experiments before returning them to the site of their abduction. The first such report, involving the supposed abduction of Betty Hill and her husband, Barney, while they were driving on a deserted road, had certain characteristics that appear again and again in more recent accounts of such experiences. The similarities among these stories has convinced some psychologists and ufologists that abductions are real experiences.

Circumstances of Abductions All abductees report having encountered one or more aliens at an isolated location, such as a deserted road, a forest, or a private home or backyard, after which they are taken away. Some abductees say that they had decided to go to these secluded places for easily identifiable reasons, but others insist that they were drawn to these places by a sudden, inexplicable urge, the implication being that the aliens were somehow influencing their actions. Most abductees are alone when their experience begins, but a few are part of a small group. In these cases, they report that the aliens choose to abduct only one or two people from the group, leaving the rest behind in some kind of trance. The trance ends when the abductee is returned.

Most abductees report leaving quietly with the aliens, having themselves been placed in some kind of trance or similarly docile state. A few, however, report running from or resisting the aliens, who then subdue them in some violent way, such as with a device that delivers an electric shock. Abductees taken from private homes, however, generally say that the aliens enter their rooms on beams of light, usually through open or closed windows, then somehow place the abductee in a trance. The aliens then either examine

their subjects within the house or take them to their spaceship. In most cases, the abductees are walked or carried away, but in some cases they are floated away through unknown means, often entering the aliens' spaceship through a dark tunnel.

Alien Examinations Abductees' descriptions of the aliens and their actions are also fairly consistent. Abductees claim that during their experience two distinct types of aliens are present: one about 2 to 4 feet (.6 to 1.2m) tall, with smooth, rubberlike skin; and the other about 5 feet (1.5m) tall with rough, leathery skin; both are described as being gray or tan with large heads and enormous, oddly shaped eyes. The larger aliens, each of which appears to be a unique individual, are apparently supervisors, directing the work of the smaller aliens, all of whom look alike and perform only menial tasks, such as transporting abductees to their spaceship. Almost all abductees say that in communicating with one another or with the abductees, the aliens use mental telepathy instead of speaking aloud.

By most accounts, the aliens' exams and procedures are conducted in small, circular rooms with unfamiliar machines, seemingly metallic floors, and white and gray walls. Some abductees say they spent time before their exam in a narrow, curved waiting room equipped with benches built into the walls. The exam itself is said to move from foot to head, with aliens leaving no area of the abductees' bodies untouched. Aliens supposedly scrape the humans' skin for cell samples; snip off pieces of hair; look inside eyes, ears, nose, and throat; and sometimes use machinery that looks similar to X-ray equipment. They might also take tissue samples from the leg, arm, or back, making incisions that

are variously described as long and thin, wide and messy, or scoop shaped. The aliens sometimes reportedly collect sperm or ova.

Many abductees report that the aliens end the examination by placing a small, round object deep inside the subject's nose or ear. Sometimes an abductee says that the aliens removed such an object instead; this person is typically someone who claims to have been abducted more than once. Some researchers who are convinced that abductions are real suggest that the implant allows the aliens to keep track of an abductee for future recapture. Repeat abductees often report that the same tall alien has been present at every one of their abductions. Occasionally, a female repeat abductee has said that during one abduction the aliens implanted an embryo in her womb, then removed it during a later abduction.

Some female abductees have also reported being asked to hold, play with, or talk to half-alien, half-human babies after the aliens have communicated to them that these hybrid children need human contact. In such cases, the abductees say that the hybrids, some of which seem more humanlike than others, are listless and sickly. According to some abductees, the aliens also have hybrid fetuses in tanks filled with a blue liquid.

Other abductees claim that the aliens subjected them to various psychological tests. Often these tests include watching scenes on a screen or being asked to visualize scenes that would elicit a positive or negative emotion. Other tests appear related to evaluating memory, tolerance for pain, or manual dexterity.

Abduction Aftermath After the testing is completed, the experience abruptly ends with the abductee being rushed back to

the location at which the abduction took place—though sometimes abductees say that the aliens returned them to the wrong place. Upon their return, most abductees report being at first unable to remember the experience, which has led some people to suggest that the aliens are capable of blocking human memories. However, most abductees do realize that a chunk of time is missing from their memory. In many cases, their curiosity about this missing time, along with feelings of anxiety, panic attacks, stomach upsets, and/or other symptoms of psychological and physical stress, make them decide to seek treatment. Usually the treatment involves hypnosis. In fact, most abduction experiences surface during hypnosis, which suggests to skeptics that abduction experiences are simply false memories unintentionally planted during treatment. This is one of most prominent explanations of the abduction phenomenon voiced by people who do not believe in extraterrestrials.

SEE ALSO: alien contact, physical evidence of; alien contact, psychological signs of; Hill, Betty and Barney

alien abduction experiences, alternative explanations for

Those who are skeptical of claims that aliens abduct humans contend that these recollections are hallucinations, fantasies, visions, or dreams. Others suggest that abductees are not imagining their experiences, but they theorize that the abductors are not extraterrestrials but rather beings from someplace on Earth—possibly from a realm hidden deep underground, the future, or another dimension.

Skeptics who dismiss alien abduction experiences altogether typically accuse abductees of being mentally ill, desperate for attention, or easily manipulated by un-

scrupulous people who want the public to believe in extraterrestrials. Skeptics also say that well-intended therapists sometimes accidentally plant the memories of abduction during hypnosis. Experts in hypnosis say that such false memories can be created if a session is incorrectly conducted. In fact, experts say that even correctly conducted, hypnosis can alter an existing memory.

Childhood Memories Whatever the cause, some psychologists theorize that abduction experiences are distortions of childhood memories. Of those who hold this view, the majority suspect that the distorted abduction experience is a memory of abuse that occurred during childhood. Indeed, many abductees also report having been victims of this type of trauma. These psychologists say that supposed abductees subconsciously create an abduction as an expression of the helplessness they felt as children; the aliens represent the person who abused them. However, abduction researcher David M. Jacobs, who believes that aliens and abduction experiences are real, argues that this theory fails to explain cases in which abductees have no history of abuse.

For this reason, some psychologists offer a different theory, suggesting that abductees are actually remembering their own births. Under this theory, all human beings carry a memory of the birth process, but only a few can access this memory. These individuals, however, remember their birth symbolically. Thus, the dark tunnel leading into the alien spaceship symbolizes the birth canal; the aliens' brightly lit examining room that abductees enter is the hospital delivery room; and the strange, seemingly mouthless aliens are delivery-room doctors and nurses wearing surgical masks. But again, Jacobs argues

that this theory is flawed because it fails to account for abductees who recall a dark tunnel but who were born by cesarean section. Moreover, he says that abductees' descriptions of aliens are so detailed, specific, and consistent with one another that they must be real.

The Imaginal Realm Other observers believe abduction experiences are real, but they say that the abductors are not extraterrestrial. Dr. Kenneth Ring, for example, has suggested that the aliens come from another dimension, which he calls the imaginal realm, and that abductees are people who are able to access this realm after unintentionally slipping into a mystical or visionary state. Ring believes that beings in the imaginal realm are invisible to most people, but that abductees have developed the ability to see them. Moreover, Ring suggests that the abductees' talent for bridging the gap between everyday reality and the imaginal realm is an evolved trait, which means that someday everyone will be able to mentally connect to the imaginal realm.

But whereas Ring views the aliens as real beings who can only be perceived through an altered mental state, other psychologists have suggested that the aliens are actually created by an altered mental state. This state, they say, is one in which mystical or religious visions are mistaken for encounters with aliens. Still others argue that the unconscious mind creates aliens out of universal dream imagery or creatures drawn from folklore.

Media Influences Skeptics say that abductees describe their experiences in such similar ways because the popular media have influenced their perceptions. In particular, they argue that the first widely reported case of alien abduction, that of Betty and Barney Hill in 1961, was inspired by Betty

Hill's fascination with UFO stories. Skeptics note that shortly before her supposed abduction, Betty Hill had been reading a book about the possibility that extraterrestrials were visiting Earth, and she had shared what she read with her husband. In addition, the aliens Barney Hill described were strikingly similar to those that appeared in a television show called *Outer Limits* just twelve days prior to the Hills' supposed abduction. Skeptics go on to suggest that similarities among all subsequent abduction accounts are to be expected, given that the Hills' story was widely circulated. Those who believe the abductions are real are equally adamant, saying that the similarities reflect the fact that aliens nearly always conduct abductions and examinations in the same way.

SEE ALSO: alien abduction experiences; Jacobs, David M.; Ring, Kenneth

alien autopsy film

UFO experts who refer to the "alien autopsy film" are referring to a seventeen-minute-long silent black-and-white film supposedly made in 1947 at a Texas military facility, the Fort Worth Army Air Field. The film depicts two men observing while two other men perform an autopsy on a naked, round-bellied, six-fingered humanlike extraterrestrial with a wound on its right leg. One of the men wears a surgical mask, but the others' faces are concealed by the hoods of anticontamination suits. As a consequence, none of those seen on film can be identified.

Many people believe that such an autopsy actually took place after a mysterious object crashed in a field near Roswell, New Mexico. The government claimed the object was a weather balloon, but others insist it was really an alien craft—and some of these people said they were wit-

nesses to the event or to a subsequent autopsy of aliens found in the wreckage. According to some of these witnesses, the alien bodies were transported from Roswell to Fort Worth, where the autopsies were performed, then to Wright Patterson Air Force Base in Dayton, Ohio, and then to some unknown destination.

Although this supposed autopsy took place in 1947, the film did not come to light until 1995, when its owner, Ray Santilli, provided the footage to Fox TV. He claimed that he had purchased it in Cleveland, Ohio, in 1992 from an unidentified former U.S. Army photographer who said he had been present at the autopsy and had managed to retain possession of the film.

Controversy arose after the film was shown on television in August 1995 as part of a program called "Alien Autopsy: Fact or Fiction?" In fact, both skeptics and believers questioned the film's authenticity. Some believed that an alien autopsy had indeed taken place, but they doubted that the film had been made in Fort Worth since other reports indicated that the autopsy had been performed in Roswell. They also noted that eyewitness reports of the autopsy did not match the autopsy procedures shown in the film. Meanwhile, skeptics pointed out that the film's images go out of focus whenever the camera zooms in for a close-up of the alien or its internal organs, and in some places the footage jumps, as though the filming was stopped and then started again, even though the images on either side of these gaps make the filming appear continuous.

In response to skeptic's questions, supporters of the film circulated the rumor that the Kodak Company had verified that the film stock used for the footage did indeed date from 1947. Kodak then reported

that its experts had made no such determination and that it had seen only two frames of the footage, neither showing the aliens. In 1998 Fox TV decided to address this issue as well and hired experts to examine the stock. These experts determined that the film was actually a videotape, shot in 1994. Moreover, new digital enhancement techniques made it possible to discern an additional person in a darkened area of the autopsy room; because his face was uncovered, he could be recognized as a known actor. Consequently, in a December 1998 program called “World’s Greatest Hoaxes: Secrets Finally Revealed,” Fox TV declared the alien autopsy film a fake. Nonetheless, some people continue to believe that the film is genuine and that Fox TV fabricated all its evidence of fakery, perhaps in cooperation with a government conspiracy to convince the public that the Roswell aliens never existed.

SEE ALSO: Roswell incident, the

alien contact, physical evidence of

Ufologists and others who believe that aliens regularly visit Earth say there has been physical evidence of these visits. The evidence they cite includes mysterious radar blips that, although transitory in nature, are witnessed by several people on more than one radar screen. Physical evidence also includes photographs of UFOs, crop circles, animal mutilations, objects presumed to be alien implants, and odd scars on people who claim to have endured alien surgical procedures. Of these, mysterious radar blips are considered by experts to be the most credible evidence. Still, skeptics insist that in every instance of a mysterious blip—a dot indicating that an unidentified craft is flying in the area—it has turned out to have been caused by an ordinary aircraft, a natural phenomenon,

or equipment malfunction. Ufologists counter that some unexplained radar blips coincide with reports from people on the ground who say they spotted what appeared to be alien spacecraft flying overhead. These ufologists contend that in some cases there are photographs to back up these sightings.

Photographic Evidence How seriously these photographs should be taken is a matter of debate. Skeptics contend that all UFO photographs, both still pictures and videotaped images, are hoaxes. Exposing fakery, however, is more difficult than ever before because of advances in photography. With increasingly sophisticated digital imaging systems, it is possible to add a realistic image of a “flying saucer” to an ordinary landscape photo in such a way as to fool anyone but an expert trained to spot a fake photograph. Consequently, most ufologists rely on such experts to evaluate purported UFO images, and they refuse to declare a particular photograph genuine until they are confident that no skeptic will be able to prove it a fake. They also search for independent witnesses who can substantiate the photographer’s claim that the UFO in the photograph appeared at a particular place and time.

Ufologists are particularly careful in this regard because, they say, bogus images have usually been created not by people who believe in UFOs but by people who want to trick ufologists into declaring a photo genuine and then open them up to ridicule when the fakery is exposed.

Several videotapes that are purportedly of UFOs seem particularly credible. For example, in Mexico City, Mexico, on New Year’s Day 1993, several witnesses, including a Catholic priest, videotaped the same group of UFOs, and on January 11, 1991, an ABC network news crew filmed a UFO

over Gulf Breeze, Florida, that was also spotted by several witnesses. A similar event occurred on May 10, 1991, when a Japanese crew from the NIPON television network filmed another UFO over Gulf Breeze, a city known for its numerous UFO sightings.

Crop Circles That Gulf Breeze has been the location where more than one credible videotape was made is of particular interest to ufologists. This is because ufologists have found what they consider physical evidence of alien visitation there. This consists of mysterious circles on lawns in which all grass blades have been flattened and swirled in a counterclockwise pattern. These circles seem to appear suddenly during the night, when no one is present to witness their formation. For weeks afterward the grass in these circles refuses to stand upright and continues to grow in a counterclockwise swirl. Such circles have been found in other places throughout the world; often these circles appear in fields of grain rather than on lawns.

Since the late seventeenth century, thousands of crop circles have been discovered, often in areas where UFOs have previously been sighted. The first reported crop circles were indeed round, but over time other shapes and designs began to show up. Regardless of shape all shared certain characteristics. The stems of the plants are bent without being broken, and upon close examination they appear to have been heated from the inside since there is no sign of external scorching. The seed heads of the plant remain undamaged, however, and if left alone the plants continue to grow. Moreover, the stems do not droop at random; instead, they swirl outward, weave into layers, or twist intricately around one another.

Some scientists believe that these characteristics are caused not by extraterrestrial visitors but rather by a phenomenon, as yet unidentified, related to Earth's magnetism. This theory derives from the fact that in many areas where crop circles appear there is evidence of magnetic distortions. Specifically, compass needles are unable to locate north, and the instruments of airplanes flying over the circles fail. In addition, cell phones do not work, something that can happen when the earth's electromagnetic field is disturbed. An alternate explanation is that crop circles are caused by electrostatic charges produced when winds sweep through fields of grain; this theory is supported by the fact that static electric discharges can produce flashes of light, and such flashes have been seen in the vicinity of some crop circles. Ufologists find none of these theories convincing and say that crop circles are caused by a spaceship hovering over a particular area. Skeptics, meanwhile, consider all crop circles to be hoaxes designed to bolster the claim that aliens are visiting Earth.

Disturbed Earth Similar arguments are voiced regarding circles of disturbed earth that have supposedly been found following UFO sightings. One such circle appeared in November 1975, when a family reported seeing a UFO land in a football field near their home. Investigators discovered that a circular patch of soil in the area did seem to be different from the surrounding soil, and they sent samples of the affected dirt to the University of Kansas Space Technology Laboratory for analysis. The results showed that although at a microscopic level the composition of the soil in question was the same as the surrounding soil, the affected dirt displayed thermoluminescence—that is, it emitted faint light when heated. Ther-

moluminescence per se is not unusual; the phenomenon has been observed in many soils. In this case, though, the thermoluminescence was ten times greater than what such soils produce naturally.

Ufologists say that such a phenomenon can only be the result of the extreme heating soil would undergo when a UFO lands. Indeed, ufologist Budd Hopkins tested samples taken from a suspected landing site in the late 1980s. He discovered that in order to make normal soil behave the way this soil sample did when gently heated, the normal soil had to be kept in an 800 degree Fahrenheit (427°C) oven for six hours. Hopkins considered the fact that all the grass was dead in the circle from which the sample was taken to be further proof of an alien landing. Skeptics, however, have argued that a likelier explanation for the dead grass is that it was infected with some kind of fungus. In fact, a fungus known as *Maramius oreades* does grow in rings and dehydrates the soil so that it gradually kills the grass, creating concentric circles of flattened, dying grass.

Cattle Mutilations Skeptics similarly argue that natural causes explain mysterious cattle deaths discovered in areas where UFOs have been reported. They say that these deaths, which occur unexpectedly and are followed by the carcass being strangely mutilated, are the result of disease, decay, and scavengers such as coyotes. But once again, believers in UFOs counter that there is no earthly explanation for the phenomenon. They note that the cattle that died under such circumstances had been extremely healthy, and that the mutilations do not appear to be the work of predators because the carcass displays cuts so precise that they could only have been made by a surgical instrument rather than an animal's teeth. More-

over, the same body parts—reproductive and digestive organs, and sometimes an ear, eye, and/or the tongue—are missing in each case.

Mysterious Scars Evidence of surgical cuts, in the form of mysterious scars, also appear on people who claim to be alien abductees. Once again many ufologists consider this to be physical proof of alien contact. Though most of these scars are unremarkable in appearance, a few are highly unusual. For example, one abductee claimed that after experiencing an alien medical procedure she was left with three small blisters, forming a triangle, on her body; they later dried up, turned black, and began to resemble healed burns.

Skeptics such as Philip J. Klass believe that such scars have not really appeared suddenly in adults but are merely the remnants of ordinary, long-forgotten childhood accidents. However, psychologists like Kenneth Ring have suggested that abductees' minds could be creating these scars. He says such cases are similar to those of fanatically devout Christians who exhibit spontaneously occurring scars and wounds, called stigmata, in locations on their bodies matching the places where Jesus is said to have been wounded during his crucifixion.

A special type of scar tissue is occasionally cited as physical evidence that aliens not only visited Earth but also abducted someone and implanted some device during a medical examination. Skeptics say that no such device has actually been proven to exist, although people who claim to have been abducted occasionally find an object in their bodies that they then turn over to researchers. Such objects generally have a decidedly earthly origin. For example, in 1989 abductee Richard

Price gave his “implant” to researchers at the Massachusetts Institute of Technology, who subsequently determined that the “implant” was actually a hardened knob of skin tissue that had formed around a few cotton underwear fibers that had apparently become embedded in Price’s skin. For his part, Price rejected this explanation, arguing that the aliens simply disguised their implant as cotton fibers in order to keep humans from finding physical proof of their existence.

SEE ALSO: alien implants; cattle mutilations; crop circles; fairy rings; photographic evidence of paranormal phenomena; stigmata

alien contact, psychological signs of

Whether they have remembered an abduction experience on their own or through hypnosis, people who claim to have been abducted by aliens typically exhibit one or more of a collection of psychological symptoms known as postabduction syndrome (PAS). Sufferers might experience anxiety, depression, or both, and become extremely upset over small problems. They might also exhibit irrational fears, including a fear of being alone and of deserted roads or fields (the type of locations where alien abductions are often said to take place). In addition, most people with PAS have trouble sleeping. They are afraid to go to bed, and many leave lights or radios on for comfort. If they do manage to sleep, they wake frequently and often have vivid nightmares about strange alien beings. Sometimes these dreams are relived during waking hours, experienced while going about regular daily activities.

Nearly all PAS sufferers also report having experienced an episode of “missing time,” whereby the individual is unable to

account for a period of a few minutes, an hour or two, a day, or even longer. In fact, it is often this missing-time episode that brings the PAS sufferer to seek psychological help in the first place. Such episodes can be extremely disturbing because victims afterward find themselves in locations far from where they recall being when the episode began. For example, the first two people to gain notoriety as alien abductees, Betty and Barney Hill, lost awareness after spotting a UFO as they drove along a deserted road, then regained awareness 35 miles (56.3km) farther down the road two hours later. Other abductees have both lost and regained awareness while at home but then discovered unexplained grass, leaves, or twigs on their clothes or feet, suggesting that they might have been outside during the missing-time episode.

Skeptics believe that these episodes are cases of sleepwalking or a similar mental process. They say that the alien contact or abduction stories, which are brought forth under hypnosis, are actually caused by the hypnosis itself. Indeed, psychologists say that hypnosis has been known to produce false memories. Skeptics have also suggested that the symptoms of PAS are the result of serious psychological trauma. Indeed, as children many abductees experienced abuse severe enough to have a long-lasting effect on their mental health. In addition, psychologists have found that abductees share certain psychological characteristics that predispose them to have an abduction fantasy. Specifically, abductees are unusually open to the idea that the world is not always as it seems, that there might be alternate explanations for reality, and that bizarre occurrences are more likely to happen than the laws of probability would predict.

SEE ALSO: alien abduction experiences, alternate explanations for; Hill, Betty and Barney; missing-time episodes

alien implants

Many alien abduction stories include descriptions of medical examinations during which the aliens insert a small device somewhere just beneath the abductee's skin, up the nose, or even deep within the body. These implants, some ufologists believe, are tracking devices that enable the aliens to recapture a person if necessary, and indeed, abductees who report having implants are more likely to also report having been abducted multiple times. However, when physicians examine these abductees, no such implants are found, and in the few cases where an abductee has presented an "implant" to researchers, it has proven to be something else. For example, in 1989 abductee Richard Price gave his "implant" to David Pritchard, a scientist at the Massachusetts Institute of Technology (MIT), claiming it had worked its way loose from his skin. Pritchard then determined that it was made of biological material from Earth and had it examined by an MIT expert in skin diseases, dermatopathologist Thomas Flotte, who discovered that the so-called implant was a mass of hardened skin tissue surrounding a few cotton fibers. Flotte theorized that a bit of fabric from Price's underwear had become embedded in the man's skin, which responded by forming a sort of callus around it. When presented with such explanations, abductees often react as Price did, arguing that the aliens had obviously disguised their implant as cotton fibers in order to keep humans from finding proof of their existence.

SEE ALSO: alien contact, physical evidence of

aliens, descriptions of

In reports given by people who claim to have seen extraterrestrial beings, there are two types of aliens. The first is roughly 2 to 4 feet (.6 to 1.2m) tall, with dolphinlike skin, and the second is about 5 feet (1.5m) tall, with rough, leathery skin. The larger aliens are recognizable as individuals, whereas the smaller aliens are so alike that they are indistinguishable from each other.

Both kinds of aliens are said to have large heads with enormous black, unblinking eyes—usually almond shaped, but sometimes round—with no pupils, irises, corneas, or eyelids. The aliens are supposedly without ears but have a humanlike nose or a slightly raised bump where the nose should be. Many people say that the aliens' mouths are either slitlike with no lips or O-shaped with very thin lips, and the aliens' chins are small and pointy. They seem to have no jaws and no muscles that would allow for neck movement. People who claim to have been abducted say that the aliens communicate telepathically, and therefore do not need mouths.

As for aliens' bodies, abductees say they are very thin, with long, slender arms and skinny, straight legs. Most abductees do not recall seeing the aliens' feet, though in their accounts some mention long, thin toes. Aliens' hands are said to have only three long fingers and a thumb, but either clawlike nails or no nails at all. Alien skin is supposedly a shade of gray or tan, with no blemishes or irregular patches. The aliens' clothing sometimes looks the same as their skin, making it hard to tell whether they are dressed at all. However, the taller aliens are sometimes said to wear white, gray, or black laboratory coats.

SEE ALSO: alien abduction experiences; UFOs

almas

According to legend, the *almas* (“wildman” in Mongolian) lives in the Tian Shan mountains of China and the neighboring Altay Shan mountains of western Mongolia. *Almas*es are described as humanlike creatures whose bodies, but not faces, are covered in reddish brown or black hair. They are said to have jutting jaws and flat noses, to walk upright, to be approximately five feet (1.5m) tall, and to eat plants, vegetables, and grass. Similar creatures have been reported in other parts of Mongolia as well as in Russia and elsewhere on the Asian continent; consequently, there are

more than fifty words in various languages and dialects that mean *almas*.

No Westerner in modern times has claimed to have seen an *almas*, but during the eighteenth and early nineteenth centuries, investigators such as Russian scientist Tsyben Zhamtsarano made sketches of these man-beasts based on numerous eyewitness accounts. Unfortunately, these drawings and reports have since been lost or destroyed, and no physical remains of an *almas* have ever been found. Similarly, Dordji Meiren, an associate of Zhamtsarano’s, insisted he had seen an *almas* skin being kept in a Mongolian Bud-

dhist monastery, although nobody has been able to confirm the skin's existence.

The first written reference to an *almas* appeared in a journal written by Bavarian nobleman Hans Schiltberger in the 1420s. Schiltberger claimed that while a prisoner of the Mongols, he saw several male and female *almases* in captivity, eating plants and grass. Westerners have reported seeing signs of the creature in modern times. For example, in the 1960s French surgeon Marie-Jeanne Josefovna Koffman claimed to have seen two *almas* “nests” in a remote region of Russia. These were grassy areas with a storehouse of various foods, including potatoes, pumpkins, and corncobs; the corncobs had teethmarks that Koffman believed were from a humanlike creature with a jaw too wide to be human. Koffman also collected hundreds of reports of *almas*-like creatures sighted by peasants and teapickers in the valleys of the Caucasus Mountains, located between the Black and Caspian seas, near Karbada, Russia.

Upon studying Koffman's work, some scientists, such as British anthropologist Myra Shackley, have suggested that *almases* are remnants of a race of prehistoric humans known as Neanderthals. Other scientists, such as British anthropologist Chris Stringer, believe that *almases* represent a different type of prehistoric human, perhaps originating in Mongolia. Skeptics, however, think that the creatures are mythical and do not exist at all.

SEE ALSO: man-beasts

altered state of consciousness

First used in the 1970s, the term *altered state of consciousness* (ASC) refers to a change, usually temporary, in a person's mental state so that his or her awareness differs significantly from what would be

considered normal. Reports vary regarding what an ASC is like, but in many cases the experiencer perceives colors, sounds, tastes, and smells differently and/or more intensely than would otherwise be the case. An ASC also typically involves a lessening of self-awareness, which often means that one's mind no longer seems tied to one's body. In many such cases, the consciousness seems to leave the body, perhaps to travel to different places or realms or to connect with another being's consciousness. Such is the case with paranormal phenomena that some people believe are caused by an ASC, including astral projection, near-death experiences, and mystic experiences.

An ASC can also produce the feeling that time is standing still or moving at a faster or slower pace than normal, and it might result in the experiencer seeing bright lights or other images that seem real but which others say are hallucinations. These two characteristics have led some researchers to theorize that the alien abduction experience is the result of an ASC. Abductees not only report seeing aliens but often cannot determine how much time passed during their experiences. Moreover, abductees talk of seeing bright lights that they believe emanate from an alien spacecraft. Altered states have also been credited with causing paranormal phenomena in which the experiencer's body seems to perform independently of the mind, which is left with no memories of the event; these phenomena include channeling and automatic writing.

An ASC can come about unintentionally—as the result of such traumas as illness and/or high fever, certain types of injuries, sleep deprivation, or starvation—or intentionally—as the result of meditation,

intense prayer, electrical stimulation of the brain, the use of drugs or alcohol, or other practices that change body chemistry or overstimulate or understimulate the brain.

Most people believe that hypnosis can also bring about an ASC. At least some experts say that a hypnotic trance is not a true altered state because even under hypnosis an individual's awareness does not necessarily change. In other words, hypnotized people sometimes perceive everything in their environment normally, as though they were in an ordinary waking state.

It is impossible to determine whether any particular person is experiencing an ASC, even using medical diagnostic tools such as electroencephalographs and magnetic resonance imaging, that measure brain activity. These tools can only measure levels of brain activity, not perception. Consequently, an ASC can only be determined subjectively—that is, from reports by the person actually experiencing the ASC. This fact makes it difficult for researchers who want to determine whether any particular paranormal phenomenon is caused by or causes an ASC.

SEE ALSO: alien abduction experiences; astral projection; channeling; hypnosis; near-death experiences

American Society for Psychical Research

Founded in Boston, Massachusetts, in 1885, the American Society for Psychical Research (ASPR) is the oldest organization in the United States to use scientific methodology to investigate unexplained phenomena, such as telepathy and other forms of extrasensory perception. The ASPR maintains an extensive collection of books, unpublished manuscripts, reports, and letters related to its work. These materials date from the eighteenth century to the present.

The first president of the ASPR was astronomer Simon Newcomb, and for a brief time it was a branch of the British Society for Psychical Research, which was founded in 1882. In the early twentieth century, however, it became an independent organization headquartered in New York City. In 1907 the group began publishing the *Journal of the American Society for Psychical Research*, which is still published today. Its current members include scientists, psychologists, and university scholars from various disciplines; among its most prominent early members were physicist Sir William Barrett, scientist Sir Oliver Lodge, and psychologist William James.

SEE ALSO: Barrett, Sir William; extrasensory perception; James, William; Lodge, Sir Oliver

Amityville haunting

The Amityville haunting is a particularly famous haunted-house story, thanks to its depiction in popular books and movies. However, there is much doubt regarding whether this haunting took place as depicted or even at all. If accounts are true, the haunting occurred in 1975 in Amityville, New York, in a three-story house where a gruesome murder had been committed the previous year.

The haunting supposedly began shortly after Kathy and George Lutz and their three children moved into this home. At first they experienced poltergeist activity that included banging doors and windows and mysterious noises. Then the activity apparently escalated to include physical contact; some members of the Lutz family claimed to have been pushed, pinched, and beaten, and Kathy Lutz reported that on one occasion she was levitated off a bed. In addition, the family said that green

slime had dripped from a ceiling and that insects would gather in certain areas of the house for no discernable reason. Just twenty-eight days after moving into the house, the Lutzes abandoned it. They then called Ed and Lorraine Warren from Connecticut, who claimed to be able to contact the spirits of the dead. The Warrens conducted a séance and later said that the house was indeed possessed by some kind of evil spirit.

This was exactly the claim that Ronald DeFeo Jr., who had murdered his parents and four siblings inside the house, had made at his trial. DeFeo had pleaded insanity, insisting that a ghost had forced him to commit the murders. A jury, however, believed the motivation suggested by the prosecutor: that DeFeo simply wanted his parents' life insurance money. As a result, DeFeo was convicted on six counts of second-degree murder.

Those who question whether the house was actually haunted point out that George and Kathy Lutz not only knew DeFeo's story, but they had also discussed it with DeFeo's attorney, William Weber. In 1979 Weber, believing this discussion had inspired the Lutzes to fake the haunting in order to profit from it, sued for a portion of the money they earned from media appearances, a book deal, and a movie deal. The Warrens were also accused of being involved in the scam since the couple had profited by working as consultants to the producers of one of the many films about the incident and by making numerous public appearances to promote the film.

The next residents of the Amityville house also sued the Lutzes and both the publisher and author of the book about the haunting, saying that the Lutzes had damaged their quality of life by turning their new home into a tourist attraction.

These new residents had experienced no poltergeist activity at all, so they believed that the Amityville haunting had been a hoax. Other people came forward to support this view, pointing out inconsistencies in the Lutzes' story. For example, the Lutzes had said that after fleeing the house on a particular date, they never went back, but a neighbor revealed that the Lutzes had held a garage sale at the house the day after they "left." In addition, several psychic researchers who had investigated the haunting could find no proof that any poltergeist activity had actually taken place there. Eventually William Weber won his lawsuit, and the new owners received a settlement in exchange for dropping their legal action.

SEE ALSO: haunted houses and other structures; hoaxes and frauds; poltergeists

angel encounters

According to several surveys, approximately 70 percent of Americans believe that angels are real beings and over 30 percent think that they have encountered an angel. Stories of such encounters abound, many of them described in books like the Reverend Billy Graham's *Angels: Ringing Assurance That We Are Not Alone*, Eileen Freeman's *Touched by Angels*, and Sophy Burnham's works, *A Book of Angels* and *Angel Letters*. These stories fall into two basic categories: those in which the person actually sees an angel and those in which the person merely senses the presence of a being that he or she concludes is an angel.

In regard to claims of actual sightings, in some cases the angels are said to look like ordinary human beings, while in others they are described as being clearly otherworldly. Most stories involving human-like angels follow a familiar pattern. Someone in danger suddenly encounters a

rescuer who, after the rescue is complete, mysteriously disappears. For example, a person whose car has broken down in a deadly snowstorm is approached by a stranger who repairs the car and then, when the rescued person's back is turned, vanishes without leaving any footprints in the snow. In a few cases, however, the mysterious stranger identifies himself as an angel; this often takes place in a hospital, where an angel visits a sick person to tell him or her that all will be well or to comfort a patient close to death.

Angels who look otherworldly might also appear to provide aid, usually to people whom society would deem deserving of divine intervention, or to comfort the sick or dying. These angels are typically described as having human faces and bodies but also an unearthly glow of either bright white or softly colored light. In addition, they behave in ways that no human being could. For example, a man reported that he was climbing down a cliff when he realized he was about to fall and prayed for help. He recalled that glowing angels grabbed him and lifted him to the top of the cliff.

There are also many stories of the presence of angels being felt but not seen. An example of this type of encounter occurred in Beatrice, Nebraska, in the early 1950s, when all fifteen members of the choir in the West Side Baptist Church were late for their regularly scheduled practice. Although they were trying to get to the church separately, some little incident happened to each one that delayed that person's arrival. Consequently, no one was in the church when, three minutes after choir practice was supposed to have begun, the building's heating system malfunctioned and caused an explosion that destroyed the entire structure. Had any

choir members arrived on time, they would have been killed. Many people believe that angels were responsible for the delays that saved all fifteen lives in the Beatrice incident. Skeptics say that such sequences of events are explainable under the laws of probability and that all apparent angel encounters have ordinary explanations.

SEE ALSO: angels of Mons, Belgium, the

angels of Mons, Belgium, the

One of the most famous cases of apparent angelic intervention took place at a World War I battlefield in Mons, Belgium, in August 1914. French and British Allied soldiers were fighting against an advancing German force, and it looked as though the Germans would win. Then the tide of battle turned; fire from the Allies suddenly increased, and the Germans retreated. At first this seemed to be a normal battlefield event, but wounded French and British soldiers told an unusual tale while in the hospital. They insisted that they had not been fighting alone; they had seen angels on the battlefield fighting alongside them.

According to the French soldiers, the army of angels had been led by the archangel Michael; British soldiers said that they had recognized the angelic general as St. George, a medieval knight famed for slaying dragons. A few soldiers said there were only a few angels, while most saw many. Descriptions of the angels also varied, although most of the soldiers said the figures in question emitted a bright light and had wings.

Initially, the hospital workers disbelieved these stories, saying they were the result of the soldiers' injuries and mental trauma. When uninjured French and British soldiers came forward with similar sto-

ries, skeptics attributed them to battlefield misperceptions or a mass hysteria that produced hallucinations. Later, however, German soldiers who had been on the Mons battlefield seemed to corroborate these stories, saying that the tide of battle turned when they suddenly felt powerless to proceed. At this time, the Germans' horses began running away from the battle, and it seemed like there were thousands of troops opposing them, even though there were relatively few. However, the German soldiers did not report seeing any angels.

SEE ALSO: angel encounters

animal ESP

Much anecdotal evidence exists to suggest that animals have ESP (extrasensory perception), also known as animal psi or anpsi. For example, there are many tales of animals showing distress when their owner dies, even though the owner is many miles away. In one of the most famous instances of this, the pet terrier of Lord Carnarvon (the sponsor of an archaeological expedition that discovered the tomb of the Egyptian king Tutankhamen) let out a piercing howl and died at the same moment his owner died, even though Lord Carnarvon was in Egypt and the terrier was in London. There are also many examples of pets apparently knowing when their owners are about to arrive home, even when this arrival is unexpected, and of lost pets successfully finding their owners, not at home but in an unfamiliar place.

There seem to have been cases of animals having this sort of connection with another animal as well. For example, in his 1976 book *Talking with Horses*, Henry Blake talks about "empathic pairs": two horses whose minds seem linked. He tested this mental link in a variety of experiments. In one experiment, he took one

member of an empathic pair to a distant place and fed it at unusual times. Each time, the other member of the pair would suddenly act hungry as well, whereas the other horses in Blake's stable had no such reaction.

Skeptics criticize such studies for being unscientific and argue that the animals in such tests are responding to subtle clues provided by the humans around them. This was the case with Pikki, a fox terrier whose psychic abilities were tested by Dr. W. Bechterer in the early 1920s. Pikki was asked to find certain objects using only directions that had been sent telepathically, but eventually his successes were attributed to unintentional but discernible gestures by the people supposedly sending the mental messages. The same situation occurred with a horse named Clever Hans in Germany at the beginning of the twentieth century; this animal was supposedly able to do mathematics and answer "yes" or "no" questions. In actuality, he was picking up on subconsciously delivered cues from his owner.

SEE ALSO: Clever Hans phenomenon; extrasensory perception; telepathy

animals, rediscovered

Occasionally, an animal thought to be extinct is rediscovered, either accidentally or after careful searching. Such animals typically live in areas that are so remote and/or vast that the animals, even if fairly large, are easy to overlook. For example, in 1938 a living coelacanth, a 5-foot-long (1.5m) fish known only from fossils and thought to have been extinct since prehistoric times, was found in a deep ocean habitat off the coast of South Africa. Larger "extinct" animals are also occasionally found

to still exist. For example, a carnivorous marsupial known as the Tasmanian wolf thought to be extinct since the 1930s, was reportedly sighted decades later. In addition, a few people in New Zealand have reported seeing a moa, a giant bird that has also been considered extinct for decades. No one has yet found physical proof that these animals exist, but such sightings bring hope to cryptozoologists who think that other animals thought to be extinct are waiting to be rediscovered, perhaps in unexplored forests or in the depths of the ocean or other bodies of water. In fact, some people hope that the legendary Loch Ness monster, thought to be a species of dinosaur called the plesiosaur that became extinct 65 million years ago, will be proven to still exist.

SEE ALSO: dinosaurs, living; Loch Ness monsters

apparitions

Apparitions are images of places, things, otherworldly beings like angels, or human beings either living or dead that are not really present but are typically perceived as solid, real figures (rather than transparent ones). On occasion they appear so real that they seem to cast shadows and/or have reflections in mirrors, although they might also appear to walk through solid objects or vanish. Apparitions of people who have died can reappear for years, whereas apparitions representing living people usually appear only once, and then only briefly.

One example of a recurring apparition was described in the letters of Pliny the

Younger, a statesman who lived in ancient Rome from approximately A.D. 62 to 113. According to Pliny, the apparition of an old man shackled in long chains regularly appeared in a house in Athens, Greece. Sometimes visitors to the house would only hear the chains rattling, but others would see the apparition itself. One day, according to Pliny, the apparition led a visitor to a spot in the garden. When the spot was excavated, the bones of a human being bound in chains were found. Once these bones were buried with appropriate religious rites, the apparition was never seen again.

More common than recurring apparitions are those that appear only once. Called “crisis apparitions,” these manifest themselves as a visit from a close friend or loved one who is later discovered not to have been there, but instead was in physical danger or dying someplace far away. In their 1886 book *Phantasms of the Living*, Edmund Gurney, Frederic W.H. Myers, and Frank Podmore catalogued more than seven hundred such incidents; many more have been reported since then. In most cases, the crisis apparition is silent, but in a few instances it says something. For example, in December 1918 a group of pilots saw a fellow aviator, Lieutenant David M’Connell, who greeted them and said he had just returned from a good flight. Only later did the men learn that at the time they thought they were talking to M’Connell, the lieutenant was already dead, having been killed in a plane crash.

Experts draw a distinction between apparitions and ghosts. Many apparitions communicate with humans or try to do so, for instance. They also seem aware of their surroundings and most seem to know that they are being watched. For example, they might move around a chair in order

to touch a particular object on a table. In contrast, a ghost, although like an apparition since it represents a dead person, typically seems oblivious to its surroundings and will often repeat the same actions over and over regardless of what objects are in a room or who is watching. Moreover, ghosts are rarely said to try to communicate with the living.

However, there is one type of apparition that never communicates with others: the doppelgänger (a German word that essentially means “double”). A doppelgänger is an exact duplicate of a living person in whose company it appears. For example, in the 1840s a teacher named Emelie Sargee was fired from several jobs because she was often seen in the company of her doppelgänger, who mirrored her every move. In some cases, the doppelgänger appears to be several years older than the person it mirrors, suggesting that it might be a glimpse of the future. Another theory is that doppelgängers are the product of some kind of mental process, such as telepathy or hallucination. In some cultures, however, doppelgängers are considered to be harbingers of death.

SEE ALSO: doppelgängers; ghosts, animal; ghosts, human; telepathy

apport

An apport is an object, such as a coin or piece of jewelry, that suddenly appears, or materializes, “out of thin air.” Whereas some apports materialize at the behest of a medium during a séance, others materialize during a poltergeist episode, which is an attack on objects or people by some unseen force that believers in spirits say is an angry ghost. Some mediums say that they themselves produce apports, using powers given to them by earthly spirits or some supernatural entity or god. Others

believe that the apports are being produced by the spirit being contacted during the séance.

Apports are usually small. For example, one poltergeist was known for apporting coins through the ceiling of a house so that they would drop on the heads of unsuspecting visitors. Sometimes, though, an apport is impressively large. For example, in 1928 a British medium named Agnes Guppy apported, on request, a 6-foot-tall (1.8m) sunflower, its roots clumped with dirt.

Skeptics believe that whether apports are large or small, they are always the result of a trick being performed by the medium in order to convince participants in the séance that the spirit world is real. Indeed, stage magicians often make objects suddenly appear and disappear, but believers in spiritualism say that magicians' actions are very different from the kind that result in apports from the spirit world. From time to time, spiritualists have challenged skeptics to prove that apports are the result of trickery, but even when a skeptic appears to succeed, believers say that it was the skeptic, not the medium, who was guilty of trickery.

SEE ALSO: mediums, physical and mental; spiritualism

Area 51

Also known as the Groom Lake Base and located approximately 90 miles (145km) north of Las Vegas, Nevada, Area 51 is a top-secret military base where the U.S. government is said by UFO enthusiasts to be testing alien spacecraft, either recovered from crash sites or acquired from extraterrestrials as part of a trade of technology or information. Its name comes from the fact that the base lies in grid number 51

on maps of the larger government-controlled region called the Nevada Test Site.

Claims about its connection to UFOs aside, Area 51 has long been shrouded in mystery. The U.S. government established the military base in 1954 specifically to test a new spy plane, the U-2, which subsequently flew missions over nations such as the Soviet Union and Cuba. Later, other types of military aircraft and weapons were tested at the facility as well, and in the early 1980s the base's runway was extended, its security measures tightened, and nearby overlooks that afforded a view of the base closed to the public. About this time, people in the vicinity of the base began seeing mysterious lights in the sky, and rumors about UFO test flights arose.

In 1989 a man claiming to be a physicist, Bob Lazar, came forward to insist that these rumors were true. He said that he had worked at a base near Area 51, though this could not be verified, and knew that the government had been testing spacecraft obtained through trade with extraterrestrials. Today many people continue to believe that there are alien spacecraft at Area 51, stored in the large hanger that is one of four main features at the base, the other three being a runway, a guard shack, and a collection of large radar antennas. Though military authorities refuse to give out information about these structures, their size can be estimated from aerial photographs taken from a private plane that managed to fly over the base. From these photographs, the hanger appears to be approximately 300 feet by 300 feet (91.4m by 91.4m), with a roof about 100 feet (30.5m) high. Though this is large enough to contain several commercial airliners, some people have suggested that it is only a small part of a much larger struc-

ture; these people contend that the hanger really covers an enormous elevator, used to bring spacecraft up from an enormous underground facility.

The runway at Area 51 is also large, estimated to be as long as 24 miles (38.4km). The guard shack, however, is small and plain, leading some people to believe that there must be a hidden security installation. As for the radio antennae, there are two large ones, several small ones, and several sensors, the latter of which are located only on the north side of the military base. The largest antenna is also on the north side, and it is rumored to be the biggest and most powerful antenna ever made. Moreover, this antenna almost always points directly up at the sky, leading some UFO enthusiasts to conclude that its purpose is to receive alien communications. Skeptics, however, note that all military bases have antennas for use in various types of telecommunications with humans.

SEE ALSO: UFOs

Arnold, Kenneth (1915–ca. 1984)

Private pilot Kenneth Arnold is thought to be the first person to use the term *flying saucers* to refer to UFOs. In 1947 Arnold reported seeing nine mysterious objects “flying like a saucer would if you skipped it across the water,” and when this report was published in newspapers throughout the world, some reporters misquoted Arnold as saying he had seen “flying saucers.” After this, hundreds of people began claiming that they too had seen flying saucers and described these objects as saucer shaped, though Arnold had not said they were shaped this way. In fact, though numerous reports over the years quoted Arnold as saying that eight of the objects

were disc shaped and one was crescent shaped, Arnold later insisted that these reports were wrong—and indeed, a drawing that he provided to the U.S. Air Force shortly after the event indicates that the objects he saw resembled a hawk’s outstretched wings, though the front edge was a smooth curve.

Arnold’s sighting occurred on June 24, 1947, while he was flying his own small plane near Mount Rainier, Washington; at the time, he was searching for the wreckage of a missing military airplane. Just before 3:00 P.M. he saw a flash of blue light pass in front of his airplane. When he looked north, the direction the light had come from, he saw nine seemingly metallic objects, flying in what he considered to be a formation, about 23 miles (37km) away. He estimated that the wingspan of each craft was at least 100 feet (30.5m) across, and that they were moving at a speed of nearly 1,400 miles per hour (2,253kph).

Arnold reported watching these objects for approximately two minutes, as they moved southward along the Cascade Mountain Range into Oregon. Shortly thereafter he landed in Yakima, Washington, to report the incident to an official with the federal agency known as the Civil Aeronautics Administration. Arnold later mentioned the incident to a journalist, and the public uproar over the sighting began.

At the time he made his report, Arnold did not think they were alien spaceships. In fact, he was sure that the objects were some kind of experimental U.S. military craft. The government, however, denied having any aircraft in the area and declared that Arnold had mistaken a cloud formation for UFOs. Arnold refused to accept this explanation, and by 1950 he had decided that it was possible, perhaps even

likely, that the objects were extraterrestrial. In 1952 he coauthored, with his friend Raymond A. Palmer, a book about his experience. By this time he had adopted the popular term for the objects he had seen and therefore titled the book *The Coming of the Saucers*.

By the time he and Palmer published their book, Arnold had reported seeing the UFOs three more times, all in roughly the same area as the first sighting. Eight other pilots made similar reports. However, the pilot of a commercial airliner that had been approximately 10 miles (16km) away from Arnold when he made his first sighting insisted there had been no other objects in the area. Skeptics consequently suggested that Arnold had imagined the objects or had lied about seeing them. As a result of such accusations, Arnold was sometimes ridiculed because of his sightings, and on at least one occasion he expressed regret at having ever reported the UFOs in the first place.

SEE ALSO: UFOs

Arnold, Larry (1949–)

Pennsylvania school bus driver Larry Arnold is one of the leading proponents of the belief in spontaneous human combustion (SHC), whereby people supposedly burst into flames with no warning and for no apparent reason. In his 1995 book, *Ablaze!*, Arnold provides details about several cases in which he believes the victims combusted spontaneously. From these cases, he developed the theory that SHC is brought on by the cellular makeup of the victims, combined with their emotional state. Specifically, Arnold suggests that some people have developed a heightened sensitivity at the cellular level to sparks,

which then makes them more susceptible to SHC. Arnold contends that the sparks that ignite them come from extra energy produced when they are upset. Indeed, most victims in the cases Arnold cites were in a highly emotional state in the moments before bursting into flames, and many had been depressed or even suicidal for days before.

Skeptics dismiss Arnold's theory, and many have criticized him for his lack of expertise in regard to either fire or human physiology. They have also criticized his unwillingness to consider that careless cigarette smoking, combined with combustible clothing and furniture, might have caused many of the deaths he attributes to SHC. For example, critics say that in presenting the 1966 case of an ailing, infirm ninety-year-old Pennsylvania physician named John Irving Bentley, Arnold pays little attention to the facts that Bentley was a heavy smoker known for dropping ashes on his robe, that he carried boxes of wooden matches in his robe pockets, that he tried to extinguish the flames with water before burning to death alone in his bathroom, and that he died in a spot where an updraft coming from the basement would have greatly intensified the fire.

SEE ALSO: spontaneous human combustion

astral projection

Whereas an out-of-body experience is said to involve a person's spirit or consciousness becoming separated from the physical body, astral projection is said to occur when the astral body, rather than the spirit or consciousness, leaves the physical body. Believers say that astral bodies consist of emotion; some also say that each human being has seven astral bodies in all, but others insist that a person has only one. In

any case, an astral body can supposedly leave the physical body to travel the universe and interact with other astral bodies, but it remains tethered by an extremely thin, ethereal—that is, nonphysical—cord. One of the leading proponents of astral projection was nineteenth-century psychic Helena Petrovna Blavatsky and her Theosophical Society.

SEE ALSO: Blavatsky, Helena Petrovna; out-of-body experiences

astrology

Astrology is a method of divination (that is, of foretelling the future) that relies on observations of the relative positions of the Sun, the Moon, planets, and stars at specific dates and times. Underlying astrology is the belief that the position of celestial bodies influences human actions. There are various systems of astrology, but in the Western world the emphasis is on creating, or “casting,” a daily, weekly, or monthly forecast, or horoscope, for individuals, using a system based on a division of the solar year into twelve equal parts, or zodiacal signs, each connected to one of twelve constellations: Aries, Taurus, Gemini, Cancer, Leo, Virgo, Libra, Scorpio, Sagittarius, Capricorn, Aquarius, and Pisces. Each of these signs of the zodiac is considered the residence, or house, of a particular planet (the Sun and Moon are considered planets in astrology) and is associated with certain aspects of human existence, such as personality traits. For example, Taurus is associated with stubbornness, patience, and devotion, while Capricorn is associated with ambitiousness, loyalty, and persistence. The placement of the Sun at the time of someone’s birth determines that person’s astrological sign. (Some astrologers assign each person two signs, a sun sign and a moon sign, by

considering celestial placements related not only to the solar year but to the lunar year as well.)

Based on an individual’s sign, astrologers say they can make general predictions like the ones often published in daily newspapers. However, in order to cast a detailed, personalized horoscope, an astrologer must perform geometrical calculations based on the relationships between signs, compute and compare the influence of various planets, and consider a number of other factors, including which sign of the zodiac was ascendant, or rising on the eastern horizon, at the time of the person’s birth.

This elaborate system of divination developed over hundreds of years. Astrology began in ancient Mesopotamia, then spread to ancient Greece, where it was promoted by such philosophers as Plato and Aristotle. Soon it traveled to India, Egypt, the Middle East, Europe, preimperial China, and other regions as well. The degree to which people accepted astrology in each of these places varied. For example, the Chinese adopted astrology almost immediately, whereas the ancient Romans at first rejected it in favor of native forms of divination. But even when astrology was accepted, its popularity did not necessarily last. For example, during the Middle Ages European scholars considered astrology to be a science worthy of serious study, but by the seventeenth century they had decided that it was nothing more than a collection of superstitions.

In modern times, researchers have investigated whether astrology can indeed predict the future, or yield any other insights into people’s lives. Of these studies, one of the most notable was conducted by French mathematician Michel Gauquelin in the 1950s. Gauquelin attempted to de-

termine whether a person of one astrological sign was more likely to succeed at a particular job than a person of another sign. To many people's surprise, in studying the positions of the constellations and planets at the time of various people's births, Gauquelin found that a statistically significant number of athletes were born when the planet Mars was ascendant, soldiers when the planets Mars or Jupiter were ascendant, and scientists when the planet Saturn was ascendant. Skeptics, however, point out that a statistical correlation does not necessarily equate to cause and effect; they say that Gauquelin's findings reflect mere coincidence and that talent in any occupation or pastime can only be the result of a combination of genetics and training. To believers, however, the positions of celestial bodies are closely tied to events on Earth and can therefore offer valuable information about a person's destiny.

SEE ALSO: divination

astronauts, ancient

In 1968 a Swiss hotelier named Erich von Däniken (1935–) wrote a book, *Chariots of the Gods? Unsolved Mysteries of the Past*, in which he theorized that human civilization had advanced with the help of “ancient astronauts,” visitors from another planet whom early humans mistook for gods. Von Däniken was not the first to suggest that advanced beings had influenced human history, but he was the most aggressive in promoting the idea. Initially serialized in a Swiss newspaper, *Chariots of the Gods?* was published in Europe in 1968, in Great Britain in 1969, and in the United States in 1970. In addition to publicizing his book, von Däniken also wrote several sequels, and a movie version of the book was shown in German theaters in the early

1970s and on American television (in a shorter form) in 1973. Also in 1973, von Däniken formed the Ancient Astronaut Society, a group that remains dedicated to proving that aliens really did visit Earth in ancient times.

As a result of von Däniken's efforts, an ancient astronaut movement developed during the 1970s, and numerous authors wrote their own books based on the theory that extraterrestrials were responsible for many of the cultural achievements and religious beliefs of early human civilization. Of these books, the one that prompted the most serious study—and criticism by skeptics—was Robert K.G. Temple's *The Sirius Mystery*, published in 1977. Temple's work examined an unexplainable aspect of a West African tribe known as the Dogon, which has customs that appear to be based on ancient Egyptian beliefs prior to 3200 B.C. In 1931 the Dogon told anthropologists details about two stars, now called Sirius A and Sirius B, and about aspects of Earth's solar system that they had no way of knowing at the time. For example, the Dogon had information about Jupiter's moons, Saturn's rings, and various planetary orbits and rotations, and they knew that Sirius B, which cannot be seen by the naked eye, is unusually dense and rotates around Sirius A (which is approximately 8.6 light years from Earth). According to Dogon legends, amphibious beings from a planet rotating around a third, as yet undiscovered, star rotating around Sirius A once visited Earth. The Dogon call these beings Nommos.

Immediately after Temple's book appeared in print, skeptics launched a widespread attack on his work. One of these skeptics, the late astronomer Carl Sagan, used his access to numerous magazines and television programs to criticize



This map from Donnelly's Atlantis: The Antediluvian World shows Atlantis just west of Gibraltar. LIBRARY OF CONGRESS

Temple, arguing that the Dogon had clearly received their knowledge of the solar system and Sirius A and B from Western scientists—though Sagan could produce no evidence to support this claim. In response, Temple demanded that he be given equal time to refute Sagan's attacks, but media executives refused his requests.

Despite Sagan's assertions, there is some evidence that the Dogon lore regarding Sirius A and B was not based on Western science. For example, Dogon artifacts hundreds of years old depict Sirius A and B, and only a few Westerners had knowledge of the density of Sirius B at the time the Dogon told anthropologists about it. Moreover, in 1995 astronomers Daniel Benest and J.L. Duvent presented scientific evidence in scholarly journals that suggests there might indeed be a third Sirius star. Nonetheless, skeptics continue to dis-

miss all ancient astronaut theories, including Temple's, as nonsense.

SEE ALSO: Sagan, Carl

Atlantis

According to legend, Atlantis was an island that disappeared beneath the ocean after a massive earthquake. The first written accounts of this event were in two works of the ancient Greek philosopher Plato (428–348/347 B.C.), *Timaeus* and *Critias*, in which Plato mentions Atlantis as an example of a utopian society. Citing his source as Solon, a Greek statesman who, well over a century earlier, had received his information about Atlantis from Egyptian priests, Plato says that nine thousand years earlier Atlantis had been an island empire located in the Atlantic Ocean near Gibraltar. Its people were aggressive expansionists who conquered many lands—

until they attacked Athens. At this point, the gods decided to defend Athens by destroying Atlantis, whereupon the island experienced massive earthquakes and floods that wiped out its entire civilization. The island then sank beneath the sea, leaving no trace of its existence.

Plato's Reliability Skeptics believe that Plato's tale of Atlantis was nothing more than an allegory created to make a point: that no matter how advanced, a civilization that ignored its gods in favor of material comfort was doomed. But those who believe that Atlantis really existed argue that Plato provided far more details about the place than would have been necessary in order to make a moral point. In fact, *Critias* offers elaborate descriptions of Atlantis's architecture, engineering, and ceremonies that would be completely unnecessary if Atlantis were only a literary device. Moreover, Plato himself stated that the story of Atlantis was true, and historians know that the source he had cited, Solon, was a real Greek statesman who had visited Egypt and would have had the opportunity to hear the stories, just as Plato claimed.

Believers in Atlantis disagree, however, on whether Plato was correct in saying that the civilization was located on an island in the Atlantic Ocean near Gibraltar. Those who believe that Atlantis was located there base their view on arguments put forth in *Atlantis: The Antediluvian World*, published in 1881. Its author, Ignatius Loyola Donnelly, accepted Plato's description of Atlantis as real and accurate. Moreover, Donnelly concluded that all the world's ancient civilizations stemmed from one even older civilization, which in his mind could only have been Atlantis. He theorized that the Atlanteans were the first civilized humans; that the royal family of this

island eventually spread out over the world to create other, similar civilizations in Egypt, India, and elsewhere; and that based on the places where the first of these civilizations developed, Plato's theory of the location of Atlantis made sense.

Alternate Locations Others, however, argue that Atlantis was not located on a now-submerged island near Gibraltar. Instead, they contend that it was actually on the island of Crete. These individuals argue that archaeological evidence suggests that in around 1500 B.C. an advanced civilization, the Minoans, was located there and was much like Plato's Atlantis. In particular, Plato said that the Atlanteans worshipped the bull, and the Minoans worshipped the bull as well. Another theory places Atlantis on the island of Thera, 60 miles (97km) north of Crete, where a massive volcanic eruption struck in approximately 1625 B.C. Archaeological expeditions have uncovered evidence of bull worship on Thera, and some archaeologists believe that it was once the center of the Minoan civilization. In his 1991 book, *Unearthing Atlantis: An Archaeological Odyssey*, Dr. Charles Pellegrino—an expert in crustaceology, paleontology, marine archaeology, and advanced rocketry—connects artifacts from this civilization to Atlantis mythology by showing how various archaeological discoveries fit in with Plato's descriptions of Atlantean objects and customs.

Some people, however, argue that while Plato's descriptions were correct, he was wrong in saying that Atlantis was an island in the Atlantic Ocean. They believe that Atlantis was in a different ocean and/or was a continent instead of an island. A few people have suggested that Atlantis was located on the peaks of the Andes Mountains. Some think that after

the ocean swallowed Atlantis, the civilization continued to exist in underwater caverns. Still others think Atlantis was swallowed by the land rather than the sea and still exists within caves deep beneath Earth's surface. One place commonly mentioned by such people is the area beneath the Great Sphinx in Egypt, perhaps at least partially inspired by Plato's reference to ancient Egypt.

Extraterrestrials This Egyptian connection has led some people to believe that the Atlanteans were actually extraterrestrials whose wisdom and technology enabled the ancient Egyptians to build their great pyramids and statues. Such people have theorized that Atlantis was actually a planet whose inhabitants settled on Earth after their own world was destroyed by a global nuclear war, environmental damage, or some other disaster. Others have suggested that Atlantis is an alien world within the center of a hollow Earth and that the former extraterrestrials who live in this world sometimes venture out to abduct and study human beings.

People who subscribe to such theories often base their beliefs on descriptions of Atlantis provided by individuals who claim to have firsthand knowledge of the civilization. For example, nineteenth-century psychic Helena Petrovna Blavatsky said that she knew what Atlantis was like because of her mental powers, while the faith healer and self-proclaimed prophet Edgar Cayce (1877–1945) professed to know about Atlantis because in a past life he had lived on Atlantis. In 1977 a woman named J.Z. Knight from Tacoma, Washington, claimed that she was able to channel the spirit of an Atlantean warrior named Ramtha, and ever since then she has been transmitting his words about Atlantis, Lemuria (another legendary “lost world”),

and other subjects to paying audiences.

SEE ALSO: Cayce, Edgar; lost worlds; Ramtha

aura

An aura is an energy field or life force that supposedly surrounds every living thing and natural object, including rocks. People who believe in auras say that in living things this energy field changes in accordance with its health, and in human beings, it changes in accordance with emotions, feelings, and thoughts as well. In addition, each human being is said to have a unique aura; when two auras come into contact when two people meet, the auras affect one another, with one taking some energy from the other and vice versa. This phenomenon, believers say, is why one person sometimes feels “drained” or tired after talking to another.

Some people claim to be able to see auras, usually while in a relaxed or meditative state. They report that an aura is a colored outline or series of outlines, a colored band or series of colored bands of varying widths, or a halo of one or more colors, beginning at the surface of an object or being and emanating outward. Believers in auras also sometimes say that each aura has seven layers, with the layer at the skin much denser than each successive layer outward, and that each layer can be associated with one of seven energy portals that connect the mind to certain parts of the body. These portals, known as chakras, are the reason, believers say, that the color, intensity, and/or outline of an aura can indicate the health of various body parts.

Believers disagree on how various health problems correspond to the colors of an aura, but they generally contend that a vibrant aura with a distinct outline means that a person is healthy, whereas a

weak, blurry aura that does not completely surround the subject is a sign of either mental or physical illness. Some believers, for example, say red is a warning color, suggesting that some part of the body is developing a serious health problem, and that red indicates pain and/or swelling as well as anger and aggression. Green, on the other hand, is the color of calm emotions and can indicate that a person's body is healing or healthy. Some believers say that orange auras also indicate health, but others say that this depends on the shade of orange, because brownish orange auras are a sign of a severe illness or emotional imbalance. Most believers agree, however, that indigo indicates a person with psychic abilities and that black auras usually indicate that a person has a terminal illness and/or is so severely depressed that he or she is suicidal.

Among those who believe that auras can be indicative of a person's health is parapsychologist Thelma Moss, who argues that the phenomenon can be used to diagnose specific illnesses. While working at the University of California, Los Angeles, Neuropsychiatric Institute, she wrote the first books to seriously examine the medical aspects of auras, *The Body Electric* (1979) and *The Probability of the Impossible* (1983). In these works, Moss advocates that Kirlian photography be used as a medical diagnostic tool. With Kirlian photography, any object, whatever it is made of, is placed against a photographic plate and subjected to a high-voltage electric field or current; the result is a photographic image of the object, surrounded by one or more radiant outlines of varying colors and widths. Supporters of Kirlian photography as a diagnostic tool say that these glowing coronas of light are auras, but skeptics say that they are a by-

product of the photographic process itself; in other words, the electrical charge, rather than the object being photographed, is somehow producing the visual effect.

Skeptics similarly dismiss claims by people who say they can see auras with the naked eye. Skeptics say these individuals are suffering from a neurological or vision disorder that produces the colored rings or bands. Indeed, physicians know that such disorders can create such false images. Still, there is no sign that the individuals who claim to see auras suffer from a physical or mental illness.

SEE ALSO: Kirlian photography

automatic writing, art, and music

Automatic writing, art, and music are creations produced when a person appears to be in a trance and later claims to have had no awareness of engaging in the activity. Of the various automatic creations, writing is by far the most common; automatic music is rare. Those who believe that automatic creation is real suggest that those who create such works are connecting mentally with, or "channeling," a dead person who had a talent or capability in that particular art form. For example, London widow and medium Rosemary Brown supposedly received previously unknown musical compositions from such composers as Frederic Chopin, Ludwig van Beethoven, and Franz Liszt; Brazilian painter Luiz Gasparetto has claimed to receive his artistic images from such artists as Leonardo da Vinci, Rembrandt van Rijn, and Pablo Picasso; and American teacher Elsa Barker claimed that her writings, produced in 1914, were actually those of the spirit of a deceased California judge, David Paterson Hatch. In these and several other cases, the creations produced were in the style of the

person supposedly being channeled—a style often very different from the natural style of the person doing the channeling.

Not every automatic creation is said to be the result of connecting with the dead, however. Some automatic writers have attributed the source of their messages to an alien from another planet, a deity, or a re-

ligious figure. Others have theorized that they are connecting mentally to a writer, artist, or composer living somewhere else in the world, perhaps while that person is dreaming.

SEE ALSO: altered state of consciousness; channeling; dreams



Ballechin House, the

Built in the nineteenth century, the Ballechin House in Perthshire, Scotland, is a classic example of a haunting that is seemingly caused by an angry, wronged ghost. In 1876 the owner of the house, Major Steuart, died shortly after declaring that he was not going to allow his spirit to leave the world. Instead, Steuart claimed that he would find a way to put his spirit into the body of one of his fourteen dogs. Once the funeral was over, however, Steuart's nephew killed all of the dogs and moved into the Ballechin House. According to some who knew Steuart's heir, he did this because he did not want to spend any time or money caring for the dogs. Others, however, said that the nephew was a superstitious, religious man who did not want his uncle coming back to life, even as a dog. In either case, shortly after the dogs' death, strange things started to happen in the house. The odor of dogs would appear at odd times and places, for no apparent reason, and people in the house would suddenly feel themselves pushed by what they sensed was a dog—though no dog was there. Visitors also heard strange noises, including knocking, loud bangs, and angry but muffled voices. Some years later, the nephew was accidentally struck and killed by a London taxicab, at which time the Ballechin House was put up for rent. From 1892 to 1896, a few groups—including a priest and some nuns seeking a religious retreat and a party of hunters wanting to shoot game on the property—

stayed in the house. All such occupants fled within days, saying it was haunted by unseen animals.

From February to May 1897, members of the Psychical Research Society, a group dedicated to investigating paranormal phenomena, rented the house in order to study the goings-on there. At this point the haunting escalated: The strange noises became louder and more frequent; the house seemed filled with the sounds, smells, and jostling of unseen dogs; and a mysterious black spaniel appeared and disappeared on several occasions in front of many witnesses. A few people also reported seeing a weeping apparition of a nun. (They later discovered that Major Steuart's sister had been a nun.) Eventually the members of the Psychical Research Society decided to abandon the house as well, after declaring it haunted. The Ballechin House no longer exists (though another structure is located on the same land), but the grounds where it once stood are said to be haunted by the ghost of a black dog.

SEE ALSO: apparitions; ghosts, animal

ball lightning

Ball lightning is a floating fireball in various shades of orange, yellow, red, white, blue, or purple that is said to appear out of nowhere, although usually before, during, or after a thunderstorm. Such balls, which might be anywhere from 2 to 10 inches (5.1 to 25.4cm) in diameter, might exist for less than a minute or for one or two minutes; in general, the brighter they

are, the longer they last, and brilliant orange balls tend to last longest. During ball lightning episodes, the fireballs usually move along the ground or floor, with short periods of vertical lift. When entering or exiting a building, they might travel through a chimney or open window, but sometimes they travel through closed windows or walls (usually nonmetallic). At the end of the episode, most such balls disappear quietly, but sometimes they explode, leaving a sulfurlike smell.

In most reported cases of ball lightning, the balls cause no harm, even when they appear very close to people. In fact, there are many stories of moving balls changing course to avoid people in a room. When a ball explodes, though, people can get hurt. For example, according to one account in a 1945 book called *The Elements Rage* by Frank Lane, a child who kicked a fireball caused an explosion in which he and a playmate were injured and nearly a dozen nearby cattle were killed. In another incident, an eighteenth-century Russian scientist, G.W. Richman, was attempting to measure a small blue fireball when it exploded in his face and killed him.

It is far more common, though, for ball lightning to destroy property than people. There are many stories of buildings, trees, electrical transformers, and electrical wires being damaged by fireballs, much in the way that other types of lightning strikes damage such objects. In one 1970 incident in Sidmouth, England, a ball explosion impacted the ground rather than any nearby structures but still expelled enough energy to damage more than twenty-five hundred television sets in the vicinity that were on at the time of the explosion. In an incident in 1984, pilots and passengers on a Russian airliner reported that a glowing

ball 4 inches (10.2cm) in diameter appeared outside the plane, disappeared, then reappeared inside the plane, moved rapidly along the ceiling, split into two, merged again, then left the craft through the tail, damaging the metal fuselage. Skeptics, however, say that something else, such as a small object, must have struck the plane to cause such damage.

Since ball lightning leaves nothing behind to prove its existence, skeptics insist that the phenomenon is merely an optical illusion or a hallucination. They do not accept photographs of ball lightning as proof because the image of a bright ball of light can easily be faked. Still, the large number and consistency of ball lightning reports, coupled with the credibility of many of the witnesses involved, has led most physicists and meteorologists to believe that ball lightning is a real phenomenon. They disagree, however, on what causes it. Some scientists theorize that the fireballs are caused by electrical discharges in the atmosphere; others think that the fireballs are created from atmospheric gases that have been electrically charged by a lightning strike. Still others believe that the balls are actually clouds of burning silicon, propelled into the air when the lightning strikes the ground. There are also nonscientific theories related to the source of ball lightning, most of which suggest that the fireballs are created from energy forces deep within the earth and/or energies drawn from psychic or mystical activities.

A few people attribute ball lightning to supernatural forces, and although this idea is not widely accepted today, centuries ago it was the prevailing view. There were two theories in this regard. The first was that a fireball was the essence of a spirit whose appearance was a sign that someone's

death was imminent. Under this theory, fireballs seen near or in a graveyard were said to herald an upcoming burial. The second such theory was that the fireballs were actually fairies. To people who believed in this theory, the idea that the balls were intelligent creatures explained why they seemed careful to avoid hitting the occupants of a room.

SEE ALSO: banshee; lights, mystery

banshee

Also called a *Ban Sith*, or “woman of the fairies,” in Scots Gaelic; a *Bean Sidhe* in Irish Gaelic; and a *gwrach y Rhibyn* (“the witch of Rhibyn”) in Welsh, the banshee is a female spirit or ghost whose cry, wail, scream, or keening is said to tell of an imminent death. According to Celtic folklore, the spirit’s unearthly sounds, which can be heard only at night, are meant as a warning to the doomed person and/or his or her loved ones. Banshees have been a part of oral tradition in the British Isles for centuries, and beliefs regarding the beings were also documented in such works as *Fairy Legends and Traditions of the South of Ireland* (1825–1828) by Thomas Croker and *Letters on Demonology and Witchcraft* (1830) by Sir Walter Scott.

According to Celtic tradition, banshees also watch over the person or families to which they have attached themselves. One of the best-known cases of a family banshee is the Rossmore banshee of County Monaghan, Ireland, which has wailed shortly before the death of every Rossmore heir since 1801. The first of many Rossmores to trigger the banshee wail was also the first Baron Rossmore, General Robert Cunningham. While he was lying ill in his bed, family members heard odd keening and shrieking, followed by cries of “Ross-

more! Rossmore!” outside their estate. Within half an hour, the baron had died.

SEE ALSO: ghosts, human

barmanu

The *barmanu*, which means “big hairy one” in one dialect spoken in Pakistan, is a humanlike, fur-covered creature that supposedly lives in Pakistan’s Shishi Kuh valley. In the 1990s French researchers seeking the creature spotted footprints said to have been made by a *barmanu*; they also heard sounds so strange and smelled an odor so foul that they believed it could only have come from a *barmanu*. No other evidence of the animal has been found. Nonetheless, believers in other man-beasts like bigfoot and the yeti say that the existence of the *barmanu* is highly likely given that the region it supposedly inhabits is remote and similar in topography to some other supposed man-beast habitats.

SEE ALSO: bigfoot; man-beasts; yeti

Barrett, Sir William (1844–1925)

Professor of physics at the Royal College of Science for Dublin, Ireland, from 1873 to 1910, Sir William Barrett wrote extensively on various topics related to the paranormal, and he was the driving force behind the creation of both the American and the British Society for Psychical Research, the first organization devoted to the scientific study of paranormal phenomena. Barrett believed strongly that spirits of the deceased could communicate with the living, and he witnessed many events that he felt supported that view. He also conducted studies of people who claimed to have paranormal powers.

For example, in 1881 Barrett examined the paranormal abilities of four sisters—

the daughters of the Reverend A.M. Creery of Buxton, England—who could supposedly read minds. Barrett wrote the words for various household objects, such as “hairbrush” and “wine glass,” on pieces of paper, then showed the papers to the Creery family members other than the girl being examined. The girl being examined then tried to discern the names of the objects, and for the most part she succeeded. Barrett repeated this experiment again the following year, along with an experiment that involved having the girls guess, again individually, which card he had chosen from a deck of playing cards.

In the end, Barrett concluded that the Creery sisters did indeed have psychic powers. Much later, however, the Creery sisters admitted that during at least some of the experiments they were relying not on mental telepathy but on a series of signals they had developed so that whomever was being examined could receive information from the other girls. This confession led some people to doubt Barrett’s other examinations of paranormal abilities, but his supporters countered that the Creery case was his only mistake among the many investigations he conducted.

SEE ALSO: Society for Psychical Research; spiritualism

Beast of Bodmin Moor, the

During the 1990s sightings of a creature known as the Beast of Bodmin Moor caused a sensation in Great Britain. Described as a large cat, similar to a leopard or puma yet of no known species, the beast was reported in and around Bodmin Moor near Cornwall, England, and in Cornwall itself, and a few farmers in these areas reported that some of their livestock had been killed by this animal. In 1995 the British government sent experts to investi-

gate the situation, and although they found no large cat, they were unwilling to totally rule out such an animal being in the area. Afterward the sightings continued, and in late 1998 the footprints of a large cat were found near Bodmin Moor. Consequently, some people believe that Bodmin Moor is the home of a yet-undiscovered feline species, perhaps in existence since prehistoric times. Skeptics, however, say that the cat is either the product of imagination or a puma or other known species of cat, perhaps let loose into the wild by a private collector of exotic animals. Although the skulls of large cats have been discovered near the moor, in all cases these have proved to be from the abandoned remains of animal-skin rugs or other types of taxidermy.

SEE ALSO: beasts, mysterious; cats, mysterious

beasts, mysterious

In most cases, when someone sights a mysterious beast, upon closer examination it turns out to be an ordinary animal that was mistaken for something else. Truly mysterious sightings fall into two categories: animals unknown to the scientific world and that defy classification, and known animals seen in unlikely locations, either because they are far from their native habitat or because they are thought to be extinct.

Cryptozoologists, researchers who study mysterious beasts, call them *OOPs*, short for “out-of-place” animals. The most common *OOPs* are big cats, such as leopards and panthers, which have often been reported in England, Australia, and North America, but there have been many other *OOPs* sightings as well. For example, kangaroos have been sighted in Illinois and Wisconsin, and various species of bears in

England. Animals believed to be extinct have also been spotted in numerous places, and in a few instances, these sightings have led to the discovery that the animal is not extinct after all. For example, in 1938 the coelacanth, a 5-foot-long (1.5m) fish believed to have gone extinct during prehistoric times, was found in the waters off South Africa. As a result, cryptozoologists contend that other species, such as “living dinosaurs,” may yet be discovered. Sightings of such creatures have been reported, including a flying reptile with a 5-foot (1.5m) wingspan supposedly seen in Texas in September 1983. No physical evidence of any such living fossil has yet been found, however, and skeptics insist that such sightings are either hallucinations or hoaxes.

Skeptics say the same thing about sightings of mysterious beasts whose existence has never been documented. Of these beasts, among the most notable are the Loch Ness monster, said to live in a Scottish lake (*loch* in Scots) called Loch Ness, and bigfoot, said to inhabit the Pacific Northwest of the United States. Sightings of both of these creatures have been reported on numerous occasions, but witnesses have never gotten the kind of proof of their experience that would satisfy skeptics.

SEE ALSO: bigfoot; cats, unknown; dinosaurs, living; Loch Ness monsters

Bell, Art (1945–)

In the early 1990s radio personality Art Bell established the first syndicated radio program dedicated to discussing paranormal phenomena, particularly topics related to UFOs, time travel, ghosts, and the occult. Calling his program *Coast to Coast*

AM and broadcasting from Pahrump, Nevada, at one time Bell apparently reached 15 million listeners every night through more than three hundred radio stations.

Many of Bell's broadcasts were controversial, including one aired on September 11, 1997. During this program Bell asked people who had worked at Area 51, a U.S. Air Force facility rumored to house an alien spacecraft and alien remains, to call in. One of these callers was a distraught man claiming to be a former Area 51 employee. Shortly after this man said he was being pursued by government agents, Bell's live broadcast was cut off and did not resume for over thirty minutes. Bell claimed that a government conspiracy to hide evidence of alien contact was responsible for the disconnect, which affected several other radio stations as well, but skeptics said it was a publicity stunt. The problem was later attributed to a change in the position of a communications satellite; this explanation did not satisfy some people, however, who called the repositioning of a satellite mysterious.

Roughly a year after this event, Bell announced his retirement from his radio program, saying that his life had been threatened; however, he returned to the program two weeks later. This was the first of several temporary retirements. Bell is currently the host of the weekend edition of *Coast to Coast AM* as well as the author of several books, including *The Quickening: Today's Trends, The Source, The Edge: Man's Mysterious Past and Incredible Future*, and *The Coming Global Superstorm*.

SEE ALSO: government cover-ups and conspiracy theories; UFOs

Bell Witch, the

There are several versions of the story of the Bell Witch, a ghost that appears intent

on wreaking havoc on a household. All versions of the story share certain elements. Between 1817 and 1820, John Bell and his family were tormented by a ghost on their farm near Adams, Tennessee. The ghost was that of an old woman and appeared to family members as well as to several people outside the family and then began to speak to people. The ghost revealed its identity on several occasions. Although the name it gave varied, its most consistent claim was that it was a witch named Kate. The ghost subsequently swore that it would torment John Bell to death, and from that point on, John Bell frequently felt himself being pinched, pushed, and otherwise physically tormented.

Because of the nature of the ghost's actions, the Bell Witch is considered to be a classic case of poltergeist activity. This same force also knocked pictures off walls, flipped over chairs, threw dishes and rocks, pulled hair, and tugged blankets off of beds. Sometimes these activities were accompanied by piercing shrieks or loud moans. After newspapers reported on the ghost's antics, the Bell farm became somewhat of a tourist attraction, with people coming from as far away as New York to see the phenomenon.

These violent activities took place in front of many witnesses. The first person to see the Bell Witch was John Bell's twelve-year-old daughter, Betsy. Yet although the witch tormented her father and other family members, it left her alone. A few years later, though, when Betsy became engaged to be married, the ghost began to torment her as well. It vanished for good only after John Bell fell into a mysterious coma and died.

Some who have studied the case believe that Betsy Bell was responsible for the existence of the Bell Witch. This con-

tention is based on the theory that teenagers, possibly as a consequence of hormonal changes associated with adolescence, can create phenomena such as poltergeists with their own minds. But because Betsy herself was eventually tormented by the Bell Witch and the poltergeist activity only stopped after John Bell's death, other people believe that his mind was causing the phenomenon. Still others say that the simplest and most logical explanation is that an angry ghost really was tormenting the Bells. Skeptics reject all these notions, suggesting that the Bell Witch was either a series of hallucinations or the product of fakery.

SEE ALSO: ghosts, human; poltergeists

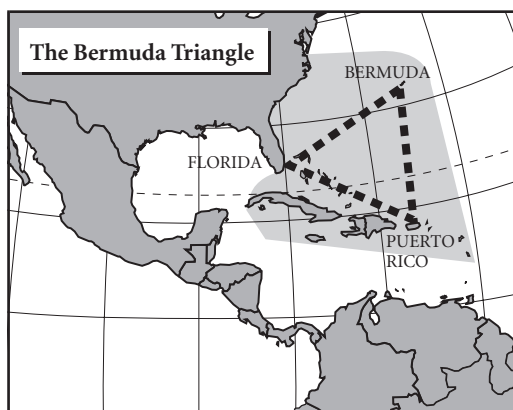
Berlitz, Charles (1914–2003)

Charles Berlitz wrote extensively about anomalous phenomena—that is, observable occurrences that scientists cannot explain. In his writing, Berlitz often came up with plausible explanations for what at first seemed inexplicable. His 1974 book, *The Bermuda Triangle*, however, is an exception. In it, Berlitz argues that the disappearance of a number of planes and ships in a triangular area in the Atlantic Ocean was completely inexplicable in scientific terms. This work was extremely popular with the general public and is therefore credited with spreading the perception that the Bermuda Triangle is the site of paranormal activity.

SEE ALSO: Bermuda Triangle, the

Bermuda Triangle, the

Roughly encompassing the Atlantic waters between Puerto Rico, Bermuda, and the southern tip of Florida, the Bermuda



Triangle is associated with the mysterious disappearance of several airplanes and ships. Newspapers first started ascribing these disappearances to strange forces—as opposed to ordinary maritime phenomena like storms—in the 1950s, when reporters noted that planes and ships sometimes disappeared from the area on a clear day, without any previous signs of distress, and left no wreckage behind.

One of the most famous Bermuda Triangle disappearances took place in December 1945. At this time, five U.S. Navy bombers out of Florida vanished over the Bermuda Triangle while conducting a training mission. Despite a search effort that lasted five days and involved 930 flyovers by search planes, no sign of the missing aircraft was ever found. Skeptics argue that since the search planes did not encounter any mysterious phenomena, the notion that something paranormal happened to the missing planes is nonsense. They believe that the bombers simply crashed into the sea after becoming lost in difficult weather and running out of gas. In support of this view, U.S. Navy records indicate that the commander of the flight had radioed that his compasses were malfunctioning and that the pilots were lost.

Furthermore, the commander's last transmission came at a time when, based on calculations of the distance traveled and the size of the planes' tanks, their fuel would have been low.

Nonetheless, many people believe some strange phenomenon was responsible for the loss of the aircraft. Specifically, the fact that the planes' compasses malfunctioned has convinced many people that some strange anomaly related to Earth's magnetic field is at work in the Bermuda Triangle. Others have suggested that extraterrestrials are responsible for the disappearances. Explanations such as that the planes and ships disappeared into a hole in space and/or time, or that the residents of a civilization called Atlantis, deep beneath the ocean, somehow captured the missing vessels also have their adherents. The latter theory, that an advanced underwater civilization is responsible for the mysteries of the Bermuda Triangle, was advanced in the 1970 book *Invisible Residents* by cryptozoologist Ivan T. Sander-son.

Several statistical analyses of the Bermuda Triangle disappearances, however, have indicated that when the amount of plane and ship traffic in this area is taken into account, along with the number of storms, the disappearances in the area are no more frequent than in other areas. Moreover, some of the information published about the Bermuda Triangle over the years has been inaccurate and makes many of the disappearances seem more mysterious than they really were. For example, in a number of cases profiled in his 1974 book, *The Bermuda Triangle*, Charles Berlitz contends that certain ships disappeared in calm seas when in fact the weather had been stormy. Berlitz also counts as a Bermuda Triangle disappear-

ance a ship that had actually disappeared elsewhere. But despite these inaccuracies, Berlitz's work popularized the notion that the triangle is the site of paranormal activity.

SEE ALSO: Atlantis; Berlitz, Charles

bigfoot

The names *bigfoot* in the United States and *Sasquatch* in Canada refer to a hairy man-beast reportedly seen in the forests of northern California, Oregon, Washington, and Idaho as well as British Columbia and Alberta, Canada. Hundreds of people claim to have seen this creature; their descriptions are not only largely consistent but are also similar to descriptions of man-beasts reported in other locations around the world, such as the yeti of the Himalayas and the *yowie* of Australia. Generally, bigfoot/Sasquatch is said to be 6 to 9 feet (1.8m to 2.7m) tall, with a shaggy-haired reddish-brown, brown, black, white, or silver body; no apparent neck; and a cone-shaped head. In most cases it is seen walking through the woods alone, but a few people claim to have seen what appeared to be a family of the creatures. Those who have heard the noise made by a bigfoot/Sasquatch say that it does not speak in the human sense but instead makes sounds similar to an ape's. Footprints that seem to have been left by a bigfoot are similar to human prints, but they can be 16 inches (40m) long and 7 inches (17.5m) wide.

Historical References Perhaps the first published account of a bigfoot/Sasquatch sighting appeared in 1870, when the *Anti-och Ledger* newspaper in northern California offered the story of a man who claimed that he had seen a creature that seemed half-man and half-gorilla. No other such stories appeared until 1901, when the *Colo-*

nist newspaper in British Columbia reported that a lumberjack had seen a man-beast with reddish brown hair all over its body. The *Colonist* reported other sightings in 1904 and 1907, and within a few years many British Columbians believed that an ape-man lived in their area. In 1920 a teacher name J.W. Burns called this creature "Sasquatch" in writing about descriptions of a similar creature in Indian folklore, and the name stuck.

The name *bigfoot* was popularized in the United States in 1958, after a group of construction workers saw strange tracks at their worksite near the northern California town of Willow Creek. One of these workers, Jerry Crew, made a plaster cast of a footprint and showed someone at the *Humboldt Times*, which then published a photograph of the cast alongside a story about the creature, which the construction workers called "Bigfoot." Within days, this story had been reprinted throughout much of America.

Tracks, however, are the only physical evidence so far seen of bigfoot. In 1924 the *Portland Oregonian* carried the report of some miners in southwest Washington who said they had shot at an ape-man near their cabin, but they subsequently found only tracks there. Albert Ostman of British Columbia claimed to have been taken captive by a bigfoot family that same year while camping, although he did not report the incident until 1957. Ostman claimed that he had escaped from these creatures, who never tried to hurt him, after six days. Bigfoot investigators John Green and Ivan T. Sanderson subsequently interviewed Ostman and pronounced his story credible, but skeptics call it nonsense, suggesting that the man's delay in reporting the event makes it likely that he made up the story.

The Patterson Film Skeptics also ridicule a home movie that supposedly shows bigfoot. The footage was supposedly shot on October 20, 1967, by Roger Patterson, who, just the year before, had self-published a book titled *Do Abominable Snowmen of America Really Exist?* According to Patterson, he decided to search for physical evidence of bigfoot's existence and to create a filmed documentary of his quest. Patterson explored various forests of the Pacific Northwest with a sixteen millimeter movie camera. Finally, at a site in northern California's Six Rivers National Forest known for bigfoot sightings, he and a friend, Bob Gimlin, said they spotted a bigfoot beside a creek and caught it on film as it disappeared into the forest. Bigfoot investigators later found tracks at the site; however, their size and the distance between them cast doubt on the film's authenticity. Specifically, some experts say that the strides made by the creature on the tape do not match the measured distance between the footprints. Also in question is whether the creature on the film is anything more than a human in some kind of costume: At least one photo expert claims that the trace of a zipper is visible on bigfoot's back. Believers in bigfoot dispute such claims, arguing that Patterson lacked the skills to create a convincing bigfoot costume. Skeptics note, however, that because of his book, Patterson had a motive to go to some trouble to create a bigfoot hoax.

In either case, in the years since the Patterson film appeared, many other sightings of a bigfoot or its tracks have been reported in remote wooded areas of the Pacific Northwest. Researchers specializing in bigfoot have also found what they believe are bigfoot hairs and feces and have recorded what they think are bigfoot vo-

calizations. Consequently, some reputable scientists, like primatologist John Napier, suspect that bigfoot might be a real ape that has yet to be discovered by science.

SEE ALSO: abominable snowman; Green, John; *yowie*

birds, giant

Some people have reported sighting strange, giant birds in various parts of the world. In some cases, these creatures are described in ways similar to ordinary birds, except for their size. In other cases, the creatures sound more like crosses between birds and apes, reptiles, or humans, respectively.

Of the sightings of birds that are seemingly normal except for their size, most involve instances in which the giant bird has tried to carry off a small child. Some people dismiss such reports as the stuff of myths, but in fact a few of these abductions have been fairly well documented. These abductions include a case in Leka, Norway, in 1932 in which a slightly built five-year-old girl was taken by a giant eagle and dropped onto a ledge, where she was subsequently found safe; a 1868 case in Mississippi where a small boy was taken and subsequently killed when the giant eagle dropped him; and a 1763 case in Germany involving a three-year-old girl who was carried nearly 1,500 feet (450m) by a giant eagle before being dropped without serious harm. Skeptics counter that all such cases involve an exaggeration of the birds' size and the distance the child has been carried—if the child was even lifted off the ground at all.

A more unusual giant bird is the thunderbird, whose name comes from Native American legends. These birds are said to look and behave much like condors, soar-

ing on air currents and having naked heads and necks. Described as being brown, black, or gray and having a wingspan of anywhere from 15 to 75 feet, (4.6 to 22.9m) thunderbirds have been sighted primarily in the Black Forest north of the Susquehanna River in Pennsylvania but also in the Ohio River Valley; in the Appalachian, Smokey, and Bald mountains; and in the Ozarks.

Some cryptozoologists believe that thunderbirds are actually teratorns, a prehistoric bird that had a wingspan of anywhere from 11 to 24 feet (3.4 to 7.3m), depending on the species. In part, this belief is based on the fact that fossilized remains of teratorns have been found in many of the areas where the thunderbirds have been reported. Although this suggests that teratorns could easily have formed the basis of myths among Native Americans living in these areas, skeptics say there would not be enough food in such places in modern times to support a teratorn. Most scientists, moreover, think that these creatures became extinct about eight thousand years ago.

More unusual stories involve a giant bird that does not look at all ordinary: Big Bird. Whimsically named after a character on the children's television show *Sesame Street*, this creature is typically described as being about 5 feet (1.5m) tall, with either a long beak or no beak, a monkeylike face, bat wings, red eyes, and black, leathery skin. Big Bird was first reported by two young girls, Tracy Lawson and Jackie Davies, near Harlingen, Texas, on January 1, 1976. The next day the girls' fathers investigated and found odd tracks in the place where their daughters said the bird had been; these tracks were 8 inches (20cm) across and indicated that the animal had three toes on each foot. On Janu-

ary 7 in Brownsville, Texas—not far from Harlingen—Alverico Guajardo saw a similar creature: a black bird, approximately 4 feet (1.2m) tall, with red eyes, a long beak, and batlike wings. He also said that it emitted a terrible shriek. A week later another man, Armando Grimaldo of Raymondville, Texas, saw a giant bird that he described in much the same way as previous witnesses, though he said it had no beak and that its skin looked like leather. Both Grimaldo and Guajardo saw Big Bird when it was on the ground. Grimaldo claimed that the bird slashed at his clothes with big claws before flying away, and Guajardo said that the bird stared at him as though it were going to attack before it took off.

Interestingly, two months prior to these sightings a few people in Rio Grande City, Texas, claimed they had seen a 4-foot-tall (1.2m) creature with the body of a bird and the head of a man, and in San Benito, Texas, a few women claimed to have been attacked by an enormous black bird with no beak. However, no physical evidence of these creatures, or of Big Bird, has ever been found, and skeptics dismiss all Big Bird stories as the result of overactive imaginations or complete fabrications.

SEE ALSO: cryptozoology; dinosaurs, living

black dogs

There are many stories of mysterious dogs, usually black but sometimes of another color, appearing out of nowhere. Sometimes the dog materializes to guide a lost traveler home—typically a woman in need of protection—and then vanishes, perhaps when the traveler tries to touch the dog. Other times the mysterious dog threatens or attacks someone before vanishing. In most cases, however, the animal does nothing more than appear, stare at any people

present, and then vanish. Nonetheless, those who see these dogs are convinced that they are evil spirits, the devil, or messengers foretelling someone's death. In a few accounts the dogs are said to have glowing red eyes that are clearly otherworldly.

Written accounts of black-dog sightings date back to A.D. 856. From this time until the end of the sixteenth century, most of the reported sightings were on church grounds. In modern times, however, the dogs are usually said to appear on deserted roads, particularly near midnight.

SEE ALSO: beasts, mysterious; demons and the devil

black helicopters

Several people have reported the appearance of unmarked black helicopters, often piloted by men dressed in black clothing—either business suits or flight suits—at sites associated with mysterious government activities as well as at locations where UFOs have been sighted and/or unexplained cattle mutilations have occurred. Consequently, black helicopters are now associated with several conspiracy theories, most notably that the U.S. government is receiving advanced technology from aliens in exchange for helping them conduct experiments on humans and animals. The U.S. government does admit to using unmarked black helicopters for certain operations, but officials say that these aircraft are involved only in exercises and missions related to ordinary military activities. In 1995, however, Congresswoman Helen Chenoweth, a Republican from Idaho, accused the government of landing unmarked black helicopters on private property in her state as part of its enforcement of the Endangered Species Act. Chenoweth

admitted that she herself had never seen the helicopters and was only responding to complaints from constituents—a fact that skeptics have said supports their theory that reports of black helicopters are based on irrational fears of an all-powerful government among a small number of people.

SEE ALSO: cattle mutilations; government cover-ups and conspiracy theories; Men in Black

Blackmore, Susan (1951–)

A parapsychologist whose belief in paranormal phenomena gradually turned into doubt, Susan Blackmore is one of Great Britain's most prominent skeptics regarding paranormal events. She received a degree in psychology and physiology from Oxford University in 1973 and a doctorate in parapsychology from the University of Surrey in 1980 after writing a thesis titled "Extrasensory Perception as a Cognitive Process." Nonetheless, she no longer does any research related to the paranormal. She is, however, a fellow of a major organization devoted to debunking claims related to the paranormal, the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), and until 1996 she was a member of its executive committee. In addition, in 1991 she received the Distinguished Skeptics Award from CSICOP, and since 1998 she has been a consulting editor for the organization's magazine, the *Skeptical Inquirer*. Blackmore admits to having once had an out-of-body experience, though she now considers it to have been an illusion. She wrote about out-of-body experiences in her books *Beyond the Body: An Investigation of Out-of-Body Experiences* (1982) and *Dying to Live* (1993). She is the author of several

other books as well, including *Test Your Psychic Powers* (1997, with Adam Hart-Davis) and *Consciousness: An Introduction*, a textbook published in 2003.

SEE ALSO: Committee for the Scientific Investigation of Claims of the Paranormal; out-of-body experiences; skeptics

Blavatsky, Helena Petrovna (1831–1891)

Mystic, occultist, and self-professed psychic Helena Petrovna Blavatsky, commonly referred to as Madame Blavatsky, was the founder of Theosophy, a system of beliefs that is considered to be the source of many later ideas related to alien contact. Blavatsky established this group in 1875, along with psychic investigator Henry Steel Olcott, to promote her views regarding reincarnation, mysticism, the spiritual nature of the universe, and other concepts drawn primarily from Buddhism and Brahmanism. However, the group's members were also dedicated to studying and explaining the nature of psychic mediums; to investigating ancient mysteries, such as what might have happened to certain lost civilizations like Atlantis; and to uncovering the reason for the building of the Egyptian pyramids.

Blavatsky promoted her views through two books, *Isis Unveiled* (1877) and *The Secret Doctrine* (1888), in which she claimed to know that the Earth is hollow and that an advanced civilization populated by beings from two lost civilizations, Atlantis and Lemuria, exists in this inner space. She portrayed these advanced beings as benevolent caretakers who want to save humans from destroying each other and their planet. It was this concept that subsequently appeared in numerous accounts from people claiming contact with

extraterrestrials. Blavatsky claimed that she received this information psychically from spirits of the Orient. She also claimed that she had spent seven years in Tibet studying the ancient wisdom of the people there.

In 1878, after various disagreements threatened to divide the Theosophical Society into two branches, Blavatsky relocated the headquarters of the group to Adyar, India, where she actively worked to spread the basic tenets of Theosophy. She also promoted herself as a mystic, occultist, and psychic, conducting demonstrations of her abilities that astounded witnesses. In the 1880s and 1890s, skeptics tried to discredit these demonstrations, attacking her in various publications, but her followers, known as Theosophists, dismissed their attempts. The Theosophical Society still exists today, though it has split into three factions: one is the original organization established by Blavatsky in India, and the other two, both in the United States, were established by members who, for various reasons, did not like the direction the original group took after Blavatsky's death in 1891.

SEE ALSO: Atlantis; hollow-Earth theory; Lemuria; Theosophical Society, the

Borley Rectory, the

Built in 1863 on the site of an old manor, the Borley Rectory is one of the most famous supposedly haunted structures. From the time it was first inhabited, initially by the Reverend Henry Bull and then by his son Harry, people felt that the rectory was haunted because an apparition of a nun, dressed in full habit, appeared there on many occasions, both at night and during the day. In one case four people witnessed the spirit at the same time, and

many people also heard unexplained footsteps, whispers, and other mysterious noises in the rectory. Subsequent residents of the house, and their visitors, also experienced these phenomena.

In 1929 Harry Price—one of the first people to investigate paranormal phenomena using scientific methods—became interested in the Borley Rectory and began a long-term study of the site. The following year the structure was the scene of violent, supposedly poltergeist, activity that included incidents of stone throwing. Visitors to the rectory would find themselves pelted with rocks for no apparent reason and with no one appearing to have thrown them. In addition, one of the residents of the house at that time, Marianne Foyster, who was the wife of the Reverend Lionel Foyster, sometimes found messages addressed to her written on the walls.

Fascinated by this violence, Price took up residence in the Borley Rectory from 1937 to 1938 so that he could investigate it more thoroughly. Along with a team of researchers, he took detailed notes, measured the distances that the thrown objects had traveled, and tried to photograph apparitions using movie and still cameras. Price witnessed various types of objects moving, heard inexplicable ringings of bells, and unearthed a woman's skeleton from beneath the floor of the basement. When he and his researchers conducted a séance to contact the spirit world, they received what they took to be a message regarding the dead woman's identity: She was a nun who had been murdered in 1667 by a man with whom she had planned to run away.

Price had previously uncovered a similar story connected to the Borley Rectory hauntings. According to this story, the ghost was the spirit of a nun who had

fallen in love with a man and run away, only to be caught and executed for breaking her vows to the church. She was supposedly buried in the walls of a building that once existed on the site of the rectory. However, there is no record that such a building ever existed, and the identity and age of a skeleton once found in the vicinity has never been determined.

Eventually, Price concluded that the apparition and the poltergeist events had two different causes. The ghost, he said, was the image of someone who had once lived in the house, an image that had been left behind and was somehow being transmitted to the people who visited or lived there. The poltergeist activity, on the other hand, was in some way caused by Marianne Foyster, whom he believed was somehow responsible for the notes on the walls. Confirming his belief was the fact that when she moved out of the house, the poltergeist aspect of the haunting ended.

Skeptics, however, have a different explanation. They point out that the poltergeist activity did not begin until after Price had become involved in the case. Indeed, a few people connected with the case at the time accused Price of faking the poltergeist activity. One person insisted that Price had kept stones in his pocket throughout his time at the rectory, and two people said they had seen Price throwing stones. Even Price's own secretary, Lucy Kaye, noted that the stone throwing never occurred unless Price was present.

No one has ever proved that Price used any kind of trickery in connection with the poltergeist activity at the Borley Rectory. But even if he did not, skeptics say, then he was at least mistaken about much of what he saw. In one instance, for example, he jumped to the conclusion that a

hazy area photographed in a room had been a ghost; yet it was later proved to have been smoke from a fireplace. Skeptics have also accused Price of bias because he clearly believed in ghosts before starting his work and approached it with the view that the most likely cause of the haunting was a spirit. In fact, he was so certain of this that he included three people on his team of investigators who claimed to be able to communicate with ghosts.

SEE ALSO: ghosts, human; haunted houses and other structures; poltergeists

Brown Mountain lights

Beginning at least as early as September 1913, when newspapers first reported the phenomenon, people in the town of Brown Mountain, North Carolina, have been seeing strange lights in the sky. These lights have been described in various ways. Some witnesses report that the lights are intensely bright; others say they are soft and misty. Some say they are white, some yellow, and some red. Some report the lights are motionless, some say they hover or float in one place. The lights are said to move in one or more directions and to dip into ravines. In any case, the lights disappear as suddenly as they appear, leaving witnesses to puzzle over what they have seen. Researchers into the phenomenon have said that no single possible source, such as airplanes, trains, fires, or the refracted lights of a distant city, can account for all of the witnesses' accounts. Consequently, some have speculated that the lights are caused by an unknown geological phenomenon, perhaps related to Earth's magnetism, while others have said the lights are caused by alien spacecraft.

SEE ALSO: Earth energy; lights, mystery; UFOs

Browne, Sylvia (1936–)

One of the best-known psychics in America, Sylvia Browne (originally Sylvia Celeste Shoemaker) has appeared on numerous television programs and has written several books about her paranormal experiences. She is also the founder of a Christian group called Novus Spiritus, which embraces the beliefs that the soul survives after death and that spirit guides watch over the living; Browne has said that God has given her the mission of promoting and proving this belief. Browne began her career with individual psychic readings in 1973. Since then, she has given group readings and made predictions of future events based on her dreams and/or conversations with what she says are her own spirit guides. Some of these predictions have proven to be correct, but others have been wrong. For example, in 2004 Browne predicted that actor Robert Blake, about to stand trial for killing his wife, would be found not guilty, and in 2005 this was indeed the case. However, she also predicted that the deposed Iraqi leader Saddam Hussein would be killed during an attempt to capture him, when in fact he was captured alive.

SEE ALSO: psychics

Bullard, Thomas E.

Folklorist Thomas E. Bullard is best known for his scholarship on the place of UFO reports in popular culture. In particular, he contends that stories of aliens visiting Earth did not become common until the modern age, when advances in scientific knowledge had lessened people's belief in such beings as fairies and ghosts. Bullard suggests that aliens simply took the place of these supernatural beings in the popu-

bunyip

lar imagination. A staff member for the Indiana University library system, Bullard is also the author of *UFO Abductions: The Measure of a Mystery*, and he often lectures on UFO-related topics. He has also argued that alien abduction stories uncovered through hypnosis are just as valid as those recalled without any such assistance. Hypnosis, he contends, cannot produce false memories with the richness and consistency that these abduction accounts feature.

SEE ALSO: alien abduction experiences

bunyip

A *bunyip* is a mysterious beast supposedly spotted in various lakes, rivers, swamps, lagoons, and other bodies of water in Australia, but particularly in Canberra's Lake George. The name probably means "spirit" in the Aborigine language. The creature is

typically described as having a horselike head that rises above the water while the body stays beneath the surface. However, some who have reported seeing it claim that the creature has a fur-covered torso shaped like a dog's, only much bigger.

The *bunyip* was first mentioned in the tales of Australia's native people, known as Aborigines, hundreds of years ago, leading many people to believe that the creatures are simply a part of Aboriginal mythology. In some of these ancient tales, though, the *bunyip* is said to attack women and children, whereas none of the more recent sightings involve such behavior. Believers in the modern *bunyip* say that even though the same name is used for both, the Aboriginal tales refer to a slightly different creature.

SEE ALSO: lake monsters



Castaneda, Carlos (1925?–1998)

Born in either Brazil in 1931 (by his own account) or Peru in 1925 (according to official documents), author Carlos Cesar Arana Castaneda wrote fourteen books, three published posthumously, that include supposedly true stories of sorcery, out-of-body experiences, magic, and alternate realities. Castaneda claimed that these works were based on his experiences with a shaman, Don Juan Matus, of the Yaqui Indian tribe of Sonora, Mexico, whom he met at an Arizona bus stop in 1960. At this time, Castaneda was a graduate student in anthropology at the University of California, Los Angeles, and had gone to the Southwest to study the use of medicinal plants in Native American rituals. Matus supposedly taught Castaneda not only about these plants and the visions they could produce but also about alternate realities and other paranormal aspects of shamanism.

Castaneda first wrote about Matus's teachings as part of his master's thesis, but in 1968 his work was published as a book called *The Teachings of Don Juan: A Yaqui Way of Knowledge*. The writings he used to earn his doctorate in anthropology in 1970 were subsequently published as two additional books, *A Separate Reality: Further Conversations with Don Juan* (1971) and *Journey to Ixtlan: The Lessons of Don Juan* (1972). These books, and Castaneda's later works, were extremely popular and increased public interest in mysticism, the paranormal, and other aspects of what

eventually became known as the New Age movement. Castaneda's critics, however, have argued that he invented Don Juan Matus and his teachings in order to gain his advanced degrees and subsequent acclaim. They note that Castaneda never offered definitive proof that Matus existed.

SEE ALSO: mysticism; New Age; shamans

cats, unknown

When a wild animal is reported as being in a location where that species should not be found, with no sign that anyone has let a specimen loose in this location, cryptozoologists typically speculate that it might be of a previously unknown species or subspecies. The most commonly reported out-of-place animals are big cats. Although reports of these misplaced felines, which cryptozoologists call ABCs (for "alien big cats"), come from all over the world, certain places seem to have more of one type of sighting than others. For example, ABCs resembling pumas have been reported in Great Britain; pumas and tigers in Australia; black panthers in the eastern United States and Canada; and black panthers, cougars, and African lions in the midwestern United States.

Most of the people who report such sightings describe animals that behave in ways that would be expected of the known cat species they resemble. For example, the so-called Beast of Bodmin Moor, as the British press dubbed a big cat that was

glimpsed repeatedly in England during the 1990s, was said to act very much like a leopard or puma.

Despite an absence of reported escapes, skeptics ascribe sightings of ABCs or their tracks to animals coming from private zoos. Such escapes do indeed sometimes happen. For example, in 2005, mysterious tracks, sighted in several locations in Simi Valley, California, proved to be those of a huge tiger whose escape from a private collector had never been reported. Before the animal was cornered and killed, people speculated that its enormous prints might belong to some previously unknown species of mountain lion because mountain lions—which are much smaller than tigers—are known to inhabit the area.

However, cryptozoologists argue that escapes cannot account for all of the hundreds, if not thousands, of ABC sightings each year. Therefore, some people suspect that groups of feral big cats—perhaps the descendants of zoo escapees—inhabit at least some of the areas where they have been sighted; others, though, think that the sightings are the product of imagination, misidentification, or exaggeration. Such arguments also revolve around big cats that are not known to exist. Examples of such creatures are the blue tigers and the black tigers of China. In 1910 Harry R. Caldwell, a hunter visiting the Futsing region of China, thought he saw a tiger whose stripes were blue rather than black, and beginning in the 1920s several other people reported seeing such an animal in other parts of China as well. Sightings of all-black tigers in China (as well as in India, Java, and Burma) began to be reported in the 1800s, with the most recent sighting in 1998. While skeptics believe that such sightings are of ordinary tigers whose coloring only seems different because of

quirks of lighting, cryptozoologists suspect that these animals belong to a tiger species that has yet to be documented.

SEE ALSO: Beast of Bodmin Moor, the

cattle mutilations

While inspecting their herds of cattle, ranchers and farmers sometimes come across an animal that has died under mysterious circumstances, its body mutilated in strange ways. In most cases, the mutilation (also called cattle ripping) involves the removal of reproductive and digestive organs, sometimes along with an ear, an eye, the lips, and/or the tongue. Those who report such mutilations often say that the cuts appear to have been made with a precision that could not be achieved with any surgical instrument made on Earth. Sometimes the animal's blood is said to have been drained as well; if so, there are usually two puncture marks on its throat. However, no footprints—human or animal—are found near the body.

Historical References Mysterious animal mutilations have been reported since ancient times, when Roman farmers spoke of demons that attacked their livestock. In more recent times, there have been sporadic outbreaks of strange attacks. For example, mysterious sheep slaughters were reported in Ireland in 1874 and in England from 1904 through 1906 and in 1910; horses and cattle were mutilated in the United States from 1966 through 1967; and strange attacks on livestock and domestic animals occurred in Mexico, Puerto Rico, and El Salvador from 1995 through 1996.

Explanations offered for the strange slaughters vary. In Latin American cultures, the killings are blamed on an uni-

identified creature called a *Chupacabra*, Spanish for “goat sucker.” In the United States, however, the dominant view has been that intelligent beings are behind animal mutilations. This idea gained prominence in the late 1960s and the 1970s. During this period, by some estimates, more than ten thousand oddly butchered carcasses were discovered across the western half of the country.

Typical Cases One of the best-known cases from this period actually involved a pony rather than a cow, but the pattern was consistent with other animal mutilations. In September 1967 a woman in Alamosa County, Colorado, found her pony dead in a field with pieces of its flesh sliced away, its internal organs removed, and its body drained of blood. There was no blood on the ground and no footprints nearby, even the pony’s. (Its tracks ended approximately 100 feet [30.5m] away.) However, on the ground nearby were fifteen circular marks, as though something had scorched the brush. Since UFOs had recently been reported in the area, many people assumed that the scorch marks had been caused by the landing of an alien spaceship. A few weeks later, eight more animals, both horses and cows, were found mutilated in the same area in much the same way, sometimes only a few hours after ranchers had checked on them.

Another rash of cattle mutilations took place in Kansas and in Pennsylvania in 1967, and from 1975 through 1976 yet another outbreak of cattle mutilations occurred in fourteen states in the Midwest and the West: Montana, Colorado, Texas, Minnesota, Missouri, Illinois, Mississippi, Iowa, Arkansas, Nebraska, New Mexico, Utah, South Dakota, and North Dakota. In the 1980s a third outbreak occurred in

Colorado, and in the early 1990s some southern states were affected.

Possible Government Involvement In some of these cases, as with the Colorado pony mutilation, some people had reported spotting UFOs in areas where mutilated cattle were later found. In other cases, however, particularly when the carcasses appeared near military bases and installations, people said they had seen mysterious black helicopters hovering nearby. These helicopters had no identifying markings, but after one such sighting in Colorado, a rancher found a bag with surgical tools that he felt resembled bags issued by government agencies. Though this was never proven, his discovery fueled suspicions that the U.S. government was somehow involved in cattle mutilations.

By the late 1980s this idea had merged with the notion that aliens were mutilating cattle, creating two new theories: that the government and the aliens were working together on experiments involving cattle, or that the aliens were being allowed to remove the animals’ organs in exchange for providing the government with certain goods, medicines, or technologies. By this time, the media had reported on several instances in which people claimed to have been abducted by aliens who then subjected them to odd medical tests. For believers in alien abductions, it was not too far-fetched to imagine aliens conducting experiments on animals as well. Popularizing this theory was a 1980 “documentary” called *Strange Harvest*, which laid the blame for cattle mutilations squarely on alien invaders.

One particular instance of cattle mutilation has been especially difficult to explain. In 1981 a high-school biology teacher, Iona Hoepfner, came across the carcass of a mutilated calf in Weld County,

Colorado. Hoeppner took several samples from the carcass, as well as of the ground around it. Shortly thereafter, most of these samples were stolen from her laboratory, and since by this time government officials were aware of the carcass, some people suspected that the U.S. government was responsible for the theft. However, the thieves had missed two samples: a piece of hide that included an area of incision and a bit of fluid collected from the ground. When Hoeppner examined the fluid, she discovered that it had chemical properties she could not identify, though she could tell that it had the ability to kill germs (and therefore to sterilize wounds and surgical instruments). Hoeppner then considered the incision on the hide and found that, unlike an incision made with a knife, scalpel, or laser, the incision did not cut through the animal's cells but instead separated the tissue in between each cell, as though pulling them apart. Hoeppner concluded that only someone with access to highly advanced technology could have accomplished this.

Other people who have examined mutilated cattle have made similar claims. For example, in a 1993 case, ufologists determined that the flesh near some of the cuts had been seared, as though with a laser, but that the carbon residue typically associated with laser use was absent. Skeptics, however, reject the idea that the cuts were made by a technologically advanced laser, saying that all such findings are either the result of sloppy work by people inadequately schooled in science and medicine or a tall tale made up for one reason or another.

Skeptics' Explanations Skeptics also argue that there would be no need for aliens and/or the U.S. government to mutilate privately owned cattle since the govern-

ment has the ability to buy all of the cattle it wants. Skeptics reject the notion that a mysterious government agency has been conducting biological and chemical tests on the animals in any case. Instead, skeptics insist that there are only two possible explanations for cattle mutilations: some of the cattle, they say, were killed by Satanists and/or cultists as part of some religious ritual; the rest died of disease or were killed by predators. Indeed, this was the finding of a 1979–1980 investigation into cattle mutilations that was launched by the state of New Mexico (with the help of federal funding and with the cooperation of nearby states) into cattle mutilations throughout the American West. Investigators concluded that, except for a few instances in which evidence pointed to Satanists and/or cultists, the majority of the mutilations could be attributed to predators, insects, and/or birds.

As to the sudden death of seemingly healthy cattle, the surgical precision of the animals' wounds, and the fact that only certain organs were removed, skeptics say that natural processes can cause all of these phenomena. A cow with a disease known as lactic acidosis, for example, often shows no symptoms before it dies, and blowflies and other insects, as well as scavengers and predators, usually target the softest parts of a carcass (the very organs missing from mutilated cattle) and any blood left in the dead animal. Skeptics also contend that the teeth of scavengers and predators can produce cuts that seem as precise as those of a surgical instrument. Believers passionately disagree with such explanations, and arguments over the cause of cattle mutilations continue, as do the mutilations themselves.

SEE ALSO: alien abduction experiences; black helicopters; *chupacabras*

Cayce, Edgar (1877–1945)

Psychic Edgar Cayce (pronounced Kay-sea) is often credited with popularizing the idea of reincarnation among Americans. Beginning in 1901 he traveled throughout the United States to give psychic readings, usually while appearing to be in a sleeplike trance. His first readings only concerned his subjects' physical health. He claimed to be able to see the inner workings of a person's body, and, based on his visions, he diagnosed medical problems and suggested treatments for them. He also argued that the wrong diet, stress, and negative thinking could all cause illness—a view that is now accepted but which in Cayce's time was considered nonsense.

Soon Cayce began giving advice on business practices as well, based on psychic readings that identified whether a person's intentions were "pure" or "not pure." More popular, however, were what he called "life readings," during which he described a person's past lives. He believed that after death the spirit was reincarnated and that a person could receive many insights regarding his or her true nature by studying these past lives. To this end, Cayce gave more than 1,900 life readings during his lifetime, according to records kept by his assistant, Gladys Davis, and his wife, Gertrude Evans Cayce. (In comparison, he gave more than 9,600 health-related readings and 747 business readings.)

Cayce also gave 630 dream readings, during which a person would tell him about a dream and Cayce would interpret it or help the client interpret it. Cayce suggested that dreams were a way to connect with the dead or with past-life experiences or to see the future. Cayce made his own predictions of the future, but many of them proved wrong. For example, Cayce

erroneously predicted that 1933 would be a good year in America (when in fact it was one of the years of the Great Depression, an economic disaster), that both California and New York would be destroyed by natural disasters within his lifetime, that China would become a Christian country by 1968, and that a death ray from the lost world of Atlantis would be discovered in 1958.

Comments on Atlantis Cayce spoke extensively about Atlantis over twenty-one years, including details about the civilization as part of 650 of his readings. Usually his comments on the subject surfaced as part of his insistence that the person he was reading had been an Atlantean in a past life. For example, he once told a fourteen-year-old boy from Alabama that his earliest life had been as an Atlantean prince,

Amiaie-Oulieb, who drowned before he was able to assume the throne. (The boy also supposedly lived as an ancient Egyptian priest, a tradesman in classical Greece, and a servant to King Louis XIV of France.)

When Cayce's comments about Atlantis are compared, they show remarkable consistency. According to Cayce, Atlantis was a continent in the Atlantic Ocean with a superior civilization that enjoyed the benefits of electricity, aircraft, and other advanced technology. The Atlanteans also possessed a substance that Cayce called firestone, which generated energy in a way that now sounds much like a nuclear reactor. Today Cayce's supporters cite this detail as proof that he had actual knowledge of Atlantis because his description of firestone was made long before the public knew that nuclear power was even possible.

Cayce's supporters also offer many examples of people who experienced Cayce's readings and felt that he had provided them with accurate information about their health, past lives, or other aspects of their physical or mental reality. Nonetheless, both during his lifetime and afterward, many people accused Cayce of being a fraud. In fact, even Dr. J.B. Rhine, one of the leading proponents of ESP during Cayce's lifetime, had doubts about Cayce's psychic abilities.

SEE ALSO: Atlantis; reincarnation; Rhine, J.B.

Center for Scientific Anomalies Research

Founded in 1976 by sociologist Marcello Truzzi and others interested in psychic phenomena, the Center for Scientific Anomalies Research (CSAR) devotes itself

to scientific inquiry related to anomalies, which are extraordinary occurrences that cannot be explained by current, accepted scientific principles. Truzzi created CSAR as an alternative to the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), which he co-founded in 1976 but left shortly thereafter when he decided that CSICOP was too apt to dismiss, ridicule, or attack claims related to the paranormal without investigating them. Truzzi soon became an outspoken critic of this approach. Consequently, CSAR's mission is to consider each paranormal claim with fairness, open-mindedness, and what it calls constructive skepticism as opposed to automatic dismissal.

SEE ALSO: Committee for the Scientific Investigation of Claims of the Paranormal; skeptics

Center for the Study of Extraterrestrial Intelligence

Founded in 1990, the Center for the Study of Extraterrestrial Intelligence (CSETI) is an international organization devoted to studying and providing information about extraterrestrial intelligence (ETI). The group's members believe that extraterrestrial spacecraft (ETS) have been visiting Earth, that extraterrestrials have been interacting with humans for many years, that the extraterrestrials visiting Earth are from more than one alien civilization, that extraterrestrials mean humans no harm, and that the U.S. government has been concealing evidence related to the retrieval of crashed ETS and their occupants. CSETI investigates claims regarding such events and is working for full disclosure of government documents on ETI and ETS.

The group also supports various projects related to ETI, most notably the

CE-5 Initiative. CE-5 is CSETI's term for a "close encounter of the fifth kind," which it defines on its Web site as a "bilateral communication rather than unilateral contact . . . based on mutual respect and universal principles of exchange and contact." The group believes that such encounters have occurred in the past, and its project is designed to encourage more contact with aliens in the future. As part of the CE-5 Initiative, CSETI studies UFO sightings with the aim of predicting where ETS might appear, hoping to enter into peaceful communications with the aliens.

SEE ALSO: close encounters

Center for UFO Studies

Commonly called the Center for UFO Studies (CUFOS), the J. Allen Hynek Center for UFO Studies both supports and conducts its own investigations into claims related to unidentified flying objects (UFOs), including those related to alien abductions. The organization maintains a computer database, library, and archive of UFO-related material. In addition, CUFOS issues a variety of UFO-related materials, such as books, a quarterly magazine called the *International UFO Reporter*, and an annual publication called the *Journal of UFO Studies*.

CUFOS was created in 1973 by J. Allen Hynek, then the chair of the astronomy department at Northwestern University, and Sherman J. Larsen, the head of an organization of UFO enthusiasts based in Chicago, Illinois. By this time, Hynek already had a great deal of experience with UFO reports. During the 1950s and 1960s, Hynek worked on the U.S. Air Force's Project Blue Book, which was an effort to find an astronomical explanation for UFOs. In other words, Hynek's job was to determine that people who claimed to have

seen alien spacecraft had actually seen an ordinary object, such as a meteor, star, or planet. Soon, however, Hynek decided that, given the credibility of many of the eyewitness reports he was studying, there really might be an extraterrestrial explanation for UFOs. After Project Blue Book was shut down in 1969, he started laying the foundation for CUFOS. He also wrote a book, *The UFO Experience: A Scientific Study* (1972), advocating a serious approach to the investigation of UFO reports and creating a classification system for UFO sightings (which Hynek called "close encounters"). Hynek served as the scientific director of CUFOS until his retirement in 1985.

SEE ALSO: alien abduction experiences; close encounters; UFOs

chakras

According to Eastern religious traditions, such as Hinduism and Tantric and Shakti yoga, chakras are centers or spinning wheels (*chakra* means "wheel" in the ancient Indian language Sanskrit) of life energy located at various points in the human body that function as portals between the mind and the body. Each chakra is typically associated with specific behavioral traits, instincts, emotions, and other physical, psychological, and spiritual aspects of human existence as well as with a specific color and element (earth, water, fire, air, ether, time, or space). Chakras are believed to play a role in human health. Specifically, each of the seven major chakras, which are located along the spinal column, is associated with a different area of the body and its well-being. For example, the chakra in the throat is associated with the health of the throat, with speech, with self-expression, with the element of ether, and with the color blue. Be-

SEE ALSO: aura; crystals; New Age

Champ

Champ is the nickname for the Lake Champlain monster, a creature that has been reported more than three hundred times in Lake Champlain, a large, deep, cold body of water that separates the states of Vermont and New York. Sightings are particularly numerous in Bulwagga Bay, located on the New York side of the lake. Experts on Champ disagree on when it was first sighted. Some say it was in 1609, when explorer Samuel de Champlain wrote in his journal about seeing a monster in the lake that appeared to have the body of a snake and the head of a horse; however, many cryptozoologists believe that Champlain was actually seeing a large fish, perhaps a sturgeon. Other sightings of what was apparently the same creature Champlain saw occurred between 1810 and 1873. But beginning in 1873, newspaper reports described a creature that clearly was more reptilian than fish: a giant silver-scaled serpent 25 to 40 feet (7.6 to 12m) long, its body 18 to 20 inches (46 to 51cm) thick, its head at least 20 inches (51cm) in diameter, moving across the water's surface at a speed of approximately 10 miles per hour (16kph). Among the first of these reports was an August 1873 story in which the crew of a steamship claimed to have tracked the creature and shot it, whereupon it sank. Despite many searches, however, no one discovered the body, and sightings of the creature continued.

During the 1970s, descriptions of the creature changed slightly. Now Champ was said to have not only a horselike head and snakelike body but two bumps or humps that thrust about three feet (.9m) above the surface of the water. In July 1977 a

lievers in chakras might use massage, acupressure, acupuncture, crystals, or other tools or techniques to influence the energy levels of the chakras under the theory that the chakras must be in balance in order for a person to have optimum mental and physical health. Many Western believers also think that the health of a chakra can be determined by the color of an aura, or band of radiant light, that emanates from it. Belief in, and the attempt to influence, chakras has become commonplace among adherents of the New Age movement, who generally shun modern medicine for being too impersonal and technological, embracing instead a variety of natural approaches to curing illnesses.

family saw this creature on the lake somewhere near Saint Alban's Bay and the Canadian border; the mother of the family, Sandra Mansi, took a photograph of it before it disappeared beneath the surface. The image and surrounding waves in the Mansi photograph suggest that this Champ, which had a humped back, was anywhere from 24 to 78 feet (7.3 to 23.8m) long, and according to Mansi, its head appeared to rise as much as 8 feet (2.4m) out of the water.

For a time the Mansi family kept this photograph, and their experience, to themselves, fearing ridicule, but in 1980 they shared it with Joseph W. Zarzynski, a schoolteacher who showed it to some experts in zoology, biology, oceanography, photo analysis, and other disciplines. As a result of their analyses, Zarzynski concluded that the photograph was genuine, a position he then argued in a 1984 book titled *Champ—Beyond the Legend*. In support of this view, many people have noted that the Mansis were credible witnesses without any motive to perpetrate a hoax. Nonetheless, skeptics believe that, for whatever reason, the Mansis somehow faked the photograph.

Comparisons between the photograph and one supposedly taken of Scotland's Loch Ness monster show many similarities. Consequently, some people believe that Champ is either the same species or one related to the Loch Ness monster. One theory is that both animals are some kind of plesiosaur, a marine reptile thought to have become extinct millions of years ago.

SEE ALSO: lake monsters; Loch Ness monsters

channeling

Channeling refers to an activity in which a person seems to be possessed by another

consciousness, spirit, force, or entity that uses the person to communicate or interact with the physical world. Popularized in the early 1970s, the word comes from the notion that, under the right conditions, some people can act as a channel, or conduit, through which an unseen entity communicates with the physical world. The method of communication employed by the channeled entity varies. It might speak in the channeler's voice or in its own voice, or it might take over the channeler's hands in order to write messages, a phenomenon known as automatic writing. Alternatively, it might possess a person not in order to send a message, but to heal, supposedly using psychic powers to eliminate illness in people who come to the channeler. In any case, the channeled entity means its host no harm. This is what distinguishes channeling from demonic possession, in which the spirit's intent is to destroy its host.

One of the best-known and most controversial channelers of modern times is J.Z. Knight, who claims to be regularly possessed by an ancient warrior, Ramtha, from the lost world of Atlantis. When channeling Ramtha, Knight talks and walks very differently from her normal voice and gait. To her believers, this transformation is so profound that they are convinced her words about Atlantis are genuine, but skeptics dismiss her as nothing more than a gifted actress.

SEE ALSO: automatic writing, art, and music; psychic healing; Ramtha

chupacabras

Chupacabras, Spanish for "goat suckers," are mysterious beasts that kill livestock, according to people living in Puerto Rico, Mexico, and other parts of Latin America as well as in Latino communities within

the United States. The first reported sighting of a *chupacabra* was in 1975, when farmers in Puerto Rico began reporting that their animals were being killed in a mysterious way. Specifically, the animals had strange puncture wounds in their necks, and prior to their deaths their owners had heard noises that made them think a large bird was in the area. Soon some people were claiming to have seen strange giant birds in the same area where the attacks occurred.

By August 1975 the killings had ended, but in 1991 another took place, also in Puerto Rico. This time a large dog was killed and mutilated. The dog's owner described the attackers as being two creatures that were about 4 feet (1.2m) tall and had gray skin and huge heads that featured large eyes but seemingly no nose and only a slit for a mouth. After this incident there were no more killings until 1995, when again several animals (primarily goats, chickens, and other small livestock) were slaughtered in Puerto Rico. This time, descriptions varied. Some witnesses described the creature as having thick hair that was able to change color to match a natural background, such as a tree trunk or patch of grass. Once again several people said that the beast had wings, but others said that it did not. One person said that it hopped instead of ran, another that it had the face of an ape. Others described its face as more wolflike. Many said that it had huge claws and fangs as well as spikes along its spine that vibrated to make a buzzing sound.

As the livestock killings continued into 1996, Puerto Ricans proposed various theories regarding what the beast might be. Some suggested it was an alien from another planet, others that it was an escaped laboratory animal, produced or al-

tered in some sort of scientific experiment. By this time, the public and the media had dubbed the animal *chupacabra* because they believed that it sucked the blood of the animals it killed—though subsequent examinations of the carcasses proved this was not the case.

Also in 1996, *chupacabra* killings were reported in the United States, particularly in Florida, Arizona, and Texas; skeptics attribute this phenomenon to the fact that the American media had begun publishing stories about the Puerto Rican incidents. Soon any mysterious livestock death, not only in the United States but also in Mexico, Costa Rica, Guatemala, and Spain, was being blamed on *chupacabras*. In most of these cases, as well as in the Puerto Rican cases, government officials blamed the deaths on wild dogs, but public hysteria over *chupacabras* remained widespread until the end of 1996. Since that time, few *chupacabra* attacks have been reported, but the belief in the creature remains strong in Latin America.

SEE ALSO: aliens, descriptions of

clairaudience

A form of extrasensory perception, clairaudience (which means “clear hearing”) is the ability to hear things that would be impossible to hear through normal means. Among the best-known people claiming to have this psychic gift are John Edward and James Van Praagh, both of whom say they hear voices from the spirit world. Other clairaudients hear mysterious sounds, such as music that seems to come from nowhere. No matter what clairaudients claim they have heard, however, skeptics dismiss their reports as the result of mental or physical illness.

SEE ALSO: Edward, John; extrasensory perception; Van Praagh, James

clairsentience

A form of extrasensory perception, clairsentience (“clear sensing”) is the receiving of tastes, smells, and sensations remotely. Clairsentience can also involve the mental receipt of thoughts, ideas, and emotions; as such, it is related to clairvoyance (“clear seeing”). However, clairvoyance means that thoughts, ideas, and emotions come as part of mental pictures.

One example of the type of idea received through clairsentience is the knowledge received by psychic Eileen Garrett during a test of her abilities in the 1980s. When Garrett touched a lock of hair from a young girl named Wendy, she immediately knew that the girl preferred to be called Hilary. Similarly, medium James Van Praagh attributes his ability to feel the emotions and personalities of the deceased to clairsentience. Other examples of clairsentience are instances in which someone feels a sensation of pain when a loved one miles away is suddenly injured or, upon entering a house, smells perfume that could only have been left by someone who lived there many years—or perhaps centuries—earlier.

SEE ALSO: clairvoyance; extrasensory perception; psychometry; Van Praagh, James

clairvoyance

A form of extrasensory perception (ESP), clairvoyance (which means “clear seeing”) is the receipt of visual images not through the sense of sight but through the mind. Sometimes the clairvoyant “sees” only a brief glimpse of a person or object, but other times he or she is able to “watch” a mental movie of an event. In either case,

these images can come from the past, present, or future. When clairvoyants receive images of future events, they are said to be experiencing “second sight” or precognition.

Clairvoyance Versus Telepathy Researchers who study clairvoyance are careful to distinguish this phenomenon from telepathy, which involves mind-to-mind communication; the images received by a clairvoyant seem to arise spontaneously; that is, without being transmitted from another human mind. For example, a man who finds a lost watch through clairvoyance does so by seeing a mental picture of exactly where it is, without receiving the image from someone else who is looking at the watch or knows where it is. The distinction between clairvoyance and telepathy, however, can be elusive, and even experienced researchers often have trouble determining whether telepathy or clairvoyance is at work during a particular incident.

Such difficulties occur not only in regard to laboratory tests but also in instances of spontaneous ESP taking place outside of a laboratory because it is not always clear whether a human sender was involved. For example, one day a pilot flying a single-engine plane suddenly decided to go 70 miles (113km) out of her way, where she spotted a crashed car beside the road below. She landed her plane and rescued the unconscious passenger, only to discover that it was her mother. Some experts would call this a case of telepathy, saying that the woman in trouble transmitted a call for help to her daughter. Others would call it a case of clairvoyance since the injured woman was unconscious and presumably unable to transmit a message. Moreover, the injured woman would

not have known how to direct her daughter to the crash site.

Disagreements over whether clairvoyance or telepathy was involved in a particular ESP incident have long plagued researchers. In fact, when ESP was first studied by the Society for Psychical Research in the late nineteenth and early twentieth centuries, researchers believed that only telepathy, not clairvoyance, existed. When someone in a laboratory test exhibited the ability to know what was on a playing card before pulling it from the deck, for example, researchers thought it was because the person conducting the test knew the order of the cards beforehand and was unintentionally transmitting this information to the test subject via telepathy.

The Rhines' Tests In the 1930s parapsychologists J.B. and Louisa E. Rhine, then at Duke University, set out to prove that clairvoyance existed. In their tests, they used special cards with symbols on them known as Zener cards. To eliminate the possibility of telepathic communication between testers and their subjects, the researchers made sure that testers did not know the order of cards not only before but also during tests. They also made sure that test subjects could not see or hear the person administering the test, so as to eliminate any possibility of a tester's facial expression or tone of voice influencing the test subject's answers. The Rhines' experiments seemed to be well designed against fraud; nonetheless, when some of their results suggested that clairvoyance was a real phenomenon, skeptics accused the test subjects of cheating.

In fact, the more psychic a test subject seemed to be, the more that subject was attacked by skeptics. Consequently, when test subject Hubert Pearce, a Duke Univer-

sity student, showed an unusually high success rate in guessing the symbols on Zener cards, he was accused of fraud despite the many precautions the Rhines took to ensure that Pearce could not cheat during his tests. To this end, Pearce was placed in one room, while in another room, in a different building a hundred yards away, a researcher named J. Gaither Pratt turned over cards in a pack and recorded their order, without trying to transmit them telepathically to Pearce. Pearce got 558 out of 1,850 guesses right, when only 370 correct guesses would have been expected according to the laws of probability. Skeptics subsequently insisted that Pearce had to have seen the cards, perhaps by going to Pratt's building and peeking in a window in the room's door, even though Pratt repeatedly pointed out that the cards would not have been visible through this window.

Tests on Animals In addition to Pearce, the Rhines found several other subjects whose guesses on similar tests were also much better than chance alone could explain. Other researchers believe that they have found gifted clairvoyants as well—not only among humans but among domestic animals as well. With animal tests, however, researchers must be very careful in establishing their procedures because animals have a much greater ability than humans to pick up on extremely subtle cues provided by testers. The effect of this ability on psychic testing is often called the Clever Hans phenomenon, named for a horse named Clever Hans who, in tapping out answers to questions, appeared to be psychic but in fact was responding to his owner's body language.

Like Clever Hans, the animals most commonly called psychic are those that have been in close contact with humans

for years and are used to interacting with them on a daily basis. Also like Clever Hans, before a supposedly psychic animal comes to the attention of researchers, its owner has usually been promoting it as a psychic, saying that the animal is displaying unusual behavior that cannot be explained by anything but ESP. In most cases, the owner is eventually proven wrong. In other cases, test results seem to indicate that the animal does indeed have ESP. However, this ESP usually appears to be telepathy—that is, human-to-animal mental communication.

Some researchers say this is because it is extremely difficult to test for animal clairvoyance as opposed to telepathy. This is because in most tests, a human is involved in directing the animal on how to complete the steps of the test; therefore, the human's mind could be influencing its results. One study, however, attempted to solve this problem, with apparently successful results. It occurred in the late 1950s, when parapsychologist Remi Cadoret of Duke University conducted a series of tests on a dog named Chris. Before coming to Cadoret's attention, Chris had demonstrated the ability to tap his owner the correct number of times when told that number. At Cadoret's behest, the dog was trained to paw the floor a certain number of times when shown a particular symbol on a Zener test card. Individual cards were then placed in black envelopes that were mixed up so that no one knew which Zener card was in which envelope. Upon being shown an envelope, Chris would be directed to paw out a number of his choosing. No one knew the order of the cards or envelopes, which eliminated the possibility that human facial expressions were influencing the dog's choices or that human-to-dog telepathy was involved.

Nonetheless, Chris guessed which card was concealed in the envelope most of the time. In fact, according to one series of tests, the odds of him giving the correct answers simply through "lucky guesses" was a billion to one.

Government Interest Because of such results, not only in animals but in humans, the U.S. government became interested in the possibility that clairvoyants could be used to "see" distant military targets and spy on enemies. In the 1970s the Pentagon launched a project called Stargate, conducted at the Stanford Research Institute (SRI) in California, that lasted until 1995. Much about this project remains secret, including its success rates, but some of its former participants claim the results were impressive. Although the government ended the project, research into remote viewing continues in private research institutions.

People involved in this research have discovered that remote viewers have great difficulty visualizing the location of lost objects and people. In contrast, a type of clairvoyant known as a psychic detective can receive images of missing persons spontaneously and/or with very little effort. They also "see" crimes in progress, whether in the past, present, or future, and some are able to use these received images to help police officers. However, in many cases the psychic's visions do not offer enough details to allow the crime to be solved, and even when the visions are clear rather than vague, it can be difficult for the psychic detective to determine where or when the images originated. Indeed, this is true of all instances of clairvoyance, casting doubt on the phenomenon's usefulness in law enforcement or military intelligence applications.

SEE ALSO: psychic detectives; remote viewing; telepathy

Clever Hans phenomenon

The phrase *Clever Hans phenomenon* refers to an experience that involved a horse named der Kluge Hans, which is German for “the Clever Hans.” At the beginning of the twentieth century, a man known as Wilhelm von Osten claimed that his horse could count and could use a number code to answer simple questions related to spelling, reading, and music by tapping its hoof. Public exhibitions of the animal’s abilities seemed to support this claim. Whether von Osten or someone else asked the horse questions, it almost always provided the right answer. Eventually a group of scientists joined together to study the phenomenon, and when they were unable to reach a conclusion, they asked psychologist Oskar Pfungst to take over their work. Pfungst then devised a series of tests that revealed the true nature of Clever Hans’s talent. These tests showed that if none of the people present knew the answer to the question posed to Clever Hans, the horse did not know the answer either. In 1907, after further study, Pfungst concluded that Clever Hans was in fact getting his answers from subtle cues given unintentionally by the questioners. For example, a questioner’s facial expression might change as the horse approached the right number of hoof taps. Such changes were extremely subtle, but Clever Hans was nonetheless adept at picking up on them. In fact, the horse was able to notice a head movement as small as one-fifth of a millimeter. There is no evidence that his owner was aware of Hans’s amazing powers of observation before making his claims about the horse’s abilities. (In fact, the owner was so distressed over the horse’s “deception” that he sold the animal shortly after he learned

the truth.) Pfungst later found that some people are also able to pick up on similar cues, a fact that is taken seriously by psychologists designing tests aimed at measuring psychic abilities. In such tests, safeguards are typically put into place to make sure that research subjects who seem to be answering questions through telepathy or other forms of extrasensory perception are not actually exhibiting the Clever Hans phenomenon.

SEE ALSO: clairvoyance; extrasensory perception; telepathy

close encounters

First coined by astronomer J. Allen Hynek in his 1972 book, *The UFO Experience: A Scientific Study*, the term *close encounters* refers to relatively close sightings (within 200 yards [183m]) of unidentified flying objects (UFOs). To people reporting a close encounter, the UFO is clearly visible as a spacecraft. Hynek classified their experiences into three types. In “close encounters of the first kind,” witnesses see the craft but do not interact with it or notice it having any impact on its environment. In “close encounters of the second kind,” witnesses see not only the craft but its effect on the environment, which might include scorched grass, broken tree branches, or disrupted electrical systems in homes or cars, and they might experience skin burns, eye inflammation, and other physical difficulties that suggest the craft’s presence has affected them as well. In “close encounters of the third kind,” witnesses see the craft and its occupants, sometimes interacting with them.

Since Hynek developed his classification system, two other categories of close encounters have been added. Ufologists now refer to alien abductions as a close encounter of the fourth kind, and they

consider a close encounter of the fifth kind to be one in which a person has extensive mental contact with aliens who send messages telepathically. However, an organization called the Center for the Study of Extraterrestrial Intelligence (CSETI) has a somewhat different definition of a close encounter of the fifth kind. On its Web site (www.cseti.com), it calls this type of encounter a “bilateral communication rather than unilateral contact . . . based on mutual respect and universal principles of exchange and contact.”

Ufologists also recognize three types of distant encounters, which are included in Hynek’s classification system as well. The most common is a night sighting in which a person sees a red, blue, orange, or white light moving in the sky. Next comes a daylight sighting of a flying metallic object, which is usually disc shaped and is often hovering. For both nocturnal lights and daylight discs, what qualifies them as UFOs is their ability to move far more quickly than an airplane can. The third distant encounter involves the sighting of an unidentified object on a radar screen; sometimes this sighting coincides with one of the other two types of distant encounters.

However, most reports of nocturnal lights and daylight discs turn out to have ordinary explanations. For example, nocturnal lights turn out to be planets or stars, and daylight discs prove to be weather balloons. When such cases of mistaken identity are cleared up, the UFOs are reclassified as IFOs—identified flying objects.

SEE ALSO: Center for the Study of Extraterrestrial Intelligence; Center for UFO Studies; UFOs

clouds, unusual

Sometimes a cloud in the sky has such an unusual shape that observers believe it

could not have formed naturally. In these cases, the cloud’s source might be attributed to extraterrestrials, ghosts, or God. Regarding the latter, some devout Christians have claimed to see a cloud formed in the image of the Virgin Mary, Jesus, or an angel, while some devout Muslims have seen cloud images related to the prophet Muhammad’s life and ascension to heaven. Meanwhile, believers in ghosts claim to have seen apparitions in the clouds; the most common are phantom ships that appear to be sailing through the skies.

Far more common, however, are associations between clouds and extraterrestrials or UFOs. Of course, clouds may be mistaken for UFOs, particularly when they seem to appear and disappear in an instant or seem to move in unusual ways. Some people, however, claim they have seen alien spacecraft in conjunction with strange clouds. These individuals speculate that the clouds are by-products of the alien craft’s propulsion system or that the aliens create the clouds in order to conceal their vessels.

SEE ALSO: apparitions; ghost ships and trains

coffins, moving

During the nineteenth century, there were a few reports of coffins in a vault mysteriously moving on their own. In each case, the coffins had been placed in the vault in one position, whereupon the vault was sealed; when it was reopened so that another coffin could be placed inside, the position of the original coffins had reportedly changed. The most notorious of these vaults was at Christ Church on the island of Barbados in the West Indies. Called the Chase Vault, its coffins were always placed in an orderly fashion, but every time that it was reopened between 1812 and 1820,

its coffins were found in a jumble. Most people suspect that this was due to a prank, saying that accounts of moving coffins are fanciful tales based on flawed memories, or that grave robbers moved the coffins. Others, however, have suggested that the earth emits energy at certain sites, and that this energy is capable of spontaneously moving objects, including coffins, located in such places.

SEE ALSO: Earth energy; hoaxes and frauds

Committee for the Scientific Investigation of Claims of the Paranormal

Founded in 1975, the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP) examines paranormal phenomena and what it calls “fringe science,” using scientific methodology and a skeptical point of view. To this end, the organization sponsors conferences and meetings on paranormal subjects, and it publishes a journal called the *Skeptical Inquirer*. Its most famous members are also two of the most widely known skeptics, Philip J. Klass and James Randi. The idea for CSICOP came from New York philosopher Paul Kurtz, who established CSICOP as part of a campaign against a belief in astrology, which he said promotes irrationalism and superstition. Within a short time, the organization’s members were criticizing parapsychology and ufology as well. Throughout its history, CSICOP has struggled to balance two views within the organization. One, promoted by Kurtz and some of the group’s most prominent members, assumes that all reports of unusual phenomena are false unless accompanied by incontrovertible proof. The other, embraced by some of the scientists associated with CSICOP, takes a more open-minded approach to the study of the paranormal,

subjecting various claims to serious, careful investigation. Believers in the paranormal, however, say that even the group’s most careful investigators are still too eager to dismiss reports of paranormal phenomena, and they criticize CSICOP for ignoring all circumstantial evidence, no matter how convincing it might be.

SEE ALSO: Klass, Philip J.; Randi, James; skeptics

Condon Committee, the

Headed by and named for physicist Edward U. Condon of the University of Colorado, the Condon Committee was a U.S. government-sponsored panel that investigated UFO sightings from 1966 to 1968. The committee was created by Congress in response to public dissatisfaction with the actions of investigators in the U.S. Air Force’s Project Blue Book, who seemed determined to persuade people that UFOs could not possibly be alien spacecraft. When Project Blue Book investigators declared that one cluster of UFO sightings, involving more than eighty witnesses, was due to clouds of phosphorescent swamp gas, the U.S. House of Representatives, at the urging of then-congressman Gerald R. Ford, called on the air force to turn its investigation over to serious scholars.

The air force’s selection of Condon as the head of this new panel was taken by some people to mean that it was still not willing to study UFOs objectively. Condon had made no secret of his belief that UFO sightings were nonsense; moreover, his team members were nonbelievers as well. According to several individuals who served on the committee, its members never intended to examine any evidence that might suggest aliens were visiting Earth. Indeed, in 1968 the committee declared that UFO reports deserved no fur-

ther study because there was no convincing evidence that UFOs were spacecraft. This statement made it possible for the air force to officially end Project Blue Book, and the government refused to fund any further investigations into UFOs.

Subsequently, many ufologists pointed out that the Condon Committee's conclusions did not appear justified by the evidence found in its full report, which included information on numerous UFO sightings. Though the Condon Committee found ways to dismiss most of these sightings, its members had been unable to come up with conventional explanations for more than 30 percent of the sightings, most of which involved credible witnesses.

Consequently, the Condon Committee's efforts did little to quell public suspicion that the government was covering up the existence of alien spacecraft.

SEE ALSO: Hynek, J. Allen; Project Blue Book

Cottingley fairy photographs

When they were first made public in the 1920s, the Cottingley fairy photographs were believed to be genuine and to have been taken by two schoolgirls, sixteen-year-old Elsie Wright and her ten-year-old cousin Frances Griffiths, who said they had seen fairies while playing in a glen in Cottingley, England. Over time, however, people began to suspect that the photographs were fake, and in the early 1980s

an in-depth, sophisticated examination of the photographs confirmed that this was indeed the case. After the results of this examination were published in a ten-part series in the *British Journal of Photography* in 1982, the two women, by then ages eighty-one and seventy-five, respectively, admitted that the fairies in their pictures were actually made of paper.

The two confessed that in 1917, they had cut out some illustrations of fairies, painted them, posed them, and then used a borrowed camera to create the photographs. Their pictures were so convincing that Griffith's father, a member of the Theosophical Society, showed them to Edward Gardner, an influential Theosophist, who in turn showed them to the famous British mystery writer Sir Arthur Conan Doyle, who also financed psychical research. Doyle then wrote an article about the girls' encounter with the fairies for the December 1920 issue of *Strand* magazine, which also published the photographs. Doyle also wrote a book titled *The Coming of the Fairies* (published in 1922 and coauthored by Gardner) in which he suggested that the girls' photographs proved that fairies were real. He also argued against a theory, proposed by some of his peers, that the fairy photographs had been created psychically—that is, that the girls' thoughts had imprinted the images on the camera's film.

Despite their eventual admission of faking the photos, Elsie Wright and Frances Griffiths continued to insist that they had indeed seen real fairies in the glen where they had played as girls. In fact, they said that they had made the photographs specifically to depict exactly what they had seen because they had been unable to actually photograph their fairy friends.

SEE ALSO: Doyle, Sir Arthur Conan; fairies; Theosophical Society, the

Cox, Esther **(1859–1912)**

At the age of nineteen, Esther Cox was the focus of Canada's most famous poltergeist case, involving what became known as the Amherst Poltergeist. In 1878 she was living with her sister and brother-in-law, Olive and Daniel Teed, in Amherst, Nova Scotia, when she was raped by their neighbor, a shoemaker named Bob MacNeal. Immediately afterward, strange things began happening in the Teeds' house. Everyone living there, including Olive and Daniel, Daniel's brother, and the Teeds' two young children, heard unexplained knocking and banging and unidentifiable muffled voices during the night, and on two occasions Cox's skin became hot, red, and unnaturally swollen. While a doctor was visiting Cox to study her condition, he heard scraping and saw letters form in the plaster wall, spelling out "ESTHER COX YOU ARE MINE TO KILL." He decided to stay in the house to investigate what had caused this strange phenomenon and made detailed observations of other evidence of poltergeist activity. This included silverware, pins, and needles spontaneously flying through the air and burning matches inexplicably dropping from the ceiling. In addition, Cox was attacked by pins and needles that appeared in midair and flung themselves at her. When she fled the house for a nearby church, the banging sounds followed her, and when she fled to a barn, the falling matches ignited its hay. After this, Cox was imprisoned for a month as an arsonist, despite her and others' insistence that spirits were to blame for the fires. In prison her torments lessened, and sometime after she was released from

prison and married they ended altogether. As to what might have caused this temporary poltergeist activity, experts on such phenomena have suggested that the trauma of Cox's rape might have either attracted a violent spirit or enabled Cox's mind to produce the poltergeist effects. Skeptics, however, dismiss the stories about Esther Cox as nothing more than "tall tales."

SEE ALSO: poltergeists

Crandon, Mina (1888–1941)

Also known as "Margery the Medium," Mina Crandon was one of the most famous physical mediums of the early twentieth century. She also caused controversy among the most prominent psychical investigators of her day because some passionately believed that Crandon's powers were real while others just as passionately believed she was a fraud.

Crandon began giving séances in 1923 in Boston, Massachusetts, at the urging of her second husband, LeRoi Goddard Crandon, a wealthy surgeon and instructor at Harvard Medical School, who suspected she had a talent for communicating with spirits. He hypnotized her in an attempt to see whether she could, while in this altered state, contact a spirit guide. She apparently did this easily, by connecting with the spirit of her older brother, Walter, who had died in an accident in 1911.

Crandon's Séances It seemed as though Walter was present during many of Crandon's séances, and he would often speak to the invited guests, sometimes through Crandon; other times his voice apparently came from various places in the room. Meanwhile, Crandon's guests, who assembled in groups of four or five, sat around a table with Crandon, who of-

ten appeared to be in a trance. While in this state, Crandon sometimes wrote in foreign languages, and there was no evidence that she could speak or write these languages while in a normal, conscious state. In addition, during many of her séances, the room was filled with strange knocks and other sounds or short bursts of light, or the table in the room moved or rose a few inches into the air.

Not everyone was convinced by such evidence. For example, sometimes an object or small animal would appear out of nowhere, and skeptics accused Crandon of sneaking them into the séance room concealed under her clothes. However, the medium typically wore such revealing clothing that any such trickery would have been unlikely.

As her notoriety spread through Boston society, Crandon drew the attention of Harvard's Department of Psychology, which formed a committee to investigate her skills. After five months of study, they concluded that most, if not all, of the séance phenomena had been faked, though their evidence for this charge was far from conclusive by modern standards. Around the same time, Crandon visited London, England, where her talents came to the attention of Sir Arthur Conan Doyle. A novelist best known for creating the character of Sherlock Holmes, Doyle believed in spiritualism and financially supported investigations into the paranormal. He immediately became one of Crandon's biggest fans.

Houdini Investigates Doyle's view apparently influenced his friend J. Malcolm Bird, an associate editor at *Scientific American* magazine, who wrote several articles extolling Crandon's skills. At the time, Bird was also one of the judges of an ongoing *Scientific American*-sponsored contest that

would award twenty-five hundred dollars to any medium who could produce a “visible psychic manifestation.” When Crandon applied for the prize in 1923, Bird so wanted Crandon to win that he neglected to tell the biggest skeptic on the judging panel, stage magician and escape artist Harry Houdini, the time and place of the panel’s investigation of the medium. Houdini, therefore, learned about the investigation only after it had begun—when he read in one of Bird’s articles that Crandon’s talents, as displayed during the judging, had baffled even the great Harry Houdini.

Outraged over Bird’s apparent lies and trickery and over the news that the com-

mittee planned to declare Crandon’s talents to be genuine and award her the prize, Houdini publicly condemned the committee’s efforts and took over the investigation himself. On July 23, 1924, he attended a séance at Crandon’s Boston home, during which a shouting match developed between Houdini and Crandon’s husband. Their argument revolved around an electric bell that was in the room so that spirits could ring it. When the bell did indeed ring, Houdini accused Crandon of using her foot to ring the bell and insisted that she be placed within a box so she could not touch anything in the room. But before the test could resume,

Crandon's husband found a long ruler in the box and accused Houdini of planting it there in order to make it look as though Crandon was going to use the ruler to reach the bell switch. (Years later, in 1959, author William Lindsay Gresham reported that Houdini's assistant, Jim Collins, admitted that his employer had indeed planted the ruler.) Crandon's husband ordered Houdini from the house, but the famous escape artist had the satisfaction of seeing *Scientific American* refuse to declare that Crandon was a true psychic.

Ectoplasm Nonetheless, the public continued to believe in her, and Crandon continued to conduct séances. Soon these events featured a new element: a slimy, custardlike substance, which she said was ectoplasm (matter from the spirit world), that frequently oozed from her body, particularly her mouth, nose, and ears. Sometimes the ectoplasm then shaped itself into a pair of hands. Several witnesses thought that the ectoplasm looked like lung tissue, and skeptics noted that Crandon's physician husband would have had access to such tissue, again suggesting that Crandon had sneaked foreign material into the séance room.

After the addition of ectoplasm to Crandon's séances, several noted investigators of psychic phenomena, including J.B. Rhine, studied her supposed gifts. Most concluded that she was probably a fraud, though they could not prove it. Meanwhile, Doyle continued to praise her, and to sometimes attack her critics in print. But finally, in 1928, an event occurred that convinced most people that Crandon had indeed faked her psychic abilities. During one séance, the spirit of her brother, Walter, supposedly left his thumbprint in some wax, but upon later analysis the print proved to be that of Crandon's dentist,

Frederick Caldwell. That morning, Caldwell had provided Crandon with the wax impression after she asked him to demonstrate how wax might be used to preserve a fingerprint. Once this was revealed, Crandon's reputation was seriously damaged. Though she continued to give séances, they were infrequent, and she became despondent and turned to drink. Her alcoholism eventually became so severe that it led to her death at age fifty-three.

SEE ALSO: Doyle, Sir Arthur Conan; Houdini, Harry; séances

Crookes, Sir William (1832–1919)

British chemist and physicist Sir William Crookes is best known for his scientific studies, conducted in his private laboratory, related to electrical discharges, cathode rays, radiant matter, and the element thallium. In regard to the paranormal, however, Crookes is noted for examining and reporting on the abilities of Scottish American medium Daniel Dunglas Home, one of the most famous spiritualists of the nineteenth century. Writing in the *Quarterly Journal of Science* in 1871, Crookes—who later became president of the British Association for the Advancement of Science—told of seeing Home levitate himself, then said that although reason and the forces of gravity would suggest that levitation was impossible, Crookes could not doubt what he witnessed. Two years later Crookes wrote of seeing Home, during a trance, take a hot coal from a fire-place and hold it in his hand for several seconds; Crookes noted that afterward he could detect no burns or other injuries on the man's palm or fingers. Consequently, Crookes maintained that Home's powers

appeared to be genuine. Because Crookes was such an eminent scientist, his statements carried great weight with the British public, thereby fueling people's belief in spiritualism.

SEE ALSO: Home, Daniel Dunglas; mediums, physical and mental; spiritualism

crop circles

The term *crop circle* refers to any design, not necessarily a circle, that has mysteriously appeared in a field, formed by the flattening or twisting of the plants' stalks. In many cases the plants' stems are bent without being broken, and they appear to have been heated from the inside. Plants droop toward the earth, yet the seed heads of the plant remain undamaged. The affected plants are woven into layers, twist intricately around one another, or remain

upright to form an outward swirling pattern. People who have seen crop circles find these patterns particularly amazing when viewed from the air.

Early Reports The earliest reports of mysteriously appearing crop circles date to the late seventeenth century. These were either simple circles or variations on the symbol of a cross first used by the ancient Celts and therefore known as the Celtic cross. During the mid-1980s, however, straight lines and more complex images started showing up, and today crop circles can be so intricate that their construction would require the continuous use of very precise measurements.

For example, a 1997 Wiltshire crop circle in a wheat field resembled a snowflake within a snowflake and had 192 small circles as part of its overall design, which

measured 234 feet (71.3m) across. A 1999 crop circle formation in the same area was a spiral 300 feet (91.4m) wide.

Another intricate modern crop circle, which appeared in 1999, was approximately 640 feet (195m) long and depicted what seemed to be the stages of a solar eclipse; a series of circles showed the Moon gradually covering the Sun. Interestingly, it appeared at a time when the news media were carrying reports about an upcoming solar eclipse. That same year, a crop circle in England pictured a serpent whose image was identical to one used by the ancient Aztecs of Mexico to symbolize the end of the year in the Aztec calendar, and a celebration related to that event was taking place in Central America the night the crop circle appeared.

The incidence of crop circles appears to be on the rise. Up until 1970, only about two hundred crop circles had been reported. Between 1970 and today, however, there have been more than nine thousand additional crop-circle reports, many near the sites of ancient temples and monuments. More than 90 percent have appeared in England, many in the Wiltshire area, and the remainder have primarily been found in America, Canada, western and eastern Europe, Japan, and Australia. At least four thousand of these crop circles have no apparent explanation, and they display the unusual characteristics, such as internal heating, that have baffled researchers. The remaining five thousand or so crop circles, however, appear to be hoaxes perpetrated by pranksters.

Mysterious Origins Researchers who have studied crop circles say it is fairly easy to tell a human-made crop circle from one of more mysterious origin. They have noted that in hoax crop circles, the plants are bruised, trampled, or crushed, whereas in

genuine crop circles the plants appear to have been gently laid and swirled, undamaged, in well-defined layers. In addition, genuine crop circles often appear in areas where the earth's electromagnetic field is uneven: compasses used near these crop circles are unable to locate north; cellular phones will not work; and the instruments of airplanes flying over the circles typically fail.

Because of the electromagnetic aspects of the phenomenon, some researchers suspect that the earth's magnetism is responsible for the circles. Others have suggested that the circles are the result of some unknown natural phenomenon related to the earth's orbit around the Sun because most appear between 11:30 P.M. and 4 A.M. on the shortest nights of the year. Still others—including Professor Stephen Hawking, one of the world's most renowned physicists—have theorized that the crop circles are made by natural vortices, or wind currents, in the earth's atmosphere. Some blame a combination of changes in wind patterns and the electrical effects sometimes produced by those changes. They believe that winds sweep through the crops in a way that causes opposing electrical charges to build. This, they say, could produce not only the unusual plant formations but also flashes of light. Proponents of this theory say this would explain why some witnesses report seeing strange lights in an area just before a crop circle appears.

Many people, interpret these lights as being from alien spacecraft, under the belief that extraterrestrials must be creating the crop circles. Such people argue that the speed with which the circles are produced—some seem to appear within seconds, during a brief time when the Moon

went behind a cloud—means that no human could be responsible for them. Moreover, whenever people camp out in fields where crop circles are known to occur, hoping to be the first person to observe one in the process of forming, nothing happens. The same is true for stakeouts using sophisticated surveillance equipment, suggesting to some that an intelligent being, rather than a natural phenomenon, is responsible for the circles.

Some crop circle researchers, however, have suggested that the intelligent beings are not extraterrestrials but humans whose minds are somehow producing the phenomenon, particularly since the images portrayed in crop circles represent symbols that are part of the body of human knowledge. Under this theory, people's thoughts are somehow being transmitted to the crops to make these images appear. Under an alternate theory, Earth itself has a life force and is creating the pictures in an attempt to communicate with humans.

Skeptics' Explanations Skeptics, however, believe that human beings are creating the circles not with their minds but with ordinary tools, as pranks. This would explain, skeptics say, why the circles only appear when no one is watching. Skeptics also say that the notion that some crop circles have unexplainable characteristics, such as unusual layers or evidence of odd heat exposure, is a myth. In support of their belief, many skeptics point to an incident that occurred in September 1981. At that time, two elderly men, Douglas Bower and David Chorley, claimed that they had been faking crop circles in England for years. They insisted that they had created the designs using wooden boards and twine to depress the crops without leaving any footprints behind. In reporting on this technique, the international media promoted

the idea that the mystery of crop circles had finally been solved.

However, when Bower and Chorley were asked, during various interviews, how they had accomplished specific effects in specific crop circles known to have unusual properties, they would typically answer that they did not fake that particular circle. They claimed to have never traveled outside of England for their pranks, and they did not take credit for any crop circles that appeared prior to 1978. Consequently some believers in the extraterrestrial origin of crop circles suggested that the British government was behind this hoax story, hoping to use it to end concerns about all crop circles.

Believers have further suggested that government agencies and skeptics actually fake crop circles themselves in order to discredit those who attribute the phenomenon to extraterrestrials. Indeed, during a 1992 British circle-making contest organized by *Cerealogist*, an independent journal that focuses on crop circle studies, an American named Jim Schnabel proved that he could create a crop circle while working alone and with only the simplest tools. Schnabel wrote a book, *Round in Circles*, that convinced many people that all crop circles were human-made.

No human being, however, has yet taken credit for any of the crop circles made between the late 1990s to the present, despite the fact that during the early 1990s many people were eager to make such claims. This has caused a resurgence in the belief that the phenomenon is not of human origin. Skeptics counter with the suggestion that a secret club of circle makers is creating the circles for fun, but without hard evidence of this, the origin of crop circles remains a mystery.

SEE ALSO: Earth energy; ufology

Crowley, Aleister (1875–1947)

British magician Aleister Crowley was an occultist—a person who believes in and studies the influences of supernatural powers—who wrote extensively on the occult. Many of his beliefs and theories relating to the practice of magic remain influential among modern occultists, witches, and sorcerers. For example, Crowley expanded on existing ideas to develop the belief that a magician's personal will and imagination can be heightened and focused through certain rituals, then used to access and direct natural forces in order to create magic. His many writings on this subject led others to increasingly emphasize the importance of the magician's will and personal spirituality as opposed to external forces in the casting of spells.

Crowley's books include *Magick in Theory and Practice* (1929), *The Confessions* (1930), *The Equinox of the Gods* (1937), and *The Book of Thoth* (1944). He published *The Book of Thoth* with a deck of tarot cards, whose use he explained in his book. Today this deck, which Crowley designed in collaboration with Lady Frieda Harris, remains the most widely used among occultists.

Crowley also practiced Satanic rituals in an attempt to summon demons. According to one story, he spent over six months engaged in such pursuits, and during this time period many of the people in his life died, disappeared, or otherwise suffered serious misfortune. In addition, he claimed to have received a lengthy message from the spirit world, which he said had been dictated to him by a spirit named Aiwass. The resulting three-chapter manuscript, which Crowley published as *Liber Legis*, or *The Book of Law*, prophesied that a new era would soon ensue, a time when

orthodox religions and traditional codes of morality would fall out of favor.

Between 1909 and 1920, Crowley was involved with a number of occult societies, and in 1920 he established his own center dedicated to the study and practice of magic. This center, the Abbey of Thelema, is located in Sicily and became the target of heavy criticism after Crowley revealed that he and his followers engaged in Satanic rituals, drug use, and other activities that the Italian public considered abhorrent. As a result, he was forced out of Italy in 1923, whereupon he became the international head of an occult order known as the Ordo Templi Orientis and settled in France.

In 1929, after the French government expelled him from France for his occult activities, Crowley abandoned the Ordo Templi Orientis. Shortly thereafter, he became embroiled in a lawsuit against an artist, Nina Hamnett, whom he claimed had libeled him in her memoir, *Laughing Torso* (1932), by calling him a practitioner of black magic. Not only did Crowley lose the lawsuit in 1934, but when the details of his life became public during the trial, he faced renewed condemnation in the media. Moreover, his legal expenses bankrupted him. Although he continued to lecture, write, and publish books, he never again regained his financial footing. In 1947 Crowley died in poverty in a British boardinghouse.

SEE ALSO: occultism; tarot cards

cryptid

Cryptozoologists use the word *cryptid* to refer to creatures, such as the Loch Ness monster and the abominable snowman, whose existence is in dispute. The word derives from the Greek word *kryptos*, which means “hidden.”

SEE ALSO: abominable snowman; cryptozoology; Loch Ness monsters

cryptozoology

The word *cryptozoology*, or “the study of hidden animals,” was first coined by French scientist Bernard Heuvelmans to describe investigations related to animals that have not been scientifically proven to exist, such as the abominable snowman and the Loch Ness monsters. Today, however, cryptozoology also includes the study of well-known animals that appear in unexpected places. The most common out-of-place animals (which cryptozoologists whimsically refer to as OOPs) are large felines, such as panthers and lions, that are spotted in locales far from their known ranges.

When cryptozoologists hear about a sighting of an unknown or out-of-place animal, they travel to the scene, interview witnesses, and look for evidence that the animal has been there. They also study historical material—including not only newspaper articles and similar writings but also myths, legends, and ancient artwork—to learn about past sightings of such animals. Cryptozoologists are often trained in archaeology, history, and mythology as well as in zoology and physical anthropology, and they must be familiar with advanced library and art research techniques.

Skeptics often dismiss the work of cryptozoologists, suggesting that as scholars these individuals are wasting their time because there are no new species of large animals left to be found. Cryptozoologists counter with examples of recent discoveries of new species. For example, in 1976 a previously unknown shark, nicknamed the megamouth because of its huge mouth, was discovered in the waters off Hawaii, and several previously unknown primates were discovered in Africa during the twen-

tieth century.

Cryptozoologists note that the existence of some animals can take decades to prove. For instance, until the late nineteenth century scientists believed that a creature called the kraken, now known as the giant squid, lived only in Norwegian legend. In the 1870s, however, some of these creatures washed up on beaches in Newfoundland and Labrador, and scientists were forced to acknowledge that the kraken was real. Living examples of the creature, though, remained elusive for decades. Indeed, the first photographs of a living kraken in its natural habitat were not taken until September 2005.

But despite such discoveries, cryptozoology is sometimes derided by scientists in other disciplines, who believe that cryptozoologists’ eagerness to discover new animal species often leads to careless research. Indeed, occasionally a reported sighting of a previously unknown species does turn out to be a hoax, and pranksters or people seeking notoriety sometimes fake photographs or footprints of mysterious creatures, such as the Loch Ness monsters and bigfoot. But cryptozoologists say that because hoaxes threaten their scientific credibility, they are particularly careful to watch for signs of fraud and will not endorse a sighting report as genuine until it has been thoroughly investigated.

SEE ALSO: abominable snowman; bigfoot; globsters; kraken; Loch Ness monsters

crystal ball

A crystal ball is used as part of attempts to view images, usually from the future. This act of gazing into a crystal ball or other shiny object, such as a mirror, in order to see things that are not present is called scrying. The user, or scryer, stares into the

crystal ball, focusing the mind on the object as a way to eliminate all thoughts. Once this focus is total, images supposedly appear within the ball.

Scryers typically say that these images are the result of their own psychic powers, though some say they are sent by deities. Skeptics dismiss both claims, believing that anyone who seriously claims to see an image in a crystal ball is hallucinating. In most cases, however, skeptics think that the scryer is only pretending to see images in order to dupe people into paying money to hear what these images are and how they might relate to future events. Believers in divination—the ability to predict the future—consider crystal balls, which have been used for centuries, to be a valid tool for activating psychic powers, though other divination tools, such as tarot cards, are currently far more popular than crystal balls.

SEE ALSO: crystals; scrying

crystals

At the height of the New Age movement, crystals became popular as tools of physical or emotional healing and as devices to influence various aspects of human existence. Many people believe that certain crystals can act as talismans, or lucky charms, to bring love, for example, or good health, or prosperity. According to New Age teachings, crystals can both direct and contain energy. Although primarily worn as jewelry, crystals are also made into wands that can be waved over certain areas of the body for healing, particularly during a type of therapy in which the crystals are believed to influence a person's aura, or energy field.

Prior to the New Age movement, however, the most common use of crystals was

as tools of divination, or predicting the future. For example, someone wanting to know the future would stare into a crystal ball and supposedly see images of events yet to come. Crystal balls are still used today, though they are not nearly as popular as crystal pendulums, which are made by hanging a crystal from a string, chain, or cord. These devices are believed to move spontaneously while being suspended, and their movements are said to indicate certain truths, either relating to the present or future. For example, a crystal pendulum held over a pregnant woman's belly is said to predict, by the direction of its swing, whether the baby will be a boy or a girl.

SEE ALSO: crystal balls; divination; New Age

curses

Curses are invocations of evil spirits or evil forces for the purpose of causing harm to a person or an object. From the earliest times to the eighteenth century, cursing was a common practice; the typical words used for a curse have varied widely throughout history, but the most common are simple epithets like "The devil take you!" or "A pox on you!" Such curses might not be delivered with evil intent, but if something bad then happened to the cursed person, the one who uttered the curse was sometimes held responsible. For example, during the witch hunts of fourteenth- through seventeenth-century Europe and America, a person whose curses seemed connected to another's misfortune was often arrested, tried, convicted, and executed for practicing witchcraft, even in the absence of any other evidence.

Fatal Curses Most people think that these simple curses, exclaimed in the heat of the

moment, do not actually cause harm. However, believers in the supernatural say that curses associated with certain magic rituals can kill because they have a great amount of magical power. Skeptics, however, say that such curses can kill only if the target of the curse believes it can. This, skeptics say, explains why, for example, Australian Aborigines often collapse, sicken, and die after being cursed. Skeptics also cite the case of speedboat racer Donald Campbell, known for his belief in omens, who saw a portent of death and shortly thereafter was killed in an accident during a race.

Certain objects, places, and events are also said to be cursed because they bring bad luck to anyone who comes in contact with them. For example, some people believe that the 1982 movie *Poltergeist* was cursed since several people associated with its production died in unusual ways after the movie was made. These people include two of the leading actresses: a teenager who was murdered and a little girl who died of a rare intestinal blockage. After these deaths occurred, some believers in the curse speculated that its cause was somehow related to the fact that some of the skeletons used as props in the movie, which was about angry spirits, might have been real.

Ancient Egyptian Curses Perhaps the most famous curses, however, involve ancient Egyptian tombs. The ancient Egyptians entombed their dead with their earthly possessions, believing that these objects would accompany the dead to the afterlife. When the deceased was a king or other notable person, these objects could be quite valuable. To protect them from tomb robbers, Egyptian priests would put curses on items placed in the tomb or on sealed doorways. For example, one curse said, “As for him

who shall destroy this inscription: he shall not reach his home. He shall not embrace his children. He shall not see success.” Another warned, “As for any man who shall destroy these, it is the god Thoth who shall destroy him.”

According to some people, the most deadly of these ancient Egyptian curses was the curse of King Tut. King Tutankhamen was an Egyptian pharaoh, or king, who died in approximately 1450 B.C. To foil tomb robbers, King Tutankhamen’s body and his vast treasure were placed in a hidden underground tomb, and his priests performed a magical ritual to place a curse on anyone who might disturb it. On a curse tablet that they left in the tomb, they carved the words “Death shall slay with his wings whoever disturbs the peace of the pharaoh.” On the back of a tomb statue they carved another warning related to the curse: “It is I who drive back the robbers of the tomb with the flame of the desert. I am the protector of Tutankhamen’s grave.”

The tomb remained undetected until 1922, when an archaeological team found its hidden doorway, broke inside, and removed many of the treasures. Just two months after this violation, the man who had financed the archaeological expedition, Lord Carnarvon, died of a mysterious fever, and within seven years eleven other people associated with the expedition had also died, usually under mysterious circumstances. By 1935 the press was reporting that between twenty-one and thirty-five sudden, unnatural deaths could be connected to the curse of King Tut. In 1966 the media added one more such death to its tally, when Mohammed Ibrahim, Egypt’s director of antiquities, was hit by a car shortly after giving permission

for some of King Tut's treasures to leave Egypt for a museum exhibition.

Many of the people said to be victims of the curse had been in direct contact with the tomb and/or its artifacts, but others had only been in contact with members of the expedition. Most succumbed to an unidentified illness that produced a high fever and/or a coma or paralysis. Consequently, some scientists believe that the tomb and its artifacts might have been infected with some sort of communicable disease, or that a deadly fungus, mold spores, or other plant toxin might have been present in the tomb. Others speculate that the ancient Egyptians might have painted the walls of the tomb and some of the artifacts with a poisonous substance, perhaps derived from reptile venom, much as they booby-trapped certain pyramids with wires that, when disturbed, would drop rocks on would-be robbers.

Indeed, other cursed Egyptian tombs have been associated with mysterious illnesses. For example, in 1942 American archaeologist George A. Reisner was exploring a pyramid when he was struck with paralysis, collapsed, and fell into a coma;

he died without regaining consciousness. Similarly, in 1971 British Egyptologist Walter Emery was struck with partial paralysis while excavating a tomb and died the next day. Two other notable Egyptologists also died after a strange paralysis, Jacques-Joseph Campollion in 1827 and Karl Richard Lepsius in 1884.

Skeptics say it is coincidence that several Egyptologists have died of similar illnesses and point out that far more people have remained alive long after disturbing a cursed tomb or touching its artifacts. In fact, the person who discovered and was the first to enter King Tutankhamen's tomb, archaeologist Howard Carter, lived seventeen years after his discovery, dying in 1939 at the age of sixty-four, and Lord Carnarvon's daughter Evelyn, who also had entered the tomb, died in 1980 at the age of seventy-nine. Alan Gardiner, who translated hieroglyphics in the tomb, lived to the age of eighty-four, and archaeologist Percy Newbury, a friend of Carter's who often visited the tomb during its excavation, lived to the age of eighty.

SEE ALSO: evil eye; poltergeists; witchcraft



Däniken, Erich von (1935–)

Erich von Däniken is best known for his association with the ancient astronaut theory—the suggestion that human civilization developed with the help of visitors from another planet. Early humans, von Däniken says, mistook these ancient astronauts for gods. Von Däniken had no particular training or background that helped him formulate his theory. He was working in a hotel in Switzerland when, in 1968, he wrote a book called *Chariots of the Gods? Unsolved Mysteries of the Past* to promote this view. *Chariots of the Gods?* was published in several countries, and a movie version of the book was shown in German theaters in the early 1970s and on American television (in a shorter form) in 1973. Also in 1973 von Däniken formed the Ancient Astronaut Society, a group dedicated to studying evidence that alien astronauts really did visit Earth, and this group still exists today. He is also a member of the Archaeology, Astronautics, and SETI Research Association. Von Däniken has written several books on subjects related to extraterrestrials, including *Gods from Outer Space* (1970), *In Search of Ancient Gods* (1973), *Pathways to the Gods* (1981), *The Return of the Gods—Evidence of Extraterrestrial Visitation* (1997), and *Odyssey of the Gods—An Alien History of Ancient Greece* (2000). In his writings he has said that certain artifacts prove extraterrestrial visitation because they could not have been made by humans, given the knowl-

edge of building techniques at the time and place in question. These artifacts include Stonehenge, the statues of Easter Island, and the Egyptian pyramids. Von Däniken has found what he says is additional proof in ancient artwork and literature, in the form of images and references that he believes are related to space travel and alien beings. However, von Däniken's credibility has been undermined by the fact that he has falsified evidence related to his theories. (He was caught—and admitted to—commissioning the creation of a piece of pottery depicting a UFO, which he then tried to pass off as having been made in ancient times.) In addition, von Däniken was imprisoned from 1969 until 1971 after being convicted of forgery, embezzlement, and tax evasion.

SEE ALSO: ancient astronauts

debunker

A debunker is someone who actively tries to discredit anyone claiming to have had a paranormal experience. Often the work of a debunker involves disinformation—that is, spreading false information regarding the incident in question. Such disinformation may be in the form of false documents, faked photographs, or other evidence that seems to support a paranormal claim. The debunker then shows the evidence to be false, thereby accomplishing two objectives: discrediting the person making the claim by making it seem like he or she falsified the evidence, and mak-

ing everyone who said the evidence was credible look foolish.

SEE ALSO: skeptics

Dee, John (1527–1608)

During the reign of England's Queen Elizabeth I, John Dee was respected not only as a scholar but as a magician and an alchemist. He also claimed to have regular communications with angels, and he wrote extensively on the occult. Few of Dee's works were published in his lifetime. Instead, most seventeenth-century readers knew about Dee because of a book published by Meric Causaubon more than fifty years after Dee died. Titled *A True and Faithful Relation of What Passed for Many Years Between Dr. John Dee and Some Spirits*, the book told of Dee's experiences with the occult.

Before becoming involved in the supernatural, Dee was a student of science and mathematics at St. Johns College in Cambridge, England. After leaving school to travel through Europe, he became an expert in astrology, alchemy, scrying, and other arts associated with the occult. (His interest in alchemy and scrying was inspired by his poverty at the time; alchemy involves attempts to turn base metals into gold and silver, and scrying involves using magic or psychic powers to locate hidden or lost objects, such as money.)

Royal Astrologer Eventually word of Dee's skills reached England, and he returned there by royal request to serve King Edward VI. After the king's death in 1553, Dee became astrologer for Edward's half sister, Queen Mary. For a few months he foretold her future on a daily basis and was a favorite at court, but when he befriended another of Edward's half sisters

and Mary's rival to the throne, Princess Elizabeth, Mary had Dee arrested as a witch. The specific charges were false; nonetheless, Dee was imprisoned until 1555.

In 1558 Mary died and Elizabeth assumed the throne, whereupon Dee became the new queen's astrologer, numerologist, magician, and adviser. Some say he worked as her spy as well, telling the queen whenever he heard someone speak ill of her. He also worked as a geographer and as a map-maker. During this period he collected books on magic and the occult. His collection eventually numbered several thousand volumes, making it one of the largest private libraries on the occult ever known to exist.

Dee also collected tools said to attract angels and make possible communication with them. These tools included a piece of obsidian he called his "magic glass" or "magic mirror" and a pale pink crystal he said had been given to him by an angel in human form. Dee claimed to have much success in receiving messages from angels, though he admitted he had never actually seen nor spoken to them directly. Instead, his assistant, Edward Kelly (originally named Edward Talbot), let Dee know when they were present and passed along their messages. According to Kelly, the angels spoke in a strange language, Enochian, which he and Dee then wrote down and translated.

At first Dee and Kelly communicated with angels for their own personal enlightenment, but at some point they began engaging in such communication for the benefit of others. From 1585 to 1589 they toured Europe as professional angel communicators, allowing other people to ask questions of the angels. Their tour ended when the two had a falling-out because

Kelly was attracted to Dee's wife. Dee then returned to England and found a new partner in spirit/angel communication, Bartholomew Hickman, but he and Hickman never achieved fame together.

Fall from Grace Dee survived on the favors of the royal court until Queen Elizabeth died in 1603, whereupon he lost his position and was thrown back into the poverty he had known prior to becoming involved in the occult. He also feared that without royal protection he would be attacked for his earlier activities as a magician since witch hunts were becoming increasingly common in England and Europe. Dee petitioned King James I to publicly declare that he had never actually been a magician at all but rather was a scholar and a scientist. Dee failed to get such a royal declaration, but luck was with him and he was not targeted by witch hunters.

Dee died of natural causes in 1608, still penniless. He is remembered not only for the many books he wrote but also for the Enochian language he claimed to have learned from angels. This language is still used by some witches today because they believe it is imbued with magic. One of the first modern witches to employ this language was Aleister Crowley, who advocated its adoption by all witches in his book *Magick in Theory and Practice*.

SEE ALSO: angel encounters; Crowley, Aleister; occultism; witches

de Loys' ape

The name *de Loys' Ape* refers to a 5-foot-tall (1.5m) ape-man supposedly discovered by Swiss geologist François de Loys during an expedition to South America between 1917 and 1920. According to de Loys, he and his traveling companions

were confronted by two of these creatures near the Tarra River in Venezuela; they shot and killed one, then skinned it and ate the meat. They reported that afterward they posed the animal's skin, propping its head up with a stick, and took a photograph of it. The remains were subsequently lost, but the photograph made it back to civilization with de Loy, who supposedly showed it to no one. However, in 1929, after de Loys' death, one of his friends, anthropologist George Montandon, said that he had come across the photograph by accident while going through some of de Loys' paperwork. Montandon insisted on making the photo public.

Modern skeptics suspect that Montandon himself created the photograph, posing the remains of an ordinary spider monkey in a way to make it look 5 feet (1.5m) tall. Their suspicion is based on the fact that at the time the photograph appeared, Montandon was promoting his racist theory that all humans except for white men were descended from various apes. Skeptics say that the "discovery" of a photo of an ape-man in Venezuela would have helped Montandon by supporting this theory.

At the time Montandon made the photograph public, though, skeptics accused de Loys, rather than Montandon, of perpetrating a hoax. Like modern skeptics, they thought that the photograph was of a spider monkey, which they knew to be common in South America. Skeptics also said that had the creature truly been a 5-foot-tall (1.5m) ape-man, de Loys would have made a greater effort to get its skin back to civilization. As a result of their attacks, most people came to believe that de Loys had invented the ape-man in order to make a name for himself as the discoverer of a new species.

What interests cryptozoologists is that de Loys was apparently not the first to see this creature, which natives in the area called *mono grande*, or “big monkey.” As early as the sixteenth century, Spanish explorers who visited South America not only heard reports of such animals from natives but also wrote of seeing the remains of *mono grande* themselves. Since then, several other explorers and naturalists, including a New York botanist in 1987, have reported seeing de Loys’ ape.

SEE ALSO: cryptozoology; man-beasts; photographic evidence of paranormal phenomena

déjà vu

Named by psychic investigator Emile Boirac of France (1851–1917), déjà vu (which is French for “already seen”) is the feeling that a particular moment has happened before, even though the conscious mind knows that it has not. Among people who experience déjà vu, such episodes are most common during the teenage and young-adult years, but decline during the mid-twenties. However, people who travel a lot, regardless of age, tend to experience déjà vu more often than non-travelers. No one knows why this is the case.

There are many theories regarding why people have this odd sensation that an experience is repeating itself. One theory is that déjà vu occurs when a person’s mind has connected to an alternate reality in which the event that triggered the sensation really has already happened. Others theorize that the mind has connected not to an alternate reality but to memories of a previous life since they believe that, after death, a person’s soul is born again in another body. Still another theory is that the mind is connecting, through mental telepathy, to the mind of someone else who

has already lived through the event in question.

A simpler explanation is that déjà vu happens when the brain connects a new experience to an old one that is similar. In other words, the new experience seems familiar because it is very like something that has happened before. Many scientists who support this view classify déjà vu as a type of illusion—specifically, an illusion of familiarity. Scientists think that déjà vu is caused by chemical changes in the brain. As evidence, they cite the fact that some people with epilepsy experience déjà vu before seizures, which result from neurochemical imbalances.

SEE ALSO: telepathy

demonic possession

According to some religious sects, demonic possession is the taking over of a person’s body by one or more demons or by the devil. Symptoms of demonic possession are said to include convulsions or fits, inappropriately public sexual behavior, verbal outbursts (often obscene), and physical changes in the body (such as a bloated belly or permanently grimacing expression). Some possessed people also supposedly demonstrate unusual abilities, such as unexplained knowledge of a foreign language, strength disproportionate to their body size or age, the ability to predict the future, or the ability to levitate. Some Roman Catholics also believe that an aversion to sacred objects, such as crucifixes, is a sign of demonic possession. According to Catholic dogma, genuine cases of demonic possession can only be treated by an exorcist, a person who uses rituals to “cast out” the devil’s spirit from the possessed.

Over the centuries, various theories have been proposed regarding how a de-

mon or the devil might enter a person's body. Magicians, wizards, and witches have all, at one time or another, been considered capable of aiding in a victim's possession. However, during the Middle Ages and the Renaissance it was commonly believed that the invading spirit could not simply be sent into the intended victim, but rather it had to enter the body through the ingestion of food or the touching of some magical object. Amulets, potions, and certain foods, particularly apples or pieces of bread, were typically cited as the tools used to open someone to a possession. In modern times, however, those who believe in demonic possession say that the devil or his agents can possess any person at will, unless that person's faith is strong enough to thwart them.

Those who believe in demonic possession cite the case of Anna Ecklund, who lived in the early twentieth century, as demonstrating that Satan really can take over someone's body. Ecklund exhibited what appeared to be classic symptoms of demonic possession, including the ability to speak and understand languages to which she had never been exposed. Moreover, her abilities—and the exorcism ritual used to rid her of the demon—were well documented. Skeptics, however, say that Ecklund's "possession" was a mental illness, and her "exorcism" was successful because she believed it would be. In fact, most people now view symptoms of demonic possession as a mental illness that has nothing to do with demons or devils—and even the Catholic Church acknowledges that this is often the case. The church also acknowledges that some people have faked demonic possession, either for attention or for profit. This was particularly common in the sixteenth and seventeenth centuries, when fraudulent exor-

cists, pretended to cast demons out of supposed victims who were working with them. These performances typically took place in front of large crowds of people who later rewarded the exorcist with money or goods.

SEE ALSO: demons and the devil; exorcism; xenoglossy

demons and the devil

According to certain religious doctrines, demons are evil spirits led by the devil (also known as Satan). The devil and his demons supposedly visit the world of the living, often in the form of an animal, to tempt humans to do evil deeds. The devil is said to most commonly appear as a black dog, while demons are said to prefer taking the form of cats, mice, toads, or other small household or field animals. In the Middle Ages, both the devil and his demons were believed to take these forms in order to work with witches, in which case the "animals" were known as familiars. Witches supposedly sent their familiars to torment their enemies, perhaps even by taking over their victims' bodies as part of a phenomenon called demonic possession. Today, some people continue to believe in demonic possession, though such people typically think that Satan, rather than a witch, is responsible for sending the demon into someone's body.

SEE ALSO: demonic possession

Deros

Believers in the theory that Earth has a hollow, inhabitable core sometimes also believe in evil creatures called the Deros, which were supposedly created through genetic engineering. Resembling demons, these creatures supposedly visit the surface

of the earth to kidnap human beings, whom they then subject to a variety of tortures. They also supposedly wreak destruction on the inhabitants of Earth's surface by using technologically advanced machines hidden in caves to alter weather, alter brain waves to cause mental illness, and cause industrial, traffic, and other accidents.

The idea of the Deros originated with Richard Sharpe Shaver, who, in 1943, told the editor of the magazine *Amazing Stories* that he had seen these beings; their name, he said, was derived from the words *detritmental robots*, though they were not actually robots but living creatures. According to Shaver, the creators of the Deros, whom he called the Titans, were beings as tall as 300 feet (91.4m) who had originally come from an ancient yet highly advanced civilization called Lemuria, which had been located on Earth's surface, but they had abandoned Earth for another planet roughly twelve thousand years ago, leaving the Deros behind. Shaver believed that the only hope for eliminating the Deros were the Teros, which were also created by the Titans and were heroic humanlike beings who, though small in number, were intent on fighting the Deros.

Amazing Stories editor Raymond A. Palmer published many tales based on Shaver's supposed adventures in the hollow-Earth realm, not only in *Amazing Stories* but in its sister publication, *Fantastic Adventures*, as well. (Shaver's name was on these stories, but they were actually ghostwritten by Palmer.) The first of these stories, "I Remember Lemuria," which appeared in *Amazing Stories* in 1945, prompted a few other people to claim they had encountered the Deros too. However, many of the magazines' fans complained about the Shaver tales, which increasingly

explored the sexually perverse nature of the Deros, and in 1948 the magazines stopped publishing the stories.

SEE ALSO: hollow-Earth theory

devil's footprints

Occasionally people have found odd footprints that are big enough to be a man's but are shaped like those made by a cloven—that is, divided—hoof of the sort seen on goats, pigs, or deer. Such footprints are called devil's footprints or devil's tracks because the devil is often depicted as having cloven hooves. The first reference to devil's footprints was in newspaper reports of an incident that took place in and around Exeter and Devon, England, on February 9, 1855. That morning, residents in the area discovered new snow on the ground, but it was marked with a line of strange tracks that extended for more than 100 miles (161km). These tracks were not in pairs but in a single line, each print about 8 inches (20.3cm) from the next, and their spacing and progress remained constant despite various obstacles in their path. They crossed walls, went through haystacks and gardens, and even went across the roofs of buildings. When this case was publicized in newspapers, other people came forward to report that they had seen similar tracks regularly near the border between Poland and Germany.

The most famous reported sightings of devil's footprints in the United States were in New Jersey in the early 1900s, when the tracks of a creature dubbed the Jersey Devil were seen in a southern part of the state. These tracks were later revealed to be a hoax, however, and skeptics say that most other instances of such tracks are hoaxes as well. The remainder, skeptics say, are the result of ordinary tracks being dis-

torted by changes in the environment, such as when snow melts or sand shifts. Believers in mysterious beasts, however, have suggested that the tracks are made by an animal that has yet to be found and scientifically classified.

SEE ALSO: Jersey Devil, the

devil's sea

Located off the southeastern coast of Japan, the devil's sea is an area where ships and planes have been reported to vanish mysteriously. In this respect, the devil's sea is often likened to the Bermuda Triangle; however, most of the disappearances in the devil's sea can be attributed to natural causes such as tidal waves and storms. Consequently, although during the 1970s a few individuals, most notably biologist and paranormal investigator Ivan T. Sanderson, promoted the idea that the devil's sea was an Asian counterpart to the Bermuda Triangle, today most people do not consider the devil's sea to be a place of paranormal activity.

SEE ALSO: Bermuda Triangle, the

dinosaurs, living

Scientists say that dinosaurs became extinct millions of years before humans appeared on Earth, but some people claim that these creatures have survived in some remote place or "lost world." They base their belief in living dinosaurs on several reported sightings of such creatures. For example, in the Republic of Congo, people claim to have seen three different dinosaur-like animals, the *mokele-mbembe*, the *emela ntouka*, and the *nguma monene*. The *mokele-mbembe* is said to look like a type of dinosaur called the sauropod, the *emela ntouka* the triceratops, and the *nguma*

monene the dolichosaur. The *nguma monene* was spotted as recently as 1971 by an American missionary, Joseph Ellis, along the Mataba River in the Congo. Skeptics have suggested it was actually a crocodile (indeed, they suggest that all sightings of living dinosaurs are cases of mistaken identity), but Ellis insisted that what he saw could not have been any known animal.

In addition to the Republic of Congo, living dinosaurs have been reportedly sighted in South America, the United States, and Europe, though cryptozoologists consider these reports less credible because the descriptions of the creatures coming from these places are vague or inconsistent. Still, in the 1970s a few reports came out of Venezuela suggesting that unusually large lizardlike animals might be living in remote mountain regions. Such reports are similar to ones given by German explorers from 1907 through 1908, who told of visiting a swamp-riddled valley in Peru where several dinosaur-like creatures lived.

Also considered fairly credible is the 1975 account of a farmer in Italy who claimed that he had been attacked by a 15-foot-long (4.6m) dinosaur-like lizard because several other Italians subsequently claimed to have sighted this creature as well (though they described it as being about 10 feet [3m] long). Some scientists have speculated that the animal was a previously unknown species of lizard, though it has not been sighted since. Taken less seriously is the account of a Colorado woman who, in 1935, supposedly saw five gray-skinned dinosaurs. Nearly fifty years later, she described these creatures as being 7 feet (2.1m) tall, with small front legs that had claws similar to a chicken's.

Some people have suggested that in addition to modern-day sightings, stories from the Middle Ages support the belief that dinosaurs did not all die out millions of years ago. Specifically, they say that the dragons mentioned in ancient and medieval texts were actually living dinosaurs. Indeed, in the ancient city of Babylon, artwork depicting a dragon shows a creature that does appear similar to a type of dinosaur known as the sauropod. Some skeptics say that this means the ancient Babylonians must have based their dragon artwork on dinosaur fossils, but there is no evidence that ancient Babylonians knew of such fossils.

SEE ALSO: lost worlds; *mokele-mbembe*

disappearances, mysterious

Millions of people are reported missing in the United States each year; by some estimates, more than 95 percent of them return home safely, and of the rest, the majority prove to be cases of murder, accidental death, amnesia, or of the missing person trying to evade ordinary responsibilities. In a few instances, though, the person simply seems to have vanished.

For example, according to journalist and short-story writer Ambrose Bierce (1842–1914?), who collected accounts of mysterious disappearances, on September 3, 1873, an ordinary English shoemaker named James Burne Worson bet some of his friends that he could run a distance of 20 miles (32.2m) and back without stopping. Once the bet was struck, Worson's friends followed behind him in a cart, watching him to prevent cheating. A few miles into the run, at a point where Worson was only a few yards ahead of the cart, he stumbled, screamed, and disappeared, right before his astonished friends' eyes. In another Bierce account, a sixteen-year-old

boy named Charles Ashmore went to get water from a spring one winter, and when he failed to return, his family followed his footprints in the snow. They stopped midway to the spring, as though the boy had been lifted into the air. There were no other footprints around to suggest foul play, and afterward the area was said to be haunted by Charles's spirit.

Bierce theorized that the cause of such disappearances was holes in ordinary reality, from which nothing, not even light or sound, can escape. Bierce voiced his speculations many years before astronomers described black holes. A few people believe that small black holes, similar to the ones in outer space, exist on Earth and are responsible for at least a few mysterious disappearances each year. Skeptics suggest that Bierce, who was a fiction writer, simply made up these disappearance stories. They dismiss any suggestion that black holes exist on Earth.

Interestingly, Bierce himself disappeared, after going to Mexico in 1913. Exactly what became of Bierce is still a mystery, although at the time Mexico was undergoing a violent revolution, and the most widely accepted theory is that he was killed during a military engagement there in 1914. Bierce's body, however, was never identified.

Violence at the hands of other human beings also is generally thought to explain the disappearance of more than one hundred colonists at Roanoke, an island off the coast of Virginia, in 1591. When, after an absence of four years, a supply ship arrived from England, all the settlers were gone. Though there was no sign of foul play, the word *Croatan*—the name of an Indian tribe in the area—had been carved on a wooden post at the colony, so the prevailing theory is that the colonists were

attacked and taken away by the Indians. Nonetheless, a few people believe that the colonists' disappearance was due to some kind of paranormal phenomenon, such as an alien abduction or a rift in time that accidentally propelled the colonists into the future.

Similar arguments have been made regarding the mysterious disappearance of all passengers and crew from a ship called the *Mary Celeste*. On December 4, 1872, the *Mary Celeste* was found afloat in the Atlantic Ocean with its sails ripped and hanging and its bow scarred with 6-foot-long (1.8m) gashes. Its lifeboat was missing, and there were signs that everyone on board had left in a hurry. The obvious explanation is that the ship had been attacked by pirates, a common occurrence in those waters. However, the lifeboat was never found, and none of the passengers' valuables ever turned up. Consequently, during the 1970s people began to propose a variety of paranormal theories related to the disappearance. One of the most popular was that the *Mary Celeste's* passengers and crew had been victims of the Bermuda Triangle, a region in the Atlantic Ocean said to be responsible for numerous mysterious disappearances, even though the Bermuda Triangle disappearances were said to involve vessels as well as their passengers.

SEE ALSO: *Mary Celeste*, the

divination

Most people consider divination to be the practice of foretelling the future, though it is also the practice of finding hidden objects or uncovering secrets by paranormal means rather than through a physical search. Those who practice divination in order to foretell the future might use a variety of methods, either singly or in com-

bination. Some involve looking at natural objects, such as the leaves at the bottom of a cup of tea (a type of divination called tasseography) or the lines on the palm of the hand (palmistry or chiromancy). Others involve looking at objects such as cards (cartomancy) that have been marked with special symbols. In any case, seers, as those who practice divination are sometimes known, are operating under the belief that within these images they can discern messages that indicate future events. For example, one particular image might be a warning of death, while another might relay a message regarding a future romance.

Sometimes, however, the seer claims to discern images where most people see nothing, such as within a crystal ball (an action known as scrying). Other forms of divination include oneiromancy, whereby the seer interprets the images in people's dreams, and numerology, whereby the seer makes predictions by converting the letters in a person's name to numbers that are then manipulated in various ways to get a message.

Whichever method they use, most seers believe that the messages and/or images they receive come from spirits, gods, or otherworldly forces. A few believe that the images they see are really patterns forming in the currents of the astral plane, a nonphysical realm of existence, and that these patterns manifest later as events in the physical world. Similarly, the most popular form of divination, astrology, is based on the principle that patterns in the heavens—that is, the placement of celestial bodies—influence people's personalities and destinies.

Tools of Divination One popular tool of divination is a deck of tarot cards. A deck has seventy-eight cards portraying various images and symbols that are believed to

be connected to ancient magical perceptions of reality; each image on the card has a meaning that the person performing the reading must interpret in relation to the life circumstances of the person for whom the divination is being performed.

Rune stones are another popular tool. These are stones marked with runes, symbols believed to have been used by peoples living in Europe and Scandinavia in ancient times to represent abstractions such as joy, partnership, strength, and protection. These abstractions, in turn, are said to have complex meanings in terms of past, present, and future events.

A third divination tool is the *I Ching*, which is an ancient Chinese text with sixty-four hexagrams (groupings of six solid and/or broken lines), each with a meaning divined in ancient times by Chinese sages. Before consulting the book, the seer uses various methods to select numbers that can then be added up to determine which hexagram to read.

Skeptics scoff at the idea that the future can be predicted at all. But even hundreds of years ago, people were suspicious of divination, saying that images and messages about the future actually come from the devil and are therefore either lies or tools to entice people who believe in the predictions to do Satan's bidding. Prior to the sixteenth century, however, at least in Europe, seers were generally valued members of society. One of the most revered diviners of this period was John Dee, who regularly made predictions for England's Queen Elizabeth I.

SEE ALSO: astrology; Dee, John; *I Ching*; runes; tarot cards

doppelgängers

A type of apparition, a doppelgänger is an exact duplicate of a living person in whose

company it appears. (The word *doppelgänger* essentially means "double" in German.) The doppelgänger's movements are a mirror of its companion's; it is seemingly oblivious to eyewitnesses and does not utter a word. One theory is that a doppelgänger is the product of some kind of psychic phenomenon, such as telepathy or hallucination, existing in the mind of the person it is duplicating. In some cases, the doppelgänger appears to be several years older than the person viewing it. To believers, this suggests that a doppelgänger might be an image from the future. In some cultures, moreover, a doppelgänger is considered to be a sign that the apparition's "double" is about to die.

SEE ALSO: apparitions

Dover demon, the

The Dover demon was a mysterious creature reported by teenagers in Dover, Massachusetts, on April 21 and 22, 1977. The first to see the creature was seventeen-year-old Bill Bartlett, who described the creature in much the same way as alien abductees describe extraterrestrials: 4 feet (1.2m) tall, with a humanlike but abnormally thin body, a huge head, skinny arms and legs, long fingers and long feet. About two hours later, fifteen-year-old John Baxter, saw a creature fitting the same description, as did fifteen-year-old Abby Brabham the next night, through the window of a car in which she was riding. However, Brabham said that its eyes were green, whereas the other witnesses had described them as orange. After the local newspaper reported on the sightings (and gave the creature its name), many people in Dover dismissed the demon as nothing more than a teenage prank. However, because those reporting the sightings seemed sincere, other people suggested that the teen-

agers had simply mistaken a wild animal for something mysterious. Still, a few people believed that what Bartlett, Baxter, and Brabham saw was no ordinary animal but instead was a demon, a monster, or an extraterrestrial.

SEE ALSO: aliens, descriptions of

dowsing

Also called water witching, dowsing is the act of using a tool to find a hidden substance. The typical tool used is a dowsing rod, also called a divining rod, which can be either a forked piece of wood or an L-shaped piece of metal. The most common substance found through dowsing is an underground source of water, but people use dowsing to find many other materials as well. These include minerals,

lost money, lost pets, missing persons, and shipwrecks.

Dowsing is performed in one of two ways. In the most common way, called field dowsing, the dowser walks through a field or other area where the hidden object might be. With very steady hands, the dowser holds the dowsing rod (which, in cases where oil is being sought, is often called a doodlebug instead) roughly waist-high in front of the body. When the rod twitches or moves in some other fashion, seemingly of its own accord, this is taken to mean that the object of the search is directly below. In the second, less common way, called map dowsing, the dowser holds a dowsing rod or a dowsing pendulum over various parts of a map and notes the spot where the rod or pendulum appears to jerk, twitch, or move on its own.

Various theories have been put forth in an attempt to explain how dowsing might actually conform to known physical laws, but each has serious flaws. No one knows why dowzers sometimes make amazing discoveries. Skeptics, however, point to controlled studies that suggest the success rate of dowzers is no better than chance. In fact, skeptic James Randi has offered a monetary reward to any dowser who can prove that he or she has a success rate significantly better than chance. No one has yet claimed the prize.

SEE ALSO: Randi, James

Doyle, Sir Arthur Conan (1859–ca. 1930)

Though best known for writing stories about a fictional detective named Sherlock Holmes, Scottish author Sir Arthur Conan Doyle played an important role in early twentieth-century psychical research, spending most of his profits from the Sherlock Holmes stories to fund various investigations into the paranormal. He also wrote and lectured about paranormal subjects, traveling from his home in England to the United States and Canada to tell audiences about his beliefs related to the spirit world. For example, Doyle believed that spiritual mediums (people supposedly able to communicate with spirits) could bring ectoplasm, which was said to be matter from the spirit world, to the natural world. He also believed that inhabitants of the spirit world were able to smoke cigars and drink whiskey. Doyle's written works relating to the paranormal include *The Coming of the Fairies* (1921) and *The History of Spiritualism* (1926). *The Coming of the Fairies* included what Doyle thought were genuine photographs of fairies (a collection known as the Cottingley fairy



Sir Arthur Conan Doyle spent most of the profits from his Sherlock Holmes books on paranormal research. LIBRARY OF CONGRESS

photographs), argued that fairies lived on Earth in numbers perhaps as large as the population of human beings, and offered various theories regarding the nature and habits of fairies.

Though he believed deeply in a spirit world, Doyle did not become interested in the paranormal until relatively late in life. As a boy he attended a religious school, but by the time he graduated in 1875 he had become an agnostic—that is, someone who believes that the existence of God is unknowable. He then became a physician, first as a general practitioner and then as a specialist in eye diseases, and he established his own practice in England. He was also involved in causes related to political and legal injustices.

Doyle's first Sherlock Holmes story, *A Study in Scarlet*, appeared in 1887. By this

time, the Spiritualism movement had taken hold in London, and as a popular guest at social gatherings, Doyle had the opportunity to see many mediums at work. He soon decided that several of them had a genuine ability to communicate with spirits. During the 1920s he devoted much of his time to promoting this idea, particularly in regard to noted American medium Mina Crandon. Eventually Doyle became so closely associated with Spiritualism that in 1929 Russia banned all Sherlock Holmes stories because the Russian government, which opposed any activities related to the supernatural, considered Doyle to be an occultist—that is, a person who believes in and studies supernatural powers.

SEE ALSO: Cottingley fairy photographs; Crandon, Mina; spiritualism

Drake equation

Devised by Dr. Frank Drake in the 1960s, the Drake equation supposedly allows a person to calculate the number of extraterrestrial civilizations in the galaxy that might be close enough to communicate with Earth. To use the Drake equation, a person must first estimate the rate of star formation in the galaxy, the number of stars with planets, the average number of planets around each star that might be able to support life, the fraction of those planets that might actually support life, the fraction of those life-supporting planets that might actually have intelligent life, the fraction of those planets with intelligent life that might have a civilization able to communicate with Earth, and the number of years such a civilization might have been in existence. All these fractions would then be multiplied by each other; the resulting product's numerator would be divided by the denominator to arrive at the

final answer, which varies depending on the original estimated numbers in the equation. People who do not believe that extraterrestrial life exists at all end up with an answer of zero, but those who are certain there are many extraterrestrial civilizations have been able to make it come out to five thousand or more. But despite this element of subjectivity, positive results from the Drake equation were used in part as justification for the creation of the Search for Extraterrestrial Intelligence, or SETI, a project that searches for intelligent life by using radio telescopes to pick up radio waves from space.

SEE ALSO: SETI Institute, the

dreams

Dreams have been associated with a variety of paranormal phenomena, including mediumship (the ability to communicate with spirits), precognition, divination, telepathy, out-of-body experiences, and even alien abductions. Of these phenomena, dream mediumship and dream precognition have the most believers. According to a survey conducted by a paranormal research organization called the School of Metaphysics, more than 50 percent of the respondents reported having dreamed of departed loved ones, with 30 percent of these people saying that they believed the dream was an actual visit from the deceased. Fifty percent of participants reported having at least one precognitive dream.

Precognitive Dreams Precognitive dreams show images or provide ideas relating to an event that has not yet occurred. Most of the precognitive dreams reported as part of the survey showed images of a disaster, such as a car accident or bridge collapse, that would involve the dreamer. The researchers contend that such dreams are

meant to warn the dreamer not to do certain things or go to certain places. The intent of dream mediumship, meanwhile, appears to be to allow a departed loved one to visit with and perhaps offer comfort to grieving relatives. In a few cases, however, the visiting spirit is said to have provided information meant to be acted upon. For example, the spirit of a deceased person whose body has not been found might appear in a dream to tell a relative the body's location.

There is no proof, of course, that the spirit of the deceased loved one was actually present in the dream. Indeed, skeptics say that images of deceased loved ones come from the dreamer's own mind, and that if the supposed spirit's information is correct, it is because the dreamer subconsciously already knew or had a hunch about the information. Skeptics say the same things about the "senders" of the images and ideas in precognitive dreams, dismissing as nonsense a variety of complex theories regarding the precognitive nature of dreams.

Dream Telepathy With dream telepathy, however, it is not always possible to say that the dreamer's mind has invented the experience because there are two people involved; the messages seem to jump from one person's mind to another. The most common type of dream telepathy occurs when two people have the exact same dream, as though their minds have been linked while sleeping. In some cases where a dream is shared, the two people actually talk to one another in the dream and then awake to learn that both remember the same conversation—though skeptics say this memory is unreliable, arguing that as the two people compare dreams they adjust their stories to make them more similar.

Sometimes these dream meetings join people who are many miles apart. Other dreams seem to allow the dreamer to travel across great distances as part of an out-of-body experience in which the dreamer's consciousness seems to separate from his or her body and go elsewhere. After such dreams, the dreamer might awake and think that he or she has been in another land, another time, or another realm. Some people think this is a misperception, but others think that dreams really do allow people's spirits to travel, whether to see other places or to connect with other minds.

Some of the people who believe that spirits can travel during dreams think that this journey takes them to a place where images have been stored since the first humans were created; all dreamers, they say, can access these images. (Some psychiatrists share this theory, though they say that the images are stored within the human mind, and that these mental attributes can be inherited from previous generations the way such physical features as hair and eye color are.) This concept has led some believers to suggest that alien abduction experiences are actually symbolic dreams of ancient, communal memories. Skeptics, however, generally consider dreams to be private experiences and dismiss any notion that two or more minds can be linked while dreaming, no matter how strikingly similar two people's dreams might appear to be.

SEE ALSO: out-of-body experiences; precognition; telepathy

DuBois, Allison
(1972–)

Thanks to a portrayal of her on an NBC television series, *Medium*, medium Allison

DuBois has become one of the most famous psychic detectives in America. Although she first began seeing spirits at the age of six, she says she discovered her ability to help solve crimes psychically while working as a college intern in the homicide division of the district attorney's office in Phoenix, Arizona. At that time, whenever she would look at a crime-scene photograph or touch evidence from a crime scene, she would have a psychic vision of the crime being committed or of some other event pertaining to the crime. She would also have visions that seemed to come from the mind of the victim or the perpetrator. In 2000 she began using her talents to help police find missing persons, and shortly thereafter she began working on criminal cases as well. Since then she has worked for numerous crime agencies across the country, and she has been involved in various research projects designed to test psychic abilities, particularly in regard to mediumship. One such study, at the University of Arizona, seemed to validate that she has extrasensory perception. DuBois also conducts private readings for people seeking to contact their deceased loved ones, consults for the television program *Medium*, and works as a profiler on criminal investigations. In 2005 she published a book about her work as a medium, *Don't Kiss Them Goodbye*.

SEE ALSO: mediums, physical and mental; psychic detectives

Dunne, John William (1866–1949)

Aeronautical engineer John William Dunne developed the theory that dreaming allows people to see images from various points

in time—past, present, or future. The idea for this theory came from his own experience with a precognitive dream. In the spring of 1902, while serving in South Africa as an officer in the British army, Dunne had a vivid dream in which he saw a volcano erupt. He recognized the location as being the French Caribbean island of Martinique, and he was so convinced that the dream was a premonition—not only because of its vividness but also because he had experienced premonitory dreams before—that he contacted French authorities on the island to suggest they evacuate its residents. They refused, and shortly thereafter Martinique's Mount Pelée erupted, killing many people.

After this, Dunne gave more thought to why he might be receiving glimpses of the future, and in 1927 he published a best-selling book about his theories, *An Experiment with Time*. In his book, Dunne compares time to a train track, arguing that past, present, and future events in time exist along a continuum just as a series of cities exist along a track. And just as a passenger on the train cannot see all of these cities while traveling down the track—only the city that is currently passing by outside the window—so too do people normally see only one event—the present—while moving along the time continuum. Dreaming, however, allows a person to rise above this continuum to a spot far above it, so that the dreamer's vantage point is much like a bird's above a moving train. Such a bird, if flying high enough, can see many of the cities up and down the track, just like the dreamer can see many moments in the past, present, and future.

SEE ALSO: dreams



Eadie, Betty J. (1941–)

Through her best-selling book, *Embraced by the Light* (1992), Betty J. Eadie is best known for helping to popularize the notion that near-death experiences—whereby people who have clinically died and then been resuscitated report seeing images of the afterlife—are real experiences. She said she was inspired to write this book after having a near-death experience herself, when, in November 1973, her heart briefly stopped after routine surgery. During this event, she believes she traveled to a place of light, where she met Jesus. Certain the place was heaven, Eadie decided to find out whether others who had been through near-death episodes had seen what she had. To this end, she participated in a university study on near-death experiences, studied both human psychology and hypnosis, and volunteered to work with the dying. From talking to dying patients and others, she developed a collection of stories about near-death experiences that formed the basis of *Embraced by the Light*.

By the time the book was published, Eadie had opened her own hypnotherapy clinic and had embarked on an examination of whether there is a connection between the subconscious mind and the near-death experience. However, she abandoned her clinic work after the popularity of her book led to numerous speaking engagements. Eadie continues to lecture, to collect stories of near-death experiences, and to write. She has published two other

books: a sequel to *Embraced by the Light* titled *The Awakening Heart*, in which Eadie further reports on near-death experiences; and *The Ripple Effect*, in which she discusses the effect that one person's acts can have on others.

SEE ALSO: altered state of consciousness; hypnosis; near-death experiences

earth drawings

Also called geoglyphics, earth drawings are pictures, usually vast in size, that have been scraped into the earth by unknown artists. Such drawings, which depict human figures or animals, appear in places as varied as the mesas of the American Southwest, the hillsides of southwestern England, and the plateaus of Peru. The most mysterious earth drawings are those that cannot be viewed in their entirety except from an airplane. This has led many people to wonder whether they were meant to be viewed by extraterrestrials in spacecraft rather than by humans on the ground.

Nazca Lines Perhaps the most widely known earth drawings are those found in a desert in southern Peru. The ground in this area is crisscrossed with lines now known as Nazca lines, so named because many scholars believe them to be the creation of the Nazca, a people who lived in southern Peru between 600 and 200 B.C. Historian Paul Kosok, who in 1941 was one of the first Westerners to see the Nazca lines, noticed that on the day of the winter solstice, the sun set over the end of one of

the longest of these lines. Kosok concluded, therefore, that their purpose was to keep track of the movements of celestial bodies. When he publicized his theory, other scholars visited the area to look at the lines for themselves. They discovered that certain lines, when viewed from an airplane, could be seen to be part of intricate geometric patterns, while others were part of dozens of drawings that depicted a variety of figures, including a man with unusually large eyes, a giant spider, a lizard, a monkey, and eighteen birds of various kinds. (In fact, the line that Kosok discovered marked the winter solstice was the 120-foot-long [36.6m] beak of a hummingbird.) The smallest of these drawings is 27 feet (8.2m) long, the largest is more than 450 feet (137.2m) long, and together they cover some 500 square miles (1295 sq. km.) on an arid plateau now known as the Nazca plateau. It is one of the driest and least windy places on Earth, which means that the drawings have not been subjected to much erosion.

Another site that contains earth drawings is the Mojave Desert near Blythe, California. Pilot Jerry Phillips, a colonel with the U.S. Army Air Service, was the first to spot these drawings. While flying over the region in 1923 he saw two giant figures, one of a human and the other of a strange, long-tailed animal. The media nicknamed the man the Blythe Giant, and scientists concluded that the Mojave Indians who once lived in the region had created the figures. Subsequent visitors to the desert eventually discovered more than two hundred additional earth drawings of humans and animals as well as abstract symbols and lines, the oldest dating to about 3000 B.C. In some cases, the lines were made by aligning rocks found on the surface rather than by scratching into the ground.

In England, ancient earth drawings were made by cutting into the soil of hill-sides. These figures primarily represent men and horses, and scholars suspect that they were made by the ancient Celts. Two of the most famous such drawings are the White Horse of Uffington and the Cerne Giant. The latter is the 180-foot-tall (54.9m) outline of a club-brandishing man, cut into a hillside near Dorchester, England. The White Horse, which is 365 feet (111.3m) long, is the oldest known earth drawing in England, possibly dating from 100 B.C. Cut into the ridge of a 500-foot (150m) hill near the village of Uffington, its white color comes from the rock revealed by the scraping. Some scholars have suggested that the image was actually intended to be a dragon, but that its features were altered by erosion.

Earth drawings discovered in the Ohio River Valley and other parts of the middle and southern United States were made in a different manner from those in England. Instead of cutting or scratching figures into the soil, the artists built large mounds of dirt that depicted various animals. For example, a mound roughly 1,000 feet (305m) long near Peebles, Ohio, forms a giant undulating snake holding a sphere in its mouth. According to one Native American legend, the mound was created to commemorate a lunar eclipse, with the idea being that the eclipse was caused by a snake of the sky trying to swallow the moon.

Competing Theories People disagree on exactly why earth drawings were made. Among believers in extraterrestrials, the common view is that the drawings were either created under the direction of aliens or created to honor aliens. In either case, they say that the reason the images can only be seen from high above the ground

is because they were meant to be viewed from the height of a hovering alien spacecraft. Among the most prominent proponents of this theory is Erich von Däniken, who says that the images were part of a runway for the spacecraft of extraterrestrials whom he calls “ancient astronauts.”

Skeptics, however, say that the images were created not to signal or honor extraterrestrials but to signal or honor gods. In other words, ancient peoples made the images, on their own, as part of their worship practices. Alternatively, some scholars have suggested that the images were part of ancient calendars, perhaps used to guide planting and harvesting times or to understand various aspects of astronomy.

Meanwhile, new earth drawings continue to be found. In February 2005, for example, another group of giant figures, about fifty in all, were reportedly discovered in the hills of a southern coastal desert in Peru. Scholars believe that these drawings, which are of human figures, birds, monkeys, cats, and other animals, were created by a people, as yet unidentified, sometime between 600 and 100 B.C.

SEE ALSO: ancient astronauts; Nazca lines

Earth energy

Earth energy is said to be a force that emanates from the earth at certain locations and can enhance human well-being in various ways, such as by healing illnesses or boosting creativity. Often these locations are places with unusual rock formations or other strange geologic features. For example, the red-rock landscape surrounding the town of Sedona, Arizona, is reported to have energy vortices, or energy currents, so powerful that they cause trees growing there to be twisted and bent. Other places said to have particularly strong supernatural energies are ancient

sites marked with stone circles and/or standing stones, such as Stonehenge in England.

In 1978 Paul Devereux, a researcher who studies prehistoric stone structures, decided to conduct a serious scientific study at Stonehenge to see whether there really were unusual energy levels there. Using scientific equipment designed to measure even very small traces of various kinds of energy, Devereux recorded an unexplainable energy at the site that only occurred around sunrise. He also detected that one particular stone had a high magnetic field that fluctuated rapidly. Other people have also noted energy fields at Stonehenge by using a process known as dowsing, which involves seeing whether a stick or piece of wire tingles or twitches when it is pointed at a particular object or plot of ground. Dowzers who have visited Stonehenge say they have been jolted with Earth energy so powerful that, in some cases, it knocked them unconscious.

Some scientists scoff at such claims. Although they acknowledge that the earth has electromagnetic fields that can sometimes fluctuate for unknown reasons, they say that these fields are not powerful enough to affect human beings in any significant way. They similarly dismiss the notion, proposed by believers in an Eastern practice called feng shui, that Earth energy can be called forth, anywhere on earth, by arranging objects in certain ways. Under this belief system, objects should be positioned so that the Earth's invisible life energy (called chi) will flow more smoothly—much like wind or water—through the environment; blocking this energy by positioning objects improperly, feng shui believers say, will bring bad luck.

SEE ALSO: feng shui; Sedona, Arizona; Stonehenge

earthlights

Earthlights refers to mysterious lights, moving above the ground, that seem to occur naturally in some areas, such as along earthquake faults, where the Earth periodically displays seismic activity. The word was first used by Paul Devereux, a British investigator of this phenomenon, who, in the 1980s, argued that the lights were caused by electromagnetic charges created by movements of the Earth's crust. He further suggested that because these lights seem to move in a purposeful fashion, they might be guided by some form of intelligence. Another investigator of the phenomenon, Michael Persinger, agrees that an electromagnetic charge is responsible for earthlights, but in an indirect way. He theorizes that an electromagnetic charge causes hallucinations in the minds of any people in the vicinity, and these

people consequently imagine that they are seeing moving lights. Many scientists, however, dispute the notion that electromagnetic charges are present in areas where earthlights are seen, and they point out that the lights sometimes appear in areas where there has never been any seismic activity. Meanwhile, skeptics argue that the lights seem to be controlled by intelligent beings because they are—the pilots of the airplanes whose flashing lights viewers mistake for paranormal phenomena.

SEE ALSO: lights, mystery

Easter Island

Called Rapa Nui by its Polynesian inhabitants, Easter Island is located in the Pacific Ocean more than 2,000 miles (3,219km) off the coast of Chile and is best known for the mysterious stone tablets and giant stone heads carved from vol-

canic rock located there. Some of the more than six hundred heads are as tall as 40 feet (12.2m) and weigh more than 50 tons (45.4 metric tons). A nearby rock quarry has several half-carved statues. The stone tablets are carved with characters related to no known language. Some scholars, most notably Wilhelm Guillaume de Hevesy in 1932, have seen similarities between the script on the Easter Island tablets and certain prehistoric writings in India, but there is no explanation for these similarities. Moreover, no scholars have been able to figure out what the Easter Island writings mean.

Because of the mysterious aspects of the Easter Island tablets and stone heads, some people have suggested that extraterrestrials visited the island in ancient times and encouraged the creation of the carvings. Others have suggested that the island was once part of a continent that was lost beneath the sea and that this continent held a unique civilization, the remnants of which might be found somewhere beneath the ocean around Easter Island. According to this theory, the monoliths on the island were carved thousands of years ago. Some archaeologists, however, believe they were created between 1600 and 1730, but others have said they were created between 1000 and 1600. In either case, skeptics say this is proof that the heads were carved by the Polynesians who inhabited the island during those periods and dismiss the idea that an extraterrestrial intelligence was responsible.

SEE ALSO: ancient astronauts; stone circles

ectoplasm

To researchers into the paranormal, ectoplasm is a substance that allows ghosts to materialize in the natural world. This substance is said to explain why people some-

times report seeing ghosts as a white, filmy haze, and why this haze often appears in photographs purported to be of ghosts.

During the nineteenth and twentieth centuries, ectoplasm was primarily associated with spirit communicators, or mediums, because the substance would sometimes appear to come out of a medium's eyes, nose, ears, or mouth during a séance. This ectoplasm had various forms—semi-solid, vaporous, or liquid, from small, gauzy tendrils to large, solid, humanlike shapes—and the affected medium would typically claim to have brought it from the spirit world to the natural world, along with the spirit's mental and/or verbal communications. Many witnesses to such events were astonished by what they saw, and some developed theories regarding why ectoplasm extruded from the medium's body. Among these theories, perhaps the most common was that spirits had to use some of the medium's essence in order to manifest themselves in the séance room. Consequently, many people believed that if they touched the ectoplasm during a séance, the medium would die.

Skeptics say that ectoplasm was a form of trickery used by charlatans to create the impression that they were in touch with the spirit world. One such medium eventually confessed to using fabric, most often chiffon, to create a gauzelike ectoplasm, and he claimed that some of his peers treated their fabric with phosphorescent substances to make it glow. Other mediums were discovered to be hiding pieces of cheesecloth or containers of liquid on their bodies, and others were caught swallowing materials that they would later vomit to produce the ectoplasm. In addition, those who investigated mediums sometimes found mechanical contraptions hidden in the séance room that could be used to ma-

nipulate ectoplasmic materials. Because of such discoveries, the idea that a medium can act as a conduit for ectoplasm has largely been discredited.

SEE ALSO: mediums, physical and mental; photographic evidence of paranormal phenomena

Eddy brothers, the

During the 1800s, brothers William and Horatio Eddy were famous mediums who, while apparently in trances, supposedly could summon spirits. They were said to be descended from a woman who, in 1692, was burned as a witch in Salem, Massachusetts. When they displayed psychic gifts as young children, their father beat them in an attempt to get them to stop. When this failed, he sent them to work in a sideshow for a traveling circus, during which audience members would attempt to wake them from their trances. This resulted in their being regularly beaten and abused, and combined with their earlier tortures at the hands of their father, their bodies bore numerous scars and burn marks.

As adults the Eddy brothers, along with their sister Mary, ran an inn in Vermont, the Green Tavern, where they held regular séances for free. In 1874 the *New York Daily Graphic* newspaper hired attorney Henry Steel Olcott to determine whether the Eddys were frauds. At that time, one or the other of the brothers would conduct the séance from within a box (usually William's choice) or from behind a cloth screen (Horatio's preference). In either case, numerous spirits would emerge, fully materialized, after the medium had fallen into a trance. These spirits would speak in voices and foreign languages that neither Eddy brother possessed, and they sometimes sang in accompaniment to strange

music that appeared to come from either within the box or from behind the screen. In regard to the latter, however, Horatio was in plain view, and was not playing any instrument.

Olcott spent ten weeks studying the Eddys and their séances, during which he even took measurements of the spirits' height and weight. According to his records, the most common apparitions to emerge from the box or screen were two Native Americans, a man named Santum and a woman named Honto, but other races were also represented. In all, Olcott recorded sighting more than four hundred apparitions. Still, he remained suspicious of the Eddys' talents, so he paid several men to inspect the box and the Green Tavern for places where human beings posing as the spirits or their voices could hide before the séance began. When he found no evidence of trickery, he declared the Eddy brothers' talents to be genuine. He subsequently wrote about his experiences in a series of fifteen articles, later published as *People from the Other World*. Skeptics, however, continued to dismiss the Eddys as frauds.

SEE ALSO: mediums, physical and mental

Edward, John (1969–)

Born in New York as John Edward MaGee Jr., John Edward is one of the most famous mediums in America, thanks to his television show *Crossing Over* and several books, including *One Last Time: A Psychic Medium Speaks to Those We Have Loved and Lost* (1998). Edward claims to have the ability to communicate with people who have died, or "crossed over." To this end, both on his television show and in private readings, he provides people with

confirmations that their loved ones exist in and see them from the afterlife. Sometimes he brings them messages from their loved ones as well. Psychologist Gary Schwartz has tested the medium's skills under controlled conditions and has declared them genuine. Nonetheless, skeptics have insisted that Schwartz's testing methods were flawed. They consider Edward to be a fake who uses leading questions and other tricks during his readings to gain information from his clients about their deceased loved ones while making it seem as though he is receiving this information from the deceased themselves.

SEE ALSO: mediums, physical and mental

Edwards, Frank Allyn (1908–1967)

Writer, radio announcer, and radio political commentator Frank Allyn Edwards was one of the founders of the National Investigations Committee on Aerial Phenomena in the 1950s, a group devoted to lobbying the U.S. government to release any secret information it might have on UFOs. He also wrote many popular books on UFOs and other paranormal subjects, including *Stranger than Science* (1959), *Strange World* (1964), *Flying Saucers—Serious Business* (1966), and *Flying Saucers—Here and Now!* (1967), in addition to writing articles on paranormal subjects for *Fate* magazine. Most of his works featured interesting, entertaining, supposedly true anecdotes, with touches of humor. His books and articles were extremely popular with the public, though skeptics continually accused him of distorting the facts.

SEE ALSO: *Fate* magazine; UFOs

electronic voice phenomena

Also called the spirit voice phenomenon, electronic voice phenomena (EVP) are

mysterious voices that can be heard in the background of audio recordings when they are played back to listeners. Not all listeners hear the voices, though, or hear them to the same degree or in the same way; in any case, when they are heard they are usually quite faint. Some people believe that the voices are best heard in recordings of the “white noise,” or static crackle, that a radio emits when it is not receiving an actual broadcast signal, because then there are no ordinary sounds to distract listeners from hearing the EVP.

The phenomenon was first noted by Swedish birdwatcher Friedrich Jurgenson, who discovered a voice in the background of one of his recordings of birdsong. In subsequent experiments with his recording equipment, he reported hearing many such voices; they called him by name and said things that made him suspect he was communicating with spirits who were watching and listening to him. Today many people believe that spirits can communicate through EVP, but others believe that the voices have some other paranormal source, such as extraterrestrial communications or clairaudience (a form of extrasensory perception that involves the psychic perception of sounds not heard by the ear). Meanwhile, skeptics say that the voices are either delusions or the result of listeners fooling themselves into thinking that ordinary random background noises are voices.

SEE ALSO: aliens, descriptions of; clairaudience; ghosts, human

energy healers

Energy healers are people who believe that they can harness the Earth's energy to heal people, and/or that they can use energy within themselves to influence the workings of other people's bodies. In most

cases, these people supposedly heal by touching their hands to an afflicted area of the body or by holding their hands over that area. One kind of energy healer who uses this approach is a practitioner of a Japanese tradition called Reiki (Japanese for “spirit life force”), whereby the practitioner’s hands, held over or lightly touching afflicted areas of the body, are believed to channel the energy forces of the universe through the air and into the body for healing purposes.

In some cases, though, healers claim to be able to effect healing from a distance of as much as 100 feet (30.5m) away, by directing energy to affect the subject’s brain waves. Such was the case with Ostad Hadi Parvarandeh, one of the most famous energy healers. Born in Iran in 1926, he discovered at age sixteen that sick people felt much better when in his company. He then found that by concentrating his mental energy on a person in pain, he could reduce or even eliminate the pain. Eventually he was able to sense when a person was in pain, and in some cases to diagnose a person’s illness simply through psychic powers. Skeptics call such feats tricks and believe that sick people feel better around these supposed healers only because of wishful thinking. In other words, the healers’ effect on their patients is psychological, not physical.

SEE ALSO: Earth energy; faith healing

Enfield House, the

One of the most famous supposedly haunted houses in Great Britain is in Enfield, England. At the time of the haunting, in 1977, the house belonged to the Harper family, which consisted of a mother and her four children, aged seven to thirteen. One evening the Harpers began hearing unexplained knocking and scratching

noises. They called the police, and the officers heard the noises too, but after a thorough search of the house no cause could be found. The next day the family saw small objects, such as marbles and building blocks, rise through the air all on their own. Deciding that evil spirits were at work, the Harpers asked a priest to bless the house. When that failed to end the activity, they asked a medium to contact the spirit and ask that it stop haunting them, but the medium was unable to communicate with the entity. Shortly thereafter, a neighbor called a newspaper reporter and told him about the house, whereupon he and a photographer visited the Harpers and were pelted with flying objects. The resulting news story made the house famous.

SPR Investigations At this point, the Society for Psychical Research (SPR) decided to investigate the case. The first SPR investigator to arrive on the scene was an inexperienced trainee, Maurice Grosse, but after he too was pelted with objects, SPR sent investigator Guy Playfair to help him, along with photographer Graham Morris. Together these three men spent a year working on the case, during which they documented more than two thousand unusual incidents, including flying marbles that landed on the floor but did not roll, books that appeared to change direction 90 degrees while flying through the air, and heavy furniture that moved while they were watching it.

Grosse and Playfair tried to further document these incidents with photographic equipment and tape recorders but failed, either because the phenomena only took place when their equipment was turned off or because the equipment would malfunction at inopportune times. Playfair also devised experiments to test

various theories regarding the origin of the activities. Their first assumption was that the Harper children were simply playing a prank on them, so they watched the youngsters carefully, and at certain times during the investigation sent them out of the house. Still the strange events occurred, and the investigators could find no evidence that the children were involved in any mischief.

Their next assumption was that the activity was somehow created by eleven-year-old Janet, who seemed to be the focus of much of the activity. She was usually present whenever a particularly strange incident occurred, and as the research project continued she seemed to be tormented by unseen hands that pinched and hit her. To test whether Janet was manipulating her environment through sleight of hand, the researchers tried restraining her, but the incidents still occurred. The investigators also made careful note of events that did not seem connected to Janet. On one such occasion, Playfair and Grosse were experimenting with spirit communication while Janet was absent from the house. They had just gotten the spirit to knock once for “yes” and twice for “no” when Playfair asked, “Do you realize that you are dead?” Immediately objects began violently flying about the room, and elsewhere in the house as well; in fact, the activity was so frenzied that in the mayhem Grosse was struck on the head by a box. Eventually, however, he got the ghost to answer other questions, and learned that the entity had once lived in the house, though the answers regarding when this happened made no sense.

Physical Attacks After this incident, the haunting activity became more dramatic and more harmful to Janet. She was often struck by objects and discovered obscene

words written on walls by an unseen hand. Eventually the ghost seemed at times to possess her, because she would lose control of her body and speak with a man’s voice, though only when she was alone behind a closed door rather than in the room with someone else. The voice’s claims regarding who was speaking varied or sometimes made no sense. Again the investigators suspected that Janet was the cause of the haunting, perhaps through some psychic phenomenon produced by her own mind, but when they sent her to the hospital for tests, the ghost began focusing on one of her two younger brothers, pinching and hitting him repeatedly. This convinced the investigators that the spirit was a separate entity.

After a year of in-depth study, the investigators could not come up with an indisputable explanation for the Harpers’ troubles and abandoned the project. Nonetheless, in late 1978 the activity lessened and then stopped. Two years later Playfair produced a best-selling book on the case, *This House Is Haunted!*, leading skeptics to accuse him of participating in a hoax haunting for profit.

SEE ALSO: haunted houses and other structures

evil eye

The phrase *evil eye* refers to a particular look, stare, or glare that some people believe has the power to hurt or even kill the person at whom it is directed, much like a curse. A variety of amulets, charms, rituals, and hand gestures have been employed by people attempting to protect themselves from the evil eye. For example, in ancient times people sacrificed animals to counter an attack by an evil eye. In medieval times, amulets and charms were popular protec-

tions against an attack, and it was believed that sticking pins in a wax figure of the supposed perpetrator would break an evil-eye spell that had already been cast. In later centuries it became customary to chant spells against the evil eye and to make countering hand gestures upon being attacked. This custom continues today in certain parts of the world, particularly in Italy and Romania.

The concept of the evil eye has existed at least since the times of the ancient Greeks, when scholars wrote of its power. It was also mentioned in Jewish scripture. Centuries later, during times of witch persecution, the suspected use of the evil eye by an individual often led to putting that person on trial for witchcraft. Gypsies have also frequently been accused of using the

evil eye against their foes, even in modern times.

SEE ALSO: curses

exorcism

In Jewish and Christian traditions, an exorcism is a ritual intended to drive demons, evil spirits, or the devil out of a human body, in the belief that these entities can take possession of a body and remain within it until forced to leave. Most exorcists, however, are members of the Roman Catholic clergy; the church has established procedures—updated in 1999—for exorcizing demons. Under these procedures, exorcists begin their work with prayers, a blessing, and the sign of the cross; they then sprinkle holy water on the supposedly possessed person and, while denounc-

ing Satan and ordering him to leave the body, lay their hands on the person. The full ritual is taught at a Vatican university, the Pontifical Regina Apostolorum University in Rome, Italy, using a Vatican book entitled *Ritual for Exorcism and Prayers for Particular Circumstances*. (Beginning in 2004, approximately 120 students a year have received this instruction.)

The first official Christian exorcists appeared in about A.D. 250, when the exorcism ritual was routinely conducted before baptizing someone. Soon, however, it was only used in what Christians believed were clear cases of demonic possession. Prior to the fifteenth century, witches as well as clergymen were sometimes asked to perform such rituals, but during the fifteenth through seventeenth centuries, witches were often accused of causing demonic possessions instead of being asked to end them. During this period, Roman Catholic priests came to be seen as the only ones capable of ending the victims' suffering by performing exorcisms, and the church therefore developed an official rite for the procedure.

In the sixteenth century, the Church of England used this rite as well, but in 1603 it decided to prohibit its clergymen from acting as exorcists. This decision was made because several clergymen were caught staging fake exorcisms in an attempt to gain fame and/or to receive gifts from the grateful families of exorcized loved ones. One such priest was John Darrell, whose fraudulent exorcisms were eventually exposed.

Similarly, some "victims" of demonic possession faked their symptoms in order to get attention. One such fraudulent victim was a seventeenth-century English boy named William Perry, commonly known as the Boy of Bilson. In other cases, how-

ever, the exorcism appeared genuine. For example, in the early twentieth century Anna Ecklund experienced a demonic possession and exorcism seemingly without any evidence of fraud. This well-documented case is often cited by believers in demonic possession as proof that the phenomenon is real. Nonetheless, skeptics say that all apparently genuine cases of demonic possession are caused by serious mental problems and that, in such cases, exorcism works because the patient believes it will work.

SEE ALSO: demonic possession; demons and the devil

extrasensory perception

Someone who receives or imparts information without using the five senses—taste, touch, sight, sound, and smell—is said to have extrasensory perception (ESP). Parapsychologists (people who study psychic phenomena, also known as psi) classify ESP into three main categories: telepathy, clairvoyance, and precognition. Telepathy is the ability to send thoughts and/or feelings to or receive them from the mind of another person. Clairvoyance is the ability to "see" events or objects not with the eyes but with the mind. Precognition is the ability to visualize an event before it occurs. Some psychics appear to have only one of these skills, others may have more. For example, psychic Peter Hurkos learned personal details about people's lives by perceiving their thoughts telepathically, made predictions about people's future through precognition, and helped police solve crimes by visualizing murder scenes and missing persons through clairvoyance. Some psychical researchers consider psychokinesis (PK), which is the ability to manipulate objects

by using one's thoughts, to be a fourth type of ESP. Even researchers who do not classify PK as a type of ESP believe that the two are closely related to one another.

Both ESP and PK have been studied since the nineteenth century. But although parapsychologists have amassed a great deal of data on psychic phenomena, they have failed to convince many researchers in other branches of psychology that either PK or ESP is real. Skeptics question the validity of parapsychologists' scientific methodology and suggest that most of the correct information received by psychics can be attributed to lucky guesses. Moreover, researchers who bring a skeptical attitude to studies have had trouble duplicating the results of studies conducted by ESP researchers who already believe in the phenomenon. Even when conditions under which tests are conducted are duplicated, it is rare for one researcher to achieve the same results as one in another lab. Why this is so is itself a source of controversy. Some blame discrepancies on faulty research methodology, others say that human beings who exhibit ESP are just not consistent in their skills.

Studying ESP Research does, in fact, suggest that one's state of mind can affect one's ESP ability. The earliest studies related to attitude and ESP is also one of the few to yield consistent results when repeated. The experiment focused on a basic question: "Do I believe that ESP is a real phenomenon?" Among the first of these studies was one conducted by parapsychologist Gertrude R. Schmeidler in the 1950s. Before testing her subjects for ESP, Schmeidler divided them into two groups according to whether they believed that ESP was real. One group, designated the "sheep," believed in ESP; the other group, designated the "goats," did not believe in

it. Overall, sheep performed better than chance would have predicted on Schmeidler's tests, while goats performed far worse. This study has been duplicated many times by other researchers, providing the same results; consequently, it has been called the most successfully replicated study in the history of ESP research.

In discussing Schmeidler's study, some parapsychologists have said that in order to do much worse than chance on the tests—that is, in order to choose the wrong answer so many more times than would be expected—the goats would actually have had to be using the very ESP they did not believe in. This view seems to be supported by a variation of the study that was done in the 1980s by parapsychologist B.E. Lovitts. Lovitts led the test subjects to believe that they were part of a study designed to prove that ESP did not exist. In this case, the goats scored far better than the sheep. Similarly, tests show that people who fear ESP—usually because they think their minds will be telepathically influenced without their consent—score even worse on ESP tests than goats. People who spend much of their time in a state of anxiety score poorly on ESP tests as well. In contrast, people who have outgoing personalities generally score well. A test subject's mood at the time of testing also seems to affect results, with people in a good mood scoring better than those who are in a bad mood. In addition, people with higher-than-average intelligence and good long-term memory perform better on ESP tests, as do people who dream vividly and remember those dreams easily, and perhaps people with high creativity as well. External incentives, however, such as paying a test subject to give right answers or shocking a test subject with a jolt of

electricity for giving a wrong answer do not result in a better performance.

Skeptics have interpreted the connection between intelligence, memory, creativity, and ESP to mean that people who seem to have ESP are merely very imaginative and have invented their ESP experiences, either consciously or subconsciously. To skeptics, laboratory results that seem to support the existence of ESP are due to luck; spontaneous instances in which ESP appears to have been at work, they say, are due to imagination, fantasy, and/or the desire to tell a good story.

A majority of the American public does not agree with the skeptics' assessment of ESP. According to the National Science Foundation, 60 percent of Americans believe in the existence of ESP, and other studies put this number even higher. In addition, according to one study of more than fourteen hundred adults chosen at random, 67 percent believe that they themselves have some degree of ESP ability.

SEE ALSO: clairvoyance; precognition; psychokinesis; telepathy



faces appearing in objects

Sometimes people look at stains, burns, lines, or other marks on objects and believe that they can discern faces in them. On rare occasions, such images seem to bear a striking resemblance to a particular person; when that image is of a religious figure, such as Jesus or the Virgin Mary, witnesses often believe that the image was sent by God. In fact, even when the image only vaguely resembles Jesus or Mary, an extremely religious person might see it as being a true and divinely caused phenomenon. In such cases, believers sometimes flock to view the object, even if the object itself is quite ordinary. This was the case, for example, at various times in 2005, when people thought they saw the Virgin Mary in the scorch mark on a tortilla and Jesus in a scorch mark on a grilled cheese sandwich. Skeptics call this tendency an illusion or perceptual error based on an irrational need to believe in a particular religion.

SEE ALSO: weeping images; miracles

fairies

In Western folklore, faeries are said to be tiny magical beings that look like humans with wings. Because they are found in folklore, some people believe fairies to be mythical creatures, but others think that fairies really do exist and that descriptions of fairies in folklore are accurate representations of living beings. According to folklore, fairies live among humans but are

usually hidden or invisible. These beings use magic capriciously, either to cause mischief or to help deserving humans by leaving them gifts. Fairies are also said to be able to make time stand still, and some stories hold that they are able to change their shape, or shape-shift, at will, so that they can look like an ordinary human or some other creature. In addition, they are portrayed as being vital to maintaining the life force of nature, typically by nurturing trees and plants. Ancient Celts of the British Isles thought that fairies lived within certain trees, or that certain trees held secret doorways to the fairy kingdom. The Celts also believed that fairies could live either alone or in groups; fairies in groups were called trooping fairies. According to some legends, fairies once lived in open fields but eventually went underground to dwell in hills of earth called fairy mounds.

The first literary mention of fairies occurred in England in approximately A.D. 800, but many scholars suspect that the idea of fairies is far older, carried to England by the Romans who conquered the Celts around this time. According to this theory, the Romans had adopted the concept from another Mediterranean people, the Etruscans. Supporting this theory is the fact that Etruscan art from around 600 B.C. depicts small, winged, humanlike beings very similar to today's common image of a fairy. These Etruscan beings were associated with the preservation of nature and were said to be able to make magic potions that could change the composi-

tion and shape of matter. However, they were typically depicted in the company of deities, and scholars disagree on whether they were viewed as spirits of the dead, as angels, or as mortal yet magical beings.

Other scholars theorize that the Celts developed the idea of the fairy independently, citing as evidence stories related to a people called the Tuatha de Danaan. According to legend, these short-statured beings disappeared into the woods when the Celts conquered the British Isles. It was said that no matter how hard people looked for them, the Tuatha de Danaan could never be found—unless they wanted to be.

Today, some people believe that fairies are just one class of magical beings. Other such beings include brownies, elves, gnomes, goblins, leprechauns, and pixies. An alternative theory is that all these beings can be considered varieties of fairies.

Some people believe that, unlike the Tuatha de Danaan, if they look hard enough and are open-minded to magical possibilities, they can find fairies in deep woods, lush gardens, or other remote places. In 1917 two schoolgirls, sixteen-year-old Elsie Wright of Cottingley, England, and her ten-year-old cousin, Frances Griffiths, claimed that they had found fairies in just such a place, a glen near one girl's home. Moreover, they claimed that they had photographed the tiny beings. Their photographs caused a sensation and led people such as famed author Sir Arthur Conan Doyle to declare that fairies were real beings. Later, however, it was discovered that the girls had apparently faked the pictures. They had cut out some illustrations of fairies, painted them, and posed them, whereupon they used a borrowed camera to create their fairy photographs.

SEE ALSO: Cottingley fairy photographs; Doyle, Sir Arthur Conan; leprechauns, elves, dwarfs, gnomes, and goblins

fairy rings

In the mid-twentieth century, people who saw strange circles of flattened, dark grass attributed the phenomenon to a UFO's landing. In earlier times, however, they attributed them to dances held by fairies and called the circles fairy rings. According to folklore, if a person steps into a fairy ring, dancing fairies will carry that person away to a land where time moves so slowly that if the person ever returns, his relatives will have grown old in what for the abductee only seems to have been a few minutes. Researchers into the alien abduction experience, whereby people claim to have been abducted by extraterrestrials, note similarities between such stories of fairy abductions and alien abduction stories; this has led some to develop complicated theories connecting abduction scenarios to folklore and the notion that there is a collective unconscious—that is, a body of symbols, images, and concepts shared by all human minds—that recalls human interactions with aliens in prehistoric times.

Today, scientists know that most flattened circles of dark grass are caused by a type of fungus, *Marasmius oreades*, which gradually kills plants in a way that makes them look like they have been flattened from a point in the center outward. Still, many people today use the term *fairy rings* to refer to the manifestations of this fungus infestation.

SEE ALSO: alien abduction experiences; crop circles; fairies

faith healing

Faith healing involves spontaneous cures supposedly brought about by prayer. In

many cases, faith healing is accomplished through the touch of a person who claims the ability to heal the sick in the name of God. Skeptics dismiss such claims, saying that faith healers either are intentionally trying to trick others, whether for profit or self-aggrandizement, or are imagining that they have divine powers. Skeptics do not dismiss the possibility of spontaneous cures, however. Physicians have long known that the human mind can affect the body's health. For example, scientific studies have shown that prayer and meditation can reduce blood pressure. Doctors believe that similar forces might be at work when a person's cancer suddenly goes into remission, even though medical treatments have failed to have any effect. Researchers think that anything that results in a more positive attitude on the part of a patient can, for example, improve immune function.

Even people who study reported miracles for the Catholic Church have said that most cases of spontaneous cures can be explained by psychology if not by medical science. Those who believe that some external force is at work in faith healing point to studies in which some patients' health improved dramatically and inexplicably after prayer circles (groups of people who pray together, either while gathered together or while alone but praying at prearranged times) included those patients in their prayers for good health—without the patients' knowledge and irrespective of whether the patients believed in prayer.

SEE ALSO: miracles; psychic healing

false memories

Skeptics say that memories of a paranormal experience, which sometimes can only be recalled with the help of hypnosis are false—that the events the subject recalls

did not happen but were implanted by the hypnotist, either intentionally or by accident. Such memories can be as rich in detail as real ones, and people who recall them are convinced that they are real. In fact, they are so convinced that when subjected to a polygraph, or "lie detector," test, the results indicate that they are telling the truth when they are asked to describe the memory. Such people are said to be suffering from false-memory syndrome.

Most accusations by skeptics regarding false-memory syndrome relate to accounts of alien abduction. For example, skeptics have often criticized alien abduction expert David M. Jacobs, who has conducted more than 850 hypnosis sessions with abductees, of creating similarities among abduction stories by the way in which he talks to his patients during sessions. They have suggested that Jacobs asks leading questions, encouraging his patients to give the answers that he wants to hear.

Jacobs, however, insists that his sessions are conducted so as to prevent creation of false memories. He also argues that it is possible to tell the difference between a false memory and a real one. He says that there are five differences between real abduction accounts and the kinds of stories typically recovered as a result of false-memory syndrome. In recounting these differences, he says that (1) people who produce false memories under hypnosis focus only on childhood experiences, whereas true abduction memories often involve recent events; (2) abductees remember certain things under hypnosis that can be corroborated by other witnesses, such as hearing a noise that others heard as well; (3) abductees sometimes remember their experiences without the aid of hypnosis; (4) abductees have been shown to be missing during the time they claim

to have been abducted, whereas this type of physical corroboration often does not exist with false memories; and (5) on rare occasions, more than one person is abducted at the same time, and these multiple witnesses provide similar stories of the incident. Jacobs believes that competent hypnotists are able to ensure that false-memory syndrome does not occur. However, skeptics question Jacobs's qualifications, noting that he is not a psychologist. Moreover, psychologists say that it is not possible to distinguish a false memory from a real one.

SEE ALSO: alien abduction experiences; hypnosis; Jacobs, David M.

fantasy-prone personality

Citing research by psychologists Sheryl C. Wilson and T.X. Barber, skeptic Philip J. Klass says that as much as 4 percent of the U.S. population has a fantasy-prone personality. That is, their fantasies or daydreams are so real that all of their senses (seeing, hearing, smelling, touching, and tasting) are fully engaged during the event in question. Such people, therefore, experience their fantasies as though they are real. Individuals who claim to have been abducted by aliens, says Klass, fit into this category. Their stories of being taken into a spaceship, experimented upon, and then released are rich with details about what they saw and experienced on the ship.

Abduction researcher David M. Jacobs believes that fantasies cannot be as rich in detail as a real experience, and that extremely detailed recollections must be of real events. Jacobs also argues that abduction stories could not be recountings of fantasies because they include experiences such as medical experiments, which nobody would want to have. Jacobs also points out that there is no evidence that

abductees are more prone to fantasies than any other people.

Another abduction researcher, Kenneth Ring, agrees with Jacobs that abductees are no more likely to fantasize than anyone else. But Ring notes that abductees do share certain psychological traits, and that these traits are similar to those displayed by people who are prone to have mystical or visionary experiences. Consequently, he has theorized that abductees have *encounter-prone* personalities, whereby they are more likely to encounter something strange. By Ring's definition, people with an encounter-prone personality tend to accept the possibility that the world is not always as it seems, are interested in alternative explanations for reality, and are certain that unusual things can happen. Ring also theorizes that such people have heightened senses that allow them to perceive things that ordinary people would miss.

SEE ALSO: Jacobs, David M.; Klass, Philip J.; Ring, Kenneth

Fate magazine

Published since 1948, *Fate* magazine is the foremost periodical dedicated to the paranormal. Issued monthly, *Fate* publishes articles on subjects as diverse as cryptozoology, faith healing, and haunted houses.

Fate's first issue presented an article on a 1947 UFO sighting by pilot Kenneth Arnold. Most ufologists believe that, thanks to the article, Arnold's report greatly influenced public opinion on UFOs, convincing many Americans that extraterrestrials were visiting Earth. The creators of *Fate* were editors Raymond A. Palmer (who was previously the editor of *Amazing Stories* magazine) and Curtis Fuller. The two men remained with *Fate* until 1955 and 1988,

respectively. In 1988 the magazine was purchased by Llewellyn Publications, which specializes in the paranormal and is the largest publisher of books on witchcraft.

SEE ALSO: Arnold, Kenneth

feng shui

Feng shui (Chinese for “wind, water”) is an ancient Chinese belief system that concerns the relationship between objects and their environment and the effect that this relationship has on people. According to feng shui, placing objects in certain locations within a house, for example, or aligning buildings in certain ways, will bring good luck, prosperity, and feelings of harmony by allowing an invisible life energy

(called *chi*) to flow more smoothly—much like wind or water does—through the environment. Conversely, blocking this energy by positioning objects improperly will bring bad luck, poverty, and feelings of disquiet. It is also considered bad to allow energy to flow through an environment too quickly, via an uninterrupted straight line called a secret arrow, because then the energy is going so fast that parts of it fly off and disappear. (However, a secret arrow is considered acceptable if the straight line is on a ceremonial route leading to a sacred shrine.)

Believers in feng shui use these principles and others to make many decisions in their lives. For example, building sites are chosen based on whether the topography is believed to have a good, strong flow of energy. Without such a flow, feng shui devotees say, the building will be weaker structurally, and the activities within it will be performed in a halfhearted, sluggish manner. If the landscape lacks the right conditions but using a different site is impossible, then a feng shui expert is called upon to alter the site’s contours to improve the energy flow and/or to place objects around the building, such as fountains or decorative walls, to contain or deflect energy as required. Similarly, the architects of a house built according to principles of feng shui are careful not to place walls, windows, or doors in ways that will bring the home’s residents bad luck. For example, they do not align doors because if a series of doors were to be left open it would create a secret arrow. Similarly, architects avoid positioning stairways so that they lead directly to—and therefore rush energy out of—the front door, because this is believed to drain good fortune, particularly in the form of money, from a household. Residents of a home

who believe in feng shui are equally careful in the placement of their possessions. For example, they keep rooms free of clutter because it blocks the flow of energy, and they hang small wind chimes near the front door (called the “mouth of chi” because it is where energy enters a building) in order to keep away bad luck and bring more money into the home.

Furniture placed in the wrong spot in a room is said to cause all kinds of problems for the household’s residents, including fights and illnesses, so practitioners of feng shui take particular care in decorating their homes. To determine the placement of furniture and other movable objects, a feng shui expert creates a *ba-gua*, an octagonal map that divides spaces within a building or within each room into eight sectors, each representing a different aspect of life: wealth, fame, marriage, children, helpful people, career, knowledge, and the family. This map is then consulted before furniture placement. For example, beds are positioned in accordance with the sleeper’s age and marital status. Children’s beds are put in the “children’s area” of a room; couples’ beds belong in the “marriage area”; a young adult’s bed should be placed in an area connected to his or her pursuits, such as the “knowledge area” for a college student or the “career” or “helpful people” area for someone just starting a new job; and an older, unmarried person’s bed should be in the “family” area. Mirrors in a bedroom are believed to cause bad dreams, whereas beds placed directly below ceiling beams are believed to cause chronic bad health or ongoing arguments between couples.

Numerous books have been written on the subject of how to create good feng shui within a home. Moreover, there are so many complicated beliefs and practices re-

lated to feng shui that believers often hire professional feng shui consultants to tell them where to put their possessions within a home or office. Some people also consult feng shui experts before designing a building so they will know how to orient stairs, doorways, walls, and windows.

SEE ALSO: Earth energy

fire starters

The term *fire starters* is commonly used for people who seem to start fires spontaneously, without using any physical means to do so. Parapsychologists consider this ability to be a type of psychokinesis, which is the ability to alter the physical environment using thought alone. Most fire starters are children or teenagers, whose toys, bedding, or other objects might suddenly burst into flames for no apparent reason. In most cases of fire starting, the person causing the phenomenon is believed to be doing so subconsciously and has no control over the process. Occasionally, however, a person can intentionally think about starting a fire and make it happen.

The fact that so many fire starters are youngsters and that many children have a tendency to play with matches has led skeptics to insist that these individuals are secretly lighting the fires not with their minds but with ordinary devices. Even adult fire starters are often accused of this, as was the case with Charlotte Compton in Italy in 1983. She was found guilty of intentionally setting a fire in a house even though witnesses testified that when the fire started in one room of the house she was in another room at the time.

SEE ALSO: spontaneous human combustion

fire walking

Having occurred for centuries all over the world, typically as a part of religious or

magic rituals, fire walking is the practice of stepping on hot coals or stones or burning wood embers with bare feet. Fire walkers might be subjected to temperatures as high as 1,472 degrees Fahrenheit (800°C), yet their skin rarely burns. In 1935 psychical investigator Harry Price theorized that the reason fire walkers do not suffer burns is because they typically walk across the hot coals or other substances so quickly that the heat does not have time to damage the skin; however, not all fire walkers walk quickly. In 1977 an Ohio professor named Jearl Walker noted that many fire-walkers wet, wash, or soak their feet before beginning a fire walk, and he suggested that fire walkers do not get burned because when water is subjected to high heat, it turns into vapor, which forms a protective coating over skin. Others have theorized that fire walkers' bodies produce an unusually high amount of endorphins, which are responsible for blocking pain, but this would not explain the lack of burns. Still others have suggested that fire walkers' preparations for the event create an as-yet unidentified mental state, which allows them to block out both pain and skin damage.

SEE ALSO: Price, Harry

Flatwoods Monster

Reported in Flatwoods, Virginia, on the night of September 12, 1952, the Flatwoods Monster is said to have been an alien from another planet because the creature was first seen after an apparent UFO crash. The incident began when three boys spotted an odd sphere of light moving across the sky that appeared to crash behind a hill. They, four additional boys, and the mother of one of the boys then searched the area where they thought the crash had occurred and discovered a huge

ball of flames. Nearby, hiding behind a tree, they saw a creature that was at least 6 feet (1.8m) tall and had a head that they later described as being shaped like a spade on a playing card. Within this head, they claimed, was a round window, from which two blue beams of light shot straight ahead. The creature did not appear to have any legs, and as it moved first slightly toward and then away from the witnesses, it seemed to slide along the ground. As it began to move, the witnesses fled. They immediately reported their experience to others, who said that the witness had appeared to be badly shaken by what they had seen. One person who heard their story, newspaper reporter A. Lee Stewart Jr. of the local newspaper, the *Braxton Democrat*, later went to the crash site but saw nothing, although he did smell a foul odor. However, since it was too dark to see the landscape, the next morning he returned to the site, and at that time he saw marks on the ground that indicated a large object might have hit the ground and skidded to a stop. In his subsequent story on the event, Stewart dubbed the creature the Flatwoods Monster. Interestingly, both before and after the event, there were several UFO sightings in the area. Moreover, some forty years later, in the early 1990s, the mother, Katherine May Horner, claimed that she had been visited by two men who tried to convince her that she had imagined what she saw. Around the same time, someone showed her a letter, supposedly from government officials, claiming that she and the boys had seen a spacecraft that was part of a lunar rocket experiment and that it had crashed due to "oil trouble." Since it is highly unlikely that this was the case, some people have suggested that Horner was the victim of either a prank or an attempt to discredit her as a witness. In-

deed, such tactics are common among debunkers who want to make UFO witnesses seem to be liars or fools.

SEE ALSO: debunkers; Men in Black

***Flying Dutchman*, the**

The *Flying Dutchman* is a ghost ship that, according to legend, supposedly appears to sailors as a sign that some tragedy is about to occur. There are many variations of the story of the ship's origins, though in most versions the ship was said to be captained by a Dutchman who sailed around Cape Horn, the southern tip of South America, during a tremendous storm despite the passionate objections of his crew. In one version of this story, as the sailors prayed for divine help, a spirit appeared and the captain cursed it, then fired several shots at it. In another version, the spirit appeared after the captain said that even God could not sink his ship; the captain then told the spirit to leave and tried to shoot it (but his gun blew up instead of firing), whereupon the spirit cursed the captain and his ship. In either case, the ship was doomed to an eternity of sailing the seas and, according to some stories, of bringing misfortune to all who see it.

For centuries, sailors have reported seeing the *Flying Dutchman* right before a tragedy. For example, on July 11, 1881, thirteen crewmen on a British warship, including Prince George (later King George V) of England and his brother Prince Albert Victor, saw a phantom ship with a strange red glow approach the port bow and then suddenly vanish. The royal brothers later wrote in their journal that they believed the apparition to be the *Flying Dutchman*, particularly since after the sighting a lookout on their ship fell to his death from a mast, and the admiral com-

manding the ship died of a mysterious illness.

SEE ALSO: curses; ghost ships and trains

flying saucer

The term *flying saucer* has often been used to refer to extraterrestrial spacecraft. Its use was inspired by the UFO report filed by private pilot Kenneth Arnold, who, in 1947, reported seeing nine mysterious objects “flying like a saucer would if you skipped it across the water.” When this report was published in newspapers throughout the world, some reporters misquoted Arnold, saying he had said that he had seen “flying saucers.” After this, hundreds of people began claiming that they too had seen “flying saucers”—and they described these objects as being saucer shaped, which Arnold did not.

SEE ALSO: Arnold, Kenneth; UFOs

foo fighters

The term *foo fighters* is often used to refer to UFOs that are reported by pilots flying at night as being mysterious moving lights. The first use of the term in this regard occurred during World War II, when fighter pilots, both Allied and German, flying at night over Germany often saw strange lights moving across the sky. Allied pilots, thinking these lights represented a new kind of German high-speed fighter plane, started referring to them as foo fighters. However, there is no evidence that such planes existed at that time or place, and the lights have never been explained.

As to how the pilots came up with the word *foo*, some say they pulled it from their imaginations, while others say that it developed from the term *kung fu*, a type of martial art whose practitioners employ quick, erratic movements during fights. Still others think that the term came from

a phrase uttered by a popular comic-strip hero of the 1930s, Smokey Stover the firefighter; instead of using the common saying of the time, “Where there’s smoke, there’s fire,” he would say, “Where there’s foo, there’s fire.”

SEE ALSO: UFOs

Forer effect, the

The Forer effect occurs when people consider certain statements to refer specifically to them, when in fact the statements are so general that they could apply to anyone. The effect was first identified by psychologist B.R. Forer in 1948 during a test that he conducted on his students in an attempt to discredit astrologers who claimed that personality traits are determined by one’s astrological sign. Forer gave each student a personality test that he

pretended would provide an in-depth analysis of that student’s unique personality traits. Shortly thereafter, he gave each test subject his or her supposedly individualized test results, which included statements like “you have a need for other people to like and admire you” and “at times you are extroverted, affable and sociable, while at other times you are introverted, wary and reserved.” Forer then asked each person to rate their individualized analysis according to whether it did a good job of describing his or her personality traits. Most of them said that it did. In actuality, though, all of the students were given the same results, and all of the phrases in the “unique personality analysis” were taken from horoscopes published in daily newspapers.

SEE ALSO: astrology

Fort, Charles (1874–1932)

New York author Charles Fort is one of the best-known researchers into unusual phenomena. In fact, two words related to the investigation of the paranormal are derived from his name: *forteana*, which are strange, seemingly inexplicable things or events; and *fortean*s, people who study such things and events. He also inspired several organizations devoted to forteana.

Fort first became interested in the paranormal while working as a news reporter and novelist. At the time, he was having trouble getting his work into print, and he found it a tremendous struggle to support his wife, Anna Filing. He started searching libraries for story ideas, and he soon found himself becoming obsessed with collecting reports and firsthand accounts of seemingly unexplainable phenomena, such as strange rains, spontaneous human combustion, and the sightings of mysterious beasts. Then, in 1916 and again in 1917, he inherited money that allowed him to concentrate on compiling some of these stories into a publishable form. When he had a final manuscript, his friend, famed novelist Theodore Dreiser, convinced his own publisher to put Fort's work into print. The resulting work, *Book of the Damned* (1919), was the first of four published works; Fort's other collections were *New Lands* (1923), *Lo!* (1931), and *Wild Talents* (1932). All included his own commentary and theories related to the tales he was presenting, though his books' primary purpose was to let people know about unexplainable things and incidents that he believed science had ignored.

Fort had long criticized scientists for their methods of investigating paranormal phenomena, suggesting that they let their beliefs influence which data they accepted

as valid and which they ignored. (In fact, the title of his first book came out of this belief; the word *Damned* refers to paranormal incidents that Fort believed had been cast down, or ignored, by scientists who only cited evidence that supported their preconceived notions.) He also enjoyed attacking scientists whenever they made predictions or proposed theories that later turned out to be false. In response, scientists and other intellectuals ridiculed Fort's work, though it was popular with the general public. In 1920, while in London, England, doing research at the British Museum, Fort received additional criticism for making the suggestion, in four letters to the *New York Times*, that extra-terrestrials had been visiting Earth for years. In 1932 a close friend, Tiffany Thayer, decided to create an organization dedicated to promoting and adding to Fort's work, including his attacks on scientists. Called the Fortean Society, it remained in existence until 1960, the year after Thayer died. Five years later another organization rose up to continue its work, the International Fortean Organization (INFO), which publishes a quarterly journal called the *INFO Journal*. However, Fort was not a member of the Fortean Society because he was opposed to participation in any organized group.

SEE ALSO: Fortean Society and International Fortean Organization; *Fortean Times*; rains, strange

Fortean Society and International Fortean Organization

The Fortean Society and the International Fortean Organization were two groups dedicated to continuing the work of Charles Fort, a collector of reports and firsthand accounts of strange phenomena that had been ignored by scientists. The

Fortean Society was established in Fort's lifetime, in 1932, by his close friend Tiffany Thayer, who not only appreciated Fort's insights into the paranormal but also delighted in his attacks on conventional scientists. The society disbanded in 1960, but five years later Ronald J. Willis formed the International Fortean Organization (INFO) to take its place. INFO publishes a quarterly journal, the *INFO Journal*, which contains articles on a variety of unusual physical phenomena, the primary focus of Fort's research.

SEE ALSO: Fort, Charles

Fortean Times

Called the *News* from its founding in 1973 until 1976, the *Fortean Times* was created by editor Robert J.M. Rikard in order to promote and discuss the ideas of Charles Fort, a collector of reports and firsthand accounts of strange phenomena that had been ignored by scientists. In its first years, during which it was published bimonthly, the magazine concentrated on publishing articles about paranormal incidents that had already been reported elsewhere. Eventually, though, it began publishing original material as well. In 1977 the magazine became a quarterly (it went back to being a bimonthly in 1991). By the 1980s, now with its title lengthened to *Fortean Times: The Journal of Strange Phenomena*, it also supported the publications of such works as *Lake Monster Traditions* (1988) and *Lost Lands and Sunken Cities* (1988). Today the magazine is one of the most respected publications of its kind among believers in the paranormal.

SEE ALSO: Fort, Charles

Fowler, Raymond

Raymond Fowler has spent more than forty years as a ufologist and is the author

of eleven books on subjects related to UFOs and paranormal phenomena. Five of these books, including *The Watchers* (1990) and *The Andreasson Affair* (1994), are connected to the alien abduction case of Betty Andreasson Luca, who, in describing her experiences, insisted that the aliens (whom she calls "the Watchers") are caretakers of Earth who only abduct humans in order to test them for damage due to environmental pollution. A devout Christian, Luca's positive view of the aliens is similar to her view of God as benevolent rather than punitive.

In interviews, Fowler has said that the main reason he was attracted to the Luca case was that he particularly wanted to study how the alien abduction experience affected a devout Christian since Christian beliefs tended to conflict with beliefs regarding paranormal phenomena. At one time Fowler himself was a fundamentalist Christian who believed that all paranormal phenomena were the work of the devil or were a symptom of a serious mental illness in the persons reporting such phenomena. He brought this attitude to his first investigations of UFO sightings but gradually changed his view as he met more and more UFO witnesses, most of whom struck him as sane, credible, and clearly not aligned with Satan.

As he became more open to the possibility that paranormal phenomena were real experiences, Fowler developed his own theories regarding the source of UFOs. While still considering the reason behind UFO-related experiences to be a mystery, he has speculated that UFOs, near-death experiences, and psychic abilities are closely related phenomena with the same source: an alternate reality. He lectures on this subject and others related to UFOs and alien abductions, and he also sponsors

courses on these subjects and appears on numerous television shows to discuss them. Fowler has also participated in several UFO-related organizations, including the National Investigations Committee of Aerial Phenomena and the Mutual UFO Network (MUFON), where he was once director of investigations and edited MUFON's *Field Investigator's Manual*, a guide to collecting and investigating UFO reports. An amateur astronomer, Fowler built the Woodside Planetarium and Observatory in Wenham, Massachusetts, and presented shows there from 1970 to 2001 as its director of operations. He has written books on astronomy, cosmology, telescope use, gardening, and fishing in addition to his books on the paranormal.

SEE ALSO: Mutual UFO Network; National Investigations Committee of Aerial Phenomena; Watchers, the

Fox sisters, the

The first spirit communicators to be called mediums were the Fox sisters, Kate (1841?–1892) and Margaret (1838?–1893). Their public demonstrations of their abilities sparked the birth of the Spiritualism movement, which lasted until the early twentieth century (and, in Spiritualist communities like Lily Dale in New York state, survives in a weakened form today) and resulted in hundreds of people throughout the United States and Europe establishing themselves as professional mediums. For all their influence, though, it is unclear whether the Fox sisters actually had any skills as spirit communicators. They ultimately confessed to being frauds, although there is reason to believe that their confession, not their original claim, was a lie.

Early Years Exactly when the Fox sisters' experiences with spirits began is uncer-

tain, but in 1847 or 1848, the girls and their family, including an older sister, Leah, began to hear unexplained noises in a house they had recently moved into. At least two previous occupants had heard similar noises, but this time there was a new twist to the mysterious phenomenon. When the girls knocked on a table, they heard another knock in response. Concluding that they were hearing a spirit, they asked it questions, telling it that rapping three times meant "yes" and staying silent meant "no." The sisters developed a means for the spirit to spell out messages: when they recited the alphabet, it knocked whenever they were meant to write down a letter, thereby forming words.

Over a series of days, the Fox sisters acted as mediums for members of their family and for neighbors, who questioned the spirit and determined that in life it had been a traveling salesman who had been murdered and buried in the cellar of the house. The townspeople then dug up the cellar and found some human hair and bones. (In 1906, the rest of the skeleton was found in between two walls, along with a peddler's tin box.) Stories subsequently spread about a peddler who had disappeared after visiting the house, then owned by a man named John Bill, but he denied committing murder and the crime was never solved.

Spirit-Contacting Sessions Nonetheless, the discovery of the bones enhanced the credibility of the Fox sisters' claims to be spirit communicators, and crowds gathered to watch them perform. According to some estimates, more than three hundred people asked the spirit questions. Finally, the spirit sent the Fox sisters the message that they needed to share their talents with the world. As a result, in late 1849 they appeared in an auditorium before a large

paying audience, the first of many such appearances across the country. The Fox sisters also held private spirit-contacting sessions, which they called sittings, for pay. (Now such sessions are more commonly called *séances*, the French word for “sittings.”)

By this time, they were claiming the ability to contact not just one spirit but almost any spirit. In their sessions, clients would ask them to contact the spirit of a particular loved one, and they would comply. Sometimes these messages were accompanied by physical manifestations, such as the rocking of a table, the abrupt movement of chairs, and the sudden appearance of mysterious lights. Many eyewitnesses believed that these phenomena really were caused by the presence of spirits. Others, however, were becoming suspicious that the girls were faking the phenomena in order to make money.

Increased Skepticism In 1851, amid increased skepticism about the sisters’ mediumship, three professors from the University of Buffalo, New York, publicly speculated that the Fox sisters were making the rapping sounds by somehow flexing their own knee joints. Shortly after an article about this theory was published, a relative of the Fox sisters claimed that the girls had admitted to her that they were making the sounds with bodily movements. Consequently, the girls consented to an investigation intended to prove their talents, during which participants held the girls’ ankles so that they could not snap their knees. When the sounds were heard anyway, many people thought that this proved the Fox sisters were not frauds.

Then a servant girl claimed that the sisters had told her to go into their cellar during the session and knock on its ceiling

when she heard their voices call out for a spirit response. At the time, many people believed this story, although the Fox sisters had no servant and the investigation was not held in their home. As a result, the investigations and accusations of fraud continued, as did skeptics’ frustrations at not being able to prove that the girls were cheating, either in regard to the knocking or in regard to how they might have come up with the answers to questions asked by investigators. In some cases, these questions were formed in thought but not asked out loud, but the spirit knockings still gave the correct answers.

The sisters’ partnership ended when Margaret married because her husband, a physician who was skeptical of paranormal phenomena, refused to let her have anything more to do with mediumship. Unable to perform with her sister, Kate began working exclusively for a widower who wanted her to contact his dead wife, Estelle. Kate contacted Estelle by *séance* 388 times, during which the figure of the woman would materialize in the room to write messages. Various respected witnesses confirmed that when this happened, Kate’s hands were being held or otherwise engaged, and they verified that the doors and windows to the *séance* room were locked before Estelle appeared.

Confessions In 1871 Kate traveled to England, where she married, had two children, and gave *séances* for important people, sometimes in concert with Scottish spiritualist Daniel Dunglas Home. In 1883, having been widowed two years earlier, she visited Russia, where she also gave *séances* for prominent people. By this time, Margaret’s husband had died as well, and she had fallen into poverty, partly because she had become an alcoholic. Conse-

quently, she tried giving séances again, but her efforts were not always successful.

In 1888 she publicly said that she had faked the spirit communications by popping her toe and finger joints. Some say that this confession was the result of Margaret's conversion to Catholicism, a religion that condemned spiritualism. Others say that the confession was due to Margaret becoming jealous of Kate's successes. In either case, a few months later Kate backed up Margaret's confession, and the two gave a public demonstration of their tricks. Reports vary regarding how convincing this was, with some people saying that it was nothing like the performances they gave years earlier.

Indeed, a year later Margaret recanted her confession, saying that anti-Spiritualists had talked her into lying about her talents, and Kate soon retracted her confession as well. Shortly thereafter, both sisters fell into ill health and died, Kate in 1892 and Margaret in 1893. Witnesses at Margaret's deathbed heard strange rapping sounds during her last hours, despite the fact that she was paralyzed and could not have popped her joints.

SEE ALSO: Lily Dale; spiritualism

frogs and toads, mysteriously entombed

In nineteenth-century England, one of the most prominent controversies related to paranormal phenomena was over whether it was possible for frogs and toads to become entombed in coal, stone, or rock yet remain alive, sometimes for years, without food or water. Some British scholars said that a belief in entombed frogs and toads, of which there were many stories throughout the English countryside, was mere su-

perstition, but others said ample proof existed that such a phenomenon was real. This argument grew more heated during the Great Exhibition of London in 1862 because it displayed a frog and the lump of coal in which it had supposedly been found alive, with the inner wall of the coal appearing to have been molded around the frog. Several scientists said that this was impossible because the coal would have formed millions of years earlier under intense heat and pressure deep below the earth. Some members of the British public demanded that the exhibition remove the display. Others insisted it remain, saying they too had found frogs or toads entombed in rocks. As proof, they sent their frogs and coal lumps to the Natural History Museum for study—and the museum eventually received so many specimens that it did not know what to do with them all.

Long before this controversy erupted in England, however, frogs and toads had often been found entombed in various kinds of stone, usually at rock quarries and seen by numerous witnesses. The first written account of such a case involved a live toad found within a block of stone in a French quarry during the late sixteenth century. Occasionally, newts, snakes, or shellfish were reportedly found as well. In one case in 1818, Cambridge, England, geologist E.D. Clarke found several newts entombed in stone 275 feet (83.8m) beneath the surface of the earth. When exposed to sunlight, three of them started moving; two died shortly thereafter, but the third was so lively that Clarke put it in water, and it wriggled away. Clarke then examined the dead newts and decided they were unlike any existing on earth. He concluded that they were of an ancient, unknown species.

Given such occurrences, some scientists decided to investigate whether a frog, toad, or other small creature really could survive a long entombment. To this end, they devised various experiments in which toads were sealed within stone, without food or water, for varying periods of time. In most cases, the animals died, but occasionally they survived. For example, in 1771 a French naturalist known as Herissant entombed three toads in a plaster-lined block of wood, and three years later he discovered they were still alive. He could come up with no explanation for this, and even today scientists cannot explain why frogs and toads are sometimes found entombed in stone, or how they manage to survive there for many years.

Cases of mysterious frog and toad en-

tombment continue to be reported in modern times. During the early twentieth century, New York author Charles Fort, one of the best-known researchers into unusual phenomena, documented numerous cases in his books on mysterious events ignored by science. More recently, in 1982 in New Zealand, railroad construction workers broke into some rock at a ground depth of twelve feet (3.7m) and discovered two live frogs. But despite such reports, some skeptics say that frog and toad entombments do not really occur. Instead, they argue, these events are simply “tall tales,” created by tabloid journalists or by quarry or construction workers with a talent for embellishing stories.

SEE ALSO: Fort, Charles; rains, strange



Gaddis, Vincent H. (1913–1997)

Vincent H. Gaddis is credited with naming an area of the Atlantic Ocean where ships and planes have apparently disappeared under mysterious circumstances the Bermuda Triangle. He wrote numerous articles on the paranormal, which were published in such magazines as *True Mystic Science* and *Amazing Stories* during the 1930s and 1940s. In 1948 he helped establish the magazine *Fate* and wrote many articles for that publication. His first use of the term *Bermuda Triangle* was in an article for an adventure magazine called *Argosy* in 1964. In this article, which subsequently appeared in Gaddis's 1965 book *Invisible Horizons*, the author promoted the view that some kind of paranormal phenomenon, as opposed to storms or other ordinary mishaps, was responsible for the disappearances. He wrote several other books on the paranormal, including *Mysterious Fires and Lights* (1967).

SEE ALSO: Bermuda Triangle, the; *Fate* magazine

ganzfeld studies

Developed in 1971 by parapsychologist Charles Honorton, ganzfeld studies are extrasensory perception (ESP) tests (usually of telepathy) conducted with a subject who has been placed in a state of sensory deprivation so that all five senses—sight, smell, touch, hearing, and taste—are kept from any sort of stimulation. (The Ger-

man word *ganzfeld* has been translated as “uniform field” or “entire field,” meaning “total environment.”) This theoretically allows the subject’s extrasensory perception—if it exists—to become more focused and powerful.

To bring about sensory deprivation prior to testing, the subject is most commonly put in a comfortable reclining chair within a special soundproof room that is temperature and pressure controlled for maximum comfort. The subject also wears headphones that supply white noise, which prevents the subject from hearing any other sound. Special eye covers (usually made from halved tennis balls) and light-bulbs (usually dim red ones) are used to make the subject’s eyes see a diffused light rather than a specific image.

In the earliest ganzfeld experiments, which tested for telepathy, the subject attempted to receive images from photographs that were being viewed with great concentration by a “sender,” and afterward the researcher would ask the subject to choose which of four pictures had been transmitted. After skeptic Ray Hyman publicly attacked this methodology for making it possible for the researcher to influence the test subject’s choice, Charles Honorton changed this and other aspects of the testing so that the subject’s answers could not be influenced, intentionally or unintentionally, by the researchers’ reactions (a problem known as the Clever Hans phenomenon). This new approach, which Honorton called autoganzfeld experimen-

tation, was later refined by parapsychologist Rick E. Berger, who also coauthored papers on ganzfeld with Honorton. Still used today, such experiments are designed so that researchers and test subjects are kept apart as much as possible, and the images used in the tests are chosen at random, nowadays by computer, from a large number of possibilities.

In repeated ESP studies using autoganzfeld experimentation, parapsychologists have found that test subjects correctly identify the image being transmitted about 35 percent of the time, whereas, the laws of probability would only predict a 25 percent success rate. Skeptics, however, discount these results because of the way in which successes are determined. Specifically, while being subjected to sensory deprivation, the only way a test subject can describe the image supposedly being sent telepathically is by talking about it; researchers must then determine whether and how this verbal description matches the actual photographic image seen by the sender. In many cases, several interpretations of the verbal description are possible, making the test too subjective to satisfy skeptics.

SEE ALSO: Honorton, Charles; Hyman, Ray; telepathy

Garrett, Eileen J. **(1893–1970)**

British psychic Eileen Garrett was among the most famous trance mediums of her time. When in a trance, she would typically connect with what she said was the spirit of an Arab, Uvani, who would then possess her body and speak with anyone else present. During some of these sessions, Uvani would describe events that Garrett could not possibly have known

about, such as the technical details of what happened during an airplane crash that was still under investigation and for which the report had yet to be released. This particular incident was recorded in 1930 as part of a scientific investigation of Garrett's skills, undertaken by the National Laboratory of Psychical Research. During the 1930s Garrett also participated in U.S. studies at Johns Hopkins University and at the New York Psychiatric Institute that examined whether Uvani and other spirits connected to Garrett were indeed unique personalities. Researchers concluded that these entities were separate from Garrett's own personality, but they could not determine whether they came from the spirit world or from Garrett's subconscious.

Garrett herself was worried that the spirit might not be genuine—that she was somehow creating Uvani (and other spirits)—and agreed to participate in a series of experiments by heart disease specialist Dr. Cornelius Horae Traeger. Traeger, along with many psychologists, theorized that Garrett was suffering from a multiple personality disorder, a psychological condition whereby a person's subconscious mind creates alternate personalities that seem real and unique. With this disorder, no matter which alternate personality is speaking, the person's physical characteristics generally remain unchanged. Consequently, in 1965 Traeger decided that he could determine whether Garrett—or any other medium—was suffering from such a disorder or, instead, was really being possessed by a separate entity simply by taking laboratory readings of her heart rate, blood pressure, blood chemistry, nerve reflexes, and other physiological characteristics both before and after the “spirit possessions.” He tested

Garrett both in her normal state and while she was in a twenty-minute trance and under the control of one of her spirits, Uvani, who had told Traeger he would cooperate with the test. Another spirit guide, Abdul Latif, was also involved; he agreed to “enter” Garrett immediately after Uvani “left” and remain in control for twenty minutes. Throughout the experiment, Traeger’s tests included measurements of blood count, blood-clotting time, respiration, pulse, heart pressure, heart rate, and Garrett’s reaction to various medications that were administered by injection. The test results were so surprising that Traeger was afraid his colleagues would think he had made some mistake. All of Garrett’s vital signs changed when she seemed to have been entered by a spirit, and each spirit provided unique readings. Moreover, each drug affected each entity—Garrett, Uvani, and Latif—in different ways. Skeptics, however, have suggested that these results were caused by the fact that Garrett used self-hypnosis before each spirit communication session, putting herself in a trance in preparation for the experience. Under hypnosis, skeptics note, people are able to alter their physiology, so that readings for parameters like blood pressure and respiration can change.

Indeed, Garrett herself continued to worry about whether she was creating her spirits, and eventually she founded her own research institution, the Parapsychology Foundation, to investigate mediums like herself and determine whether there really was such a thing as genuine spirit communication. Garrett also worked with the Society for Psychical Research to expose fraudulent mediums as part of its research into paranormal phenomena.

SEE ALSO: mediums, physical and mental; Society for Psychical Research

Geller, Uri (1946–)

A former paratrooper in his native Israel, Uri Geller is a self-professed psychic who claims to have a variety of paranormal abilities, including telepathy and dowsing skills. He frequently appears to bend spoons and stop watches simply by concentrating on them, and with varying success he guesses images in other people’s minds. Geller is also a frequent target of skeptics—particularly stage magician James Randi, who has said that Geller’s spoon bending is an illusion that any magician can perform using pre-bent spoons, a bit of distraction, and sleight of hand. In fact, during an appearance on the television talk show hosted by Johnny Carson, Geller was unable to bend spoons after Carson refused to let Geller use his own spoons and instead supplied him with some. At various times Geller has brought legal action against skeptics, including Randi, who have publicly criticized his powers; in each case the suit was eventually withdrawn or dismissed.

Geller says that he first noticed his paranormal powers after being struck by a strange ball of light as a child. However, he did not use his abilities until 1969, after he had started performing stage magic in Israeli nightclubs. By the following year, he was a celebrity in Israel and had his own television show with an international audience. Geller continues to demonstrate his paranormal abilities, though far less frequently than in the 1970s.

SEE ALSO: Randi, James

ghost hunters and ghost investigators

In the nineteenth and early twentieth centuries, the terms *ghost hunter* and *ghost in-*

vestigator were interchangeably used to refer to any person who investigated suspected hauntings. Today, however, the term *ghost investigator* refers to a person who conducts in-depth, controlled, scientific investigations of suspected ghost activity, whereas *ghost hunter* refers to one who merely visits reportedly haunted sites in an attempt to see and/or photograph a ghost or record the sounds it makes.

The first people to investigate ghosts scientifically were members of organizations devoted to studies of the paranormal. The oldest such organization still in existence is the Ghost Club of London, England, founded in 1862. Other notable organizations dedicated to ghost investigation are the Ghost Research Society, formed in the late 1970s, and the Ghost Hunter's Society, formed in 1994, both primarily operating in Illinois. The most famous such organization is the Society for Psychical Research (SPR), founded in London in 1882. Among its members were Henry Sidgwick, Frederic W.H. Myers, Edmund Gurney, Sir William Barrett, and Sir Arthur Conan Doyle, all of whom either investigated spiritualist activity or supported such investigation.

From 1920 to 1924, perhaps the most prominent SPR ghost investigator was Harry Price, a skeptic and an expert on stage magic who went on to become the most famous ghost investigator of the early twentieth century. One of his best-known investigations was a 1929–1947 study of the Borley Rectory, then considered the most haunted house in England. As part of this study, Price published a pamphlet, issued in 1937–1938, describing his investigation techniques and offering tips for others who might want to study ghosts as well. Another person to offer such tips is one of the most prominent modern-day

ghost hunters, Hans Holzer, who has written more than one hundred books about ghosts and haunted places. His first book, *Ghost Hunter*, brought him a great deal of publicity and inspired many ordinary people to take up ghost hunting.

SEE ALSO: Barrett, William; haunted houses and other structures; Holzer, Hans; Price, Harry; Society for Psychical Research

ghosts, animal

Sightings of ghosts have been reported throughout history and throughout the world, and more than 10 percent of Americans say they have actually seen a ghost. In most cases these ghosts are images of human beings not really present. In some cases, though, the images are of animals rather than of humans. These animal ghosts often appear repeatedly at the same place, sometimes for years, with the ghost seemingly oblivious to its surroundings and typically performing the same actions over and over regardless of who is watching. For example, the ghost of a chicken is said to haunt a part of London, England, called Pond Square. According to one story of why the haunting occurs, this was the site of the chicken's death, at the hands of philosopher Lord Francis Bacon in 1626. Conducting an experiment to see whether snow acted as a preservative, Bacon bought a chicken; had it killed, plucked, and gutted; and then started stuffing it with snow in Pond Square. While doing this, Bacon collapsed, and a few days later he died. But instead of his own spirit haunting the spot, the featherless chicken has repeatedly been seen there, flapping and flopping about in circles. On one occasion in 1969, a man who saw the bird thought that it was a living chicken that had been tortured by a group of teenagers, but when

he stopped to rescue it, the chicken disappeared.

There are also many examples of ghost horses being seen on battlefields where they died, either running free or being ridden by ghost soldiers. More commonly, however, an animal ghost appears to represent a deceased family pet, haunting a place or a person it knew in life. One such case occurred at the Ballechin House in Perthshire, Scotland. In 1876, after fourteen dogs were killed there, the odor of dogs would appear at odd times and places in the house, for no apparent reason, and people in various rooms would suddenly feel themselves pushed or jostled by what they sensed was one or more dogs, though no dog was there. Sometimes the house was filled with the sounds of unseen dogs as well, and on several occasions a mysterious black spaniel would appear and disappear. Some people thought it might be the ghost of a man named Major Steuart, who always said he wanted to come back to life as a dog.

SEE ALSO: Ballechin House; ghosts, human; phantom armies

ghost ships and trains

There are numerous stories of ghost ships and trains—spectral images that appear to be traveling in the manner of the vehicles they represent. However, ghost investigators disagree on whether these stories could possibly represent a true ghost phenomenon, with their arguments centering around the nature of ghosts. Some say that it is impossible for an inanimate object to have a ghost—unless the object has somehow been “charged” by a connection to the spirit of a dying person. Indeed, many stories of ghost vehicles are tied to horrific human tragedies, such as when people say that they have seen a spectral train rush-

ing along tracks where a train derailment once killed dozens of people.

One of the most famous spectral vessels is a Dutch ship called the *Palantine*. In 1752 it sailed from Amsterdam, the Netherlands, to America with approximately three hundred immigrants aboard; as it reached the mouth of Long Island Sound, a disaster occurred. Stories vary regarding how this disaster came about. According to some stories, the ship was damaged en route in a storm and, as a result, the crew mutinied, killed the captain, and abandoned the ship and its passengers, whereupon the vessel ran aground on Block Island, Rhode Island. According to other accounts, pirates lured the ship onto some rocks just off the island, using lights to make the crew think they were approaching a port. In either case, most reports say that a group of pirates boarded and plundered the wrecked ship and set it on fire. In some stories the pirates brought the passengers—except one, either accidentally forgotten or intentionally left behind—to shore before starting the fire. In others they left all the passengers on the ship to burn to death. Historical records indicate, however, that the ship was indeed destroyed by fire, and a year later, people began sighting a flaming ghost ship sailing slowly past Block Island. In 1869 one man said that he had seen the ship and its burning sails at least eight times. Others have seen only a light moving across the water, usually right before a storm, which they believe comes from a spectral image of the *Palantine*’s deadly fire. For many years residents of Block Island and the surrounding area thought that the ship would stop haunting the waters when the last of the pirates had died, but sightings continued for many years thereafter, well into the twentieth century.

Other stories of spectral vehicles have involved the idea that they appear to warn people of disaster. This is the case, for example, with the *Flying Dutchman*, a ship that many believe was doomed to sail the seas for eternity after its captain cursed a divine spirit. It is said that when the *Flying Dutchman* appears, someone is about to die, though not necessarily through a sea-related accident. There are also numerous stories of people who were killed in a train wreck appearing along the tracks to warn a train's crew that a similar disaster is about to take place.

Most of the ghost stories associated with ships and trains, however, involve cases where a person who has died on a ship or train appears to haunt it, in the same way as ghosts are said to haunt

houses. One of the best-known haunted ships is the *Queen Mary*, a transoceanic cruise ship that was in service from 1936 to 1967 and is now a tourist attraction in Long Beach, California. Over the years several people died in various accidents on board the ship, and there have been hundreds of reported sightings of these people's ghosts. For example, John Peddler, an eighteen-year-old sailor who was accidentally crushed when a watertight door closed on him, is said to haunt the area where he died, a channel through which the propeller shaft passes. He is known as the Shaft Alley Spectre among many of the people who claim to have seen his ghost.

SEE ALSO: ghosts, animal; ghosts, human; haunted houses and other structures

ghosts, human

Apparitions of people who have died are commonly called ghosts. They often appear repeatedly at the same place, sometimes for years, with the ghost seemingly oblivious to its surroundings and typically performing the same actions over and over regardless of what objects are in a room or who is watching. Sightings of ghosts have been reported throughout history and throughout the world, and more than 10 percent of Americans say they have actually seen a ghost. The accounts of these sightings are numerous and varied; indeed, there have been hundreds of ghost-story books written over the years. Many of these stories concern haunted houses or hotels where other phenomena—such as moving furniture, strange noises, and odd smells—occur along with the appearance of a ghost.

Possible Causes Those who believe in such entities disagree on the nature and cause of ghosts. One view is that ghosts are

caused by the psychic powers of the people observing them. Another is that ghost sightings are caused by the residual energy of events in the past, whereby witnesses are seeing images of things that happened long ago. Under this theory, the people represented by the ghosts no longer exist, either in body or in spirit. In a related theory, however, the ghosts are images of living people going about their business in another time period, which means that witnesses to a haunting are actually glimpsing an alternate time line, whether past or future, just as real as their own. The most common view, however, is that ghosts are the spirits of people who either do not realize they have died or who have refused to move on to an afterlife where spirits are meant to dwell.

Ghost hunter Hans Holzer, however, says that ghost-related phenomena cannot be explained by only one theory. He therefore differentiates between a ghost and a spirit, though most people use the words interchangeably. To him, a ghost is a residual image, or psychic imprint, of a person who is no longer present, whereas a spirit is an entity capable of interacting with the people witnessing it. This explains, he says, why some ghostly images perform seemingly mindless actions, apparently oblivious to the people witnessing them, while others interact with the living and sometimes seem like intelligent beings.

Holzer also believes that certain spirits, which he calls “stay-behinds,” haunt places because they want to convince people that they are still alive. These are the spirits, he says, who not only appear to relatives but move objects in order to call attention to themselves. Holzer theorizes that stay-behinds are responsible for many incidents of poltergeist activity, wherein an unseen

force appears to be attacking a particular person, such as by pinching, hitting, or throwing objects at that person. In other words, an angry, frustrated spirit is launching these attacks in order to be acknowledged as real. Other psychical researchers, however, have suggested that poltergeist phenomena are actually caused by a living person who is present while the phenomena are taking place. According to this theory, the living person is demonstrating psychokinesis, a psychic ability whereby the mind can move physical objects.

Common Locations Some poltergeist phenomena and ghost appearances occur in places with no particular meaning. In most cases, however, they occur in a location where someone died. For example, the skeleton of a murder victim was found in the childhood home of two mediums, the Fox sisters, during a time when poltergeist activity was being reported there. Similarly, the Westover Plantation near Charles City, Virginia, is said to be haunted by the ghosts of three people who died there in the mid-eighteenth century: Evelyn Byrd, who succumbed to an illness; Evelyn’s sister-in-law, Elizabeth, who was crushed to death after a trunk fell on her; and Elizabeth’s husband, who committed suicide after incurring heavy gambling debts. All three are typically seen performing ordinary actions, largely oblivious to their surroundings; Evelyn Byrd is seen most often, dressed in a white dress, perhaps brushing her hair or walking across a lawn.

In other cases, ghosts appear to haunt the places where their bodies are buried. There are many stories of haunted cemeteries, some involving the materialization of ghosts and others involving ghost-related phenomena such as strange sounds and sudden drops in temperature. Some cemeteries are known to have more ghost-

related activity than others. For example, Bachelor's Grove Cemetery near Midlothian, Illinois, which was in use from approximately 1864 to 1965, has been the site of a wide variety of ghost phenomena, including ghosts and apparitions of people and cars, mysterious voices, mysterious lights, and cold spots, where the air in one spot feels much chillier than the surrounding area for no apparent reason.

Ghosts also appear to haunt places that were important to them in life. For example, American Major General Anthony Wayne (1745–1796) is said to haunt two such spots in Vermont. The first is Lake Memphremagog, one of his favorite spots and where he used to capture bald eagles to train for hunting. There, his spirit is sometimes seen with a bald eagle on its arm. The second is Fort Ticonderoga, where he served as commander in 1771. There, he is typically seen sitting before a fireplace or in a dining room, smoking a pipe or drinking from a mug.

Emotional Connections Not all ghosts, however, seem so calm. Some appear distraught. For example, in Mexico there are numerous stories of La Llorona, the ghost of a weeping woman who searches each night for her children, usually near a river. According to some of these stories, she drowned her children after her lover told her he did not want a family, then became horrified over what she had done and killed herself. Sometimes she is said to be hitchhiking along a road, and after an unsuspecting driver picks up the weeping woman, she suddenly disappears from the car.

There are many other stories of phantom hitchhikers, as well as of ghosts searching for their children, lost loves, or other important people in their lives. There are also stories of ghosts disappear-

ing forever after being told that the people they are searching for are no longer alive. In such cases, communication with the spirit is accomplished through a spirit communicator, or medium, who is able to make contact with the spirit. For example, in a case where a store was being haunted by the ghost of a young man, the medium discovered that on the same spot years before, the man had bled to death after accidentally cutting himself with an axe while cutting down a tree. Before his death, he had been engaged to be married, and as a ghost he was looking for his lost fiancée. After the medium told him that his bride-to-be had been dead for decades, he vanished and never returned.

Similarly, visitors to the Harbour Oaks Inn in Pass Christian, Mississippi, often reported experiencing the overwhelming feeling that a group of intimidating men was in a room where no such men could be seen. A psychic, called to try to get these entities to leave, reported that they were the spirits of soldiers who had died in the Civil War, when the inn—then called the Crescent Hotel—had served as a makeshift battlefield hospital. After the psychic claimed to have convinced these spirits to move on to the afterlife, visitors stopped feeling their presence. However, the inn is still haunted by a “ghost girl” who repeatedly picks up ghostly toys and sewing items from the floor and puts them on a table. The ghost, reported as looking like a ten-year-old with long hair and wearing an old-fashioned, broad-brimmed hat, seems unaware of the hotel guests, and no one knows the identity of the once-living person she might represent, but people often report that her presence struck them as cheerful and friendly.

Investigating Ghost Phenomena Skeptics say that such stories are invented by inn-

keepers who want to increase their revenues by attracting media attention. Believers, however, counter that in many such cases (including that of the Harbour Oaks Inn), the ghosts were reported as being there before the innkeepers. In either case, haunted hotels and houses have long attracted the attention of ghost hunters and ghost investigators, the latter of whom typically bring large amounts of scientific equipment to the site to study the phenomena. This equipment includes sophisticated camera gear, recording devices, and devices to look for energy sources such as radiation, geomagnetic activity, electromagnetic fields, and static electricity. Some investigators believe that ghosts produce these kinds of energies, but others suspect that some kind of energy is responsible for the ghosts' existence. But in all cases where the equipment has suggested that unusual energy is present at a site of hauntings, skeptics dismiss the findings as the result of faulty equipment, faulty testing procedures, or bias on the part of investigators.

SEE ALSO: apparitions; haunted houses and other structures; poltergeists

globsters

Discovered from time to time on beaches throughout the world, globsters are mysterious blobs of flesh, occasionally covered with hair, that some people believe are the remains of sea monsters. Such blobs have been reported since at least the late nineteenth century, but the first one to be called a globster (a term coined by cryptozoologist Ivan T. Sanderson) was found on a Tasmanian beach in 1960. The badly decomposed, somewhat circular lump of flesh, measuring roughly 18 by 20 feet (5.5 by 6.1m) was covered with short hair that witnesses said had a texture similar to sheep's wool. This hair has led many

people to believe that the Tasmanian globster represents some new, previously unknown species of sea creature. Zoologist Bruce Mollinson, who examined the Tasmanian remains himself, has suggested that the globster came from an unknown stingraylike creature, which he theorized might live in the underwater caverns off the coast of Tasmania. However, some cryptozoologists believe that the Tasmanian globster is instead a lump of whale blubber, noting that when the carcasses of sharks and whales decompose, their fibrous connecting tissue dries out and takes on the appearance of hair. Indeed, in 1962 the Australian government declared that scientific testing had proven the Tasmanian globster to be whale blubber. Still, some people reject this conclusion as being based on flawed testing methods.

Another hair-covered globster, found on November 1, 1922, on a South African beach, has also caused dispute. The day before its discovery, numerous people along the beach saw two whales fighting with a strange creature they later said looked like a polar bear. When the carcass eventually washed up on shore, it did indeed have hair that resembled a polar bear's, but otherwise it did not look like a bear. Instead, it had a 10-foot-long (3m) tail and a 5-foot-long (1.5m) appendage that witnesses later said was a trunk, a snout, or a headless neck; this appendage was 14 inches (35.6cm) in diameter, and the creature's body was 47 feet (14.3m) long and 10 feet (3m) wide. Unfortunately for those who wanted to learn more, the carcass washed back into the sea before scientists could examine it. This, however, has not kept people from speculating that it was some sort of sea monster.

With each globster discovery, cryptozoologists hope the remains will be com-

plete enough to allow them to classify them as coming from a previously unknown creature. This was, in fact, the case with one of the earliest recorded globster finds, which proved to be a species of giant octopus never before seen. The remains, which washed ashore at Anastasia Island, Florida, in 1896, weighed about 50 tons (45.34 metric tons), and the body measured 23 feet (7m) long, 18 feet (5.5m) wide, and 4 feet (1.2m) tall; a few tentacles were as long as 32 feet (9.8m). Occasionally, a globster shows up that is thought to be the remains of a long-extinct species, such as a plesiosaur, a sea-dwelling dinosaur that is thought to have become extinct roughly 65 million years ago. Cryptozoologists thought they had made just such a find in the waters off New Zealand in 1977, but scientific testing later showed that the badly decomposed remains were those of a 33-foot-long (10m) shark, though its species could not be identified.

SEE ALSO: lake monsters; Sanderson, Ivan T.

goblin universe

Cryptozoologists commonly refer to creatures that have never been proven to exist in the real world as being part of the “goblin universe.” This phrase was first used in the 1960s and later popularized through two books, anthropologist John Napier’s *Bigfoot* (1972) and lake monster researcher F.W. Holiday’s *The Goblin Universe* (1986). In these and other early mentions of the goblin universe, the phrase was simply meant to distinguish unidentified creatures from identified creatures. Today, however, *goblin universe* is sometimes intended to suggest an otherworldly origin for mysterious creatures.

SEE ALSO: cryptozoologists; lake monsters

government cover-ups and conspiracy theories

The idea that the U.S. government, perhaps in cooperation with other national governments, is covering up evidence related to the paranormal, particularly in regard to UFOs, extraterrestrials, cattle mutilations, and mysterious creatures that appear to be half-human, half-animal has circulated for many years. Such conspiracies are said to include a combination of government officials and individuals from the private sector, such as leaders of major corporations. In regard to UFOs, some people believe that the U.S. government is working with extraterrestrial beings to hide information from the public.

Skeptics dismiss claims of government cover-ups, saying that many who believe in them are mentally ill. On the other hand, some psychologists say that such theories are not necessarily symptoms of mental illness; instead, they are created simply because people find comfort in the idea that everything happens for a reason. In other words, when faced with a mysterious, seemingly unexplainable event, people prefer even a far-fetched explanation over none at all. Psychologists go on to note that the government, because of its power, its often impersonal nature, and the occasional case of misconduct on the part of some officials, is seen as having the means of perpetrating a cover-up.

The most conspiracy theories are based on the notion that the U.S. government does not want people to know that extraterrestrials are visiting Earth because this information might cause mass panic and chaos throughout America. Fueling such theories is the fact that, during the 1950s, U.S. officials did take certain actions to squelch rumors that aliens were visiting Earth, and their stated reason was indeed

that they feared mass panic. In 1953, for example, the U.S. Central Intelligence Agency created the Robertson Panel, whose job supposedly was to examine evidence that UFO sightings were of spacecraft. However, the panel clearly made no serious effort to investigate such reports; after only four days of meetings, in which they neglected to examine many of the UFO reports they were charged with studying, the panel's members concluded that most UFO sightings were due to the misidentification of ordinary objects like airplanes and weather balloons, and the rest of the sightings were due to hallucinations, mass hysteria, or outright fabrications. The Robertson Panel then recommended that the U.S. Air Force aggressively work to dismiss or discredit these sightings, so that "UFO hysteria" would end.

The Robertson Panel's recommendation has been cited as proof by many UFO enthusiasts that the U.S. government will not hesitate to lie, intimidate witnesses, or engage in other illegal and/or unethical behavior in order to keep the public from knowing the truth about UFOs. Also cited by UFO enthusiasts are accounts by people who claim to have been intimidated by government officials, or "Men in Black," after they tried to report a UFO sighting.

Even the U.S. Freedom of Information Act, which is designed to limit the government's ability to keep information from the public, fuels speculation that officials are hiding something. UFO enthusiasts note that one section of this federal law allows the president to keep certain matters secret, providing this secrecy is, in the opinion of the president, necessary to protect and defend the country. Most people, UFO enthusiasts says, would agree that efforts to prevent mass panic over UFOs would meet this criterion.

Some UFO conspiracy theorists, however, propose a more sinister reason for government secrecy surrounding UFOs. They suggest that government officials have made a deal with the extraterrestrials, promising to keep their activities on Earth secret in exchange for access to advanced technologies. This idea is central to an elaborate UFO theory known as the Dark Side hypothesis. Under this theory, after finding the wreck of an alien spacecraft in Roswell, New Mexico, in 1947, the U.S. government established a twelve-member council, known as the Majestic Twelve (MJ-12), to handle any communications between the aliens and humans. Distinguished scientists, politicians, and military officials, the men of MJ-12 are said to have met with the aliens in 1954. At this meeting, they supposedly learned that the aliens, called the greys, were one of nine alien races who needed human DNA in order to reverse a physical decline due to inbreeding and other genetic problems. Consequently, the MJ-12 agreed to allow the aliens to conduct their genetic research on unsuspecting humans. In exchange, the MJ-12 received alien technology, including spacecraft. In some versions of the Dark Side hypothesis, the MJ-12 agreed to help the aliens conquer and colonize Earth; according to this version, when then-president John F. Kennedy learned about this plot, MJ-12 had him assassinated.

There are other versions of the Dark Side hypothesis as well, and many of their elements can be traced back to a government effort designed to discredit ufologist Paul Bennewitz during the 1980s. Apparently an Air Force officer, said to be acting on orders from his superiors, provided Bennewitz with false documents related to an alien/human plot. Supposedly the plan was to make Bennewitz seem insane, and

indeed, after he became convinced that the plot was real, Bennewitz did suffer a mental breakdown. Believers in the Dark Side hypothesis and/or the existence of MJ-12 say that the theory that aliens conduct genetic experiments would explain abductions of humans and mysterious cattle mutilations. This idea has also spawned several theories related to the notion that sightings of mysterious, seemingly half-human creatures are actually sightings of products of these alien genetic experiments.

In some of these theories, the aliens are said to be planning to take over Earth. However, theorists then have problems explaining why government officials would cooperate with such a plan. Some say that the officials simply fail to grasp the implications of the aliens' plans, while others say that the officials cooperate because they have been promised high positions in the new alien government. Still others have suggested that the officials are cooperating because they are really aliens themselves. Some of the believers in this idea, including former British Green Party spokesperson David Icke, have said that, in ancient times, a reptilian form of extraterrestrial established a colony on Earth, mated with humans, and after a few generations had children who either looked human or could shape-shift, so that they sometimes looked human and sometimes reptile. In either case, the theory goes, their ability to look human is allowing the aliens to take over the planet by placing alien-human hybrids in high positions in government, the military, business, and banking throughout the world.

A few UFO conspiracy theories, though, suggest that the government is covering up something other than the existence of aliens. According to one such

theory, the government has created the myth of extraterrestrials in order to hide its own genetic experiments. In another such theory, the government has created the myth to hide the fact that angels and devils are visiting Earth. There are a few other conspiracy theories related to religion as well, including one that suggests the government is hiding the existence of aliens because it is run by religious people who want to preserve the biblical idea that humans, created by God in his image, are the only intelligent beings in existence.

Skeptics dismiss all these conspiracy theories, saying that none is supported by any solid evidence. Moreover, skeptics say, these theories are not only illogical but are also so complex as to be extremely unlikely. Supporters of such theories are unmoved by such assertions, saying that the lack of evidence to support the conspiracy theory simply means that the government has hidden, destroyed, or otherwise suppressed the evidence.

SEE ALSO: Men in Black; Robertson Panel, the; Roswell incident, the

Green, John (1927–)

One of the leading experts on the ape-man known as bigfoot or Sasquatch, John Green has written extensively on cases of Sasquatch sightings, chronicling more than two thousand reports of such sightings. His book *Sasquatch: The Apes Among Us* (1978) is considered one of the most important works on the subject. Green began investigating Sasquatch stories in 1957, while a journalism student at Columbia University, and for the next three decades he wrote numerous newspaper stories about the creature in British Columbia. He continues to investigate Sasquatch

sightings and is a popular lecturer at conferences devoted to their study.

SEE ALSO: bigfoot; Sasquatch

Gulf Breeze sightings

So many unidentified flying objects have been sighted over Gulf Breeze, Florida, that the town is considered by enthusiasts to be a UFO hot spot. Witnesses to these incidents have been alone or in groups, and they have included police officers, local government officials, and a retired Air Force pilot. The pilot snapped still photographs of the UFO he saw, and many others have also photographed UFOs over Gulf Breeze. These objects have been videotaped as well. For example, an ABC news crew filmed a UFO in the skies over Gulf Breeze on January 11, 1991, and a Japanese crew from the NIPON television network filmed another UFO over Gulf Breeze on May 10, 1991. In addition, a man named Ed Walters claims that he was abducted by aliens while in Gulf Breeze, and he too has photographs of UFOs flying in the skies over the town.

Skeptics dismiss Walters's story as a fabrication; they accuse him of photographing a model of a UFO rather than an actual UFO. Indeed, in 1990 a reporter covering the Mutual UFO Network International Symposium on the Gulf Breeze sightings found a model of a spaceship at Walters's former home. After this discovery, Walters insisted that the model was the wrong size and shape to produce the UFOs seen in his photographs and accused debunkers of manufacturing the model in order to discredit him. However, even notable ufologists like Jacques F. Vallee have questioned Walters's veracity and have accused him and other residents of Gulf Breeze of creating fake UFO photographs in order to make their community famous.

SEE ALSO: alien abduction experiences; debunkers; UFOs; Vallee, Jacques F.

Gurdjieff, George Ivanovitch (1872?–1949)

Born George S. Georgiades in Russia, mystic George Ivanovitch Gurdjieff gained a large following in Russia and France, where he established branches of the Institute for the Harmonious Development of Man in 1919 and 1922, respectively. This institute promoted Gurdjieff's teachings, which he said he had developed based on encounters with Eastern mystics in regard to the occult and to the meaning and nature of life and the universe. Gurdjieff also wrote numerous books related to his mystical teachings, including *All and Everything* and *Beelzebub's Tales to His Grandson: An Objectively Impartial Criticism of the Life of Man*. His writings, however, were extremely difficult to understand; in fact, his critics called them gibberish. Much of what is known of Gurdjieff's beliefs has come through the efforts of Gurdjieff's protégé, Petyr Demianovich Ouspensky, who became a noted mystic himself. Ouspensky translated Gurdjieff's teachings for Western audiences in such books as *In Search of the Miraculous—Fragments of an Unknown Teaching* and *Answers to Questions Based on the Teachings of G.I. Gurdjieff*.

SEE ALSO: mysticism; Ouspensky, Petyr Demianovich

Gurney, Edmund (1847–1888)

Nineteenth-century English psychologist Edmund Gurney is best known for his studies related to hypnosis, telepathy, and hallucinations, which he wrote about in such works as the two-volume *Phantasms of the Living* (1886). He was also one of a

group of men who founded the Society for Psychical Research in 1882, an organization dedicated to the scientific study of psychic phenomena. Conducting his research in an era when serious scientists were attempting to confirm the existence of the subconscious mind, Gurney was interested in spiritualism because he suspected that the human subconscious survives death. To this end, he accompanied a noted researcher of psychic phenomena, Frederic W.H. Myers, to séances from 1874

to 1878, trying to determine whether mediums' powers were genuine. Gurney's research into hypnosis took place from 1885 to 1888, during which he hoped to discover some hidden aspect of the mind that might also be responsible for telepathic abilities. His research was cut short, however, by his death from a drug overdose in 1888.

SEE ALSO: hypnosis; Myers, Frederic W. H.; Society for Psychical Research



hallucinations

Hallucinations are experiences of one or more senses—sight, sound, hearing, smell, touch, and taste—that appear real to the person experiencing them but are not. Skeptics often accuse people who say they have had a paranormal experience of having experienced a hallucination instead. This accusation is most often made in cases of alien abduction, which skeptics say cannot possibly be real. Believers in alien abductions, however, counter that there are too many reports of alien abduction, with too many specific details and too many common elements among those reports, for the experience to be the result of a hallucination.

SEE ALSO: alien abduction experiences

Hangar 18

Hangar 18 is a hangar at a top-secret military installation, Groom Lake Base (also known as Area 51), located approximately 90 miles (145km) north of Las Vegas, Nevada. This base is rumored to be a testing ground for UFOs, either recovered from UFO crash sites or acquired from aliens as part of a trade of technology or information. As such, it is also rumored to be run by a clandestine government agency rather than by the U.S. Air Force or some other known government agency.

The military refuses to give out information about current activities at the base or about its specifications, but civilians have guessed at the size of Hangar 18 by

looking at photographs. They have determined that it is approximately 300 feet by 300 feet (90 by 90m) and about 100 feet (30m) tall. Though this is large enough to contain several airplanes, some people have suggested that the part of the hangar shown in photographs is really an elevator, used to bring spacecraft up from a huge underground facility. Outside the hangar is a runway estimated to be anywhere from 6 to 12 or even 24 miles (9.6 to 19.2 or 38.4km) long. The only other features at this base are a guard shack and a collection of large radar antennas.

Public records indicate that Hangar 18 was built in 1954 specifically to house a secret spy plane, and afterward it was used to house other secret experimental planes and weapons. Adding to the mystery of Hangar 18 is that in the 1980s the U.S. military severely restricted access to the base and closed all possible viewing points of it to the public. Soon afterward people began seeing strange lights moving through the air over the base at night.

SEE ALSO: Area 51; UFOs

haunted houses and other structures

Occupants of or visitors to certain houses, hotels, castles, theaters, schools, or other buildings sometimes report experiencing odd, recurring, unexplainable phenomena, such as noises with no apparent source, objects that seem to move of their own accord, and apparitions of people long deceased. In such cases, people commonly

say the place is haunted by a ghost. These sites exist all over the world, in urban and rural areas, and although the common perception is that haunted houses are old buildings, they can also be modern or recently remodeled structures, often inhabited by living people who are attempting to coexist with the apparent ghost.

Famous Sites There are thousands of supposedly haunted houses, each unique as to the degree and type of phenomena that people in the house experience. Any ghosts associated with the house are said to remain there no matter who lives in the house. In other words, the ghosts are not said to follow the occupants from place to place; instead, they are thought to be tied to the structure. However, a ghost from the Borley Rectory, one of the most fa-

mous haunted structures in England, was said to cause hauntings at a school in Willingham, England, in 1953 and 1954 after some boys stole a brick from the rectory grounds and buried it on the school grounds.

In some cases in which people claim to have seen a ghost in a haunted structure, the identity of the living person the ghost is said to represent is unknown; in others, it is believed to be someone who died there. For example, the Tower of London in England, where many people were imprisoned and executed—a place considered one of the most haunted sites in England, if not in the world—is said to have both identifiable and unidentifiable ghosts. Visitors to the site have reported seeing many headless men and women in various places in the buildings and throughout the grounds. One of these ghosts supposedly can be identified from her clothing as Anne Boleyn, one of the wives of King Henry VIII who was imprisoned and beheaded at the Tower. Another wife of Henry VIII, also executed at the Tower, is also said to haunt there: Catherine Howard, whose ghost supposedly has its head but is often reported to be screaming. Still another Tower ghost, its features said to be intact, is reportedly recognizable as Thomas Becket, archbishop of Canterbury, who did not die at the Tower but once worked there as a constable. (Becket was murdered, supposedly on King Henry II's orders, in Canterbury Cathedral.) Other ghosts reported at the Tower include Lady Jane Grey, Henry VIII's niece, Sir Walter Raleigh, King Edward V, and Margaret, the Countess of Salisbury. The latter, executed in 1541, is said to scream on the anniversary of her death.

In some cases, the person who reports seeing a ghost in a haunted building does

not know that anyone died there but finds out after describing what he or she saw. For example, on October 3, 1963, a woman at Nebraska Wesleyan University went into what was once the school's music building, smelled perfume, and noticed a ghostly figure. When she told other people about this, she learned that her description matched that of a woman who had taught music at the school from 1912 to 1936 and who died in a room near where the ghost had been seen.

Most haunted structures get their reputation from the supposed appearance of a ghost, but others become famous for ghostly sounds or “presences”—that is, feelings that a spirit is present, but without visual representation of that spirit. For example, at Westminster Church in Baltimore, Maryland, where many notables are buried—including author Edgar Allan Poe—visitors often report feeling as though a ghostly presence is beside them or that they hear voices speaking when no one is there. Ghost hunters have visited the site on several occasions with audio equipment in an attempt to prove that the voices are real, but they have never been able to record them.

Investigations Ghost hunters typically take a fairly casual approach to investigating a haunting, whereas ghost investigators consider their examination of a haunted site to be a serious academic endeavor and therefore conduct a controlled, scientific study of the site's phenomena. To this end, they use a variety of equipment in order to verify a haunting, including not only audio recording devices but also video, digital, and still cameras as well as measuring devices to determine whether there are any unusual temperature or energy fluctuations during the haunting. (Haunted houses are often said to experi-

ence sudden drops in temperature whenever or wherever a ghost is present.) Ghost investigators also take detailed notes during their investigations, draw a detailed map of the structure, interview witnesses, and study the history of the structure to see who might have died there.

Skeptics have suggested that this equipment is all part of an elaborate hoax designed to bring the ghost investigator, ghost hunter, or perhaps the occupant of the house fame and money. Indeed, some haunted houses generate millions of dollars, as was the case with the Amityville horror, a haunting that spawned not only a book but also eight major motion pictures. Consequently, skeptics often dismiss supposed proof of a haunting, saying the investigator has a financial incentive for faking the evidence. When people with no motive to lie report seeing or feeling the presence of a ghost, skeptics are equally dismissive, saying such sensations are figments of the imagination. When such people say that the temperature drops when they see a ghost, skeptics say that it is the result of a draft of cold air. When such people report hearing ghostly sounds, skeptics say it is the wind whistling or the house creaking or the furnace or some other machinery in the house making noises.

SEE ALSO: Amityville haunting; Borley Rectory, the; ghost hunters and ghost investigators

healing, spiritual and psychic

Some people seem to be able to heal illnesses and injuries simply by touching or concentrating on a patient. Since prehistoric times there have been people who have claimed to be spiritual healers. Often, such healers rendered their services as part of rituals that might involve chanting,

dancing, and elaborate gestures. Such rituals are still practiced today in many cultures, by individuals variously called witch doctors, shamans, or medicine men. These healers might use herbs, amulets, and other tools of medicine and magic. Some spiritual healers, however, perform their healing only as part of a prayer ritual, in which case they are typically called faith healers.

Healers attribute their power to various sources. Some say that it is supernatural, others say that they are drawing upon something called Earth energy. Those who call themselves faith healers say that their healing power comes from God or some other deity. Spiritualists tend not to invoke a deity, often attributing their powers instead to a being from the spirit world, perhaps claiming to be possessed by, or channelling, this spirit while healing.

Regardless of where a healer claims to get his or her power, skeptics say that a successful healing can only be attributed to the power of the patient's own belief. In support of this theory, skeptics point to the placebo effect, a known phenomenon in which a patient's health can improve after being given a fake medicine, or placebo, such as a pill made out of sugar. If the patient believes the medicine to be real, the curative powers of the placebo can be profound. For example, in one placebo test of the 1950s, a cancer patient's tumors shrank when he thought he was being given an advanced cancer treatment; after he found out it was a placebo, however, his tumors regrew and he died. More recent studies have shown that a patient's attitude can affect the body's immune system, making it stronger or weaker depending on whether a person has a positive or negative attitude.

Skeptics also dismiss the claims of psychics who say they can diagnose illnesses with their minds or by laying their hands on sick people, even though sometimes the diagnoses made by such psychics can be remarkably accurate. Skeptics say this is due to some psychics' applying astute observations coupled with a general knowledge of medicine. One such diagnostician, Dolores Krieger, is in fact a professor of nursing from New York University, so skeptics find her claims of psychic powers unconvincing.

As much as they disagree over the efficacy of psychic healing, both skeptics and believers tend to agree that those who claim to practice psychic surgery are frauds. Those who claim to practice this form of healing say they can remove tumors with their bare hands, without making any incisions in the body first. Although at the end of the "operation" a practitioner might hold up what appears to be a bloody tumor, investigators invariably have found the object is actually a blood-covered blob of chicken entrails or some similar substance, which the "surgeon" has produced via a sleight of hand.

SEE ALSO: miracles; psychics; spiritualism

Heuvelmans, Bernard (1916–ca. 2001)

French scientist Bernard Heuvelmans was perhaps the first person to take a scientific approach to the study of creatures whose existence is in dispute. As such, he is generally considered to be the founder of the science of cryptozoology. Indeed, he was the first to use the word *cryptozoology* to describe such studies. Heuvelmans first became interested in previously unknown animals in 1948. At that time, after spend-

ing several years studying and writing about natural history, he came across a 1948 *Saturday Evening Post* article by Ivan T. Sanderson that suggested dinosaurs might not be extinct after all. This inspired Heuvelmans to investigate a variety of mysterious animals, and in 1955 he presented his research in a book titled *Sur la piste des bêtes ignorées* (1955), later published in English as *On the Track of Unknown Animals* (1958). Heuvelmans wrote many more books and articles on related subjects, such as the kraken, the Minnesota Iceman, dragons, and unidentified hominids, but only one of his other books, *In the Wake of Sea-Serpents* (1968), has been translated into English. He also continued to travel the world in search of various unknown animals, and in 1975 he established an organization devoted to such research, the Center for Cryptozoology. In addition, Heuvelmans became the first president of the International Society of Cryptozoology upon its founding in 1982.

SEE ALSO: cryptozoology; kraken; Minnesota Iceman; sea serpents

Hill, Betty and Barney

The supposed abduction of Betty and Barney Hill by aliens is perhaps the most famous story of its kind. It is also the earliest abduction account to receive widespread publicity, and skeptics generally believe that it inspired all subsequent abduction stories. The incident supposedly occurred in September 1961 but did not come to the attention of the public until 1965.

The Hills reported that on the night of September 19, 1961, they were driving along a deserted road from Canada to their home in Portsmouth, New Hampshire.

The sky was full of stars, among which Betty recalled noticing a rapidly moving light. She immediately became excited because her sister had previously told her about sighting a UFO. At first, Betty's husband dismissed the idea of a UFO, saying the light was probably an airplane or a satellite. Betty refused to accept this explanation, and on several occasions she convinced Barney to stop the car so they could study the object through binoculars. Barney reported that he changed his mind when the object finally came close enough for him to see that it was a large disc with red, amber, green, and blue lights rotating around its center. When the craft came lower, Betty said, she saw a double row of windows in its side.

By this time, according to the Hills, the UFO was hovering above their car. They stopped in the middle of the road and Barney got out. He watched as the

craft landed and six aliens got out, whereupon he jumped back in his car. As the Hills sped away, they felt strangely drowsy, and when their alertness returned they were 35 miles (56km) farther down the road than they thought they should be, and two hours had passed without their being aware of it.

Reporting the Incident Six days later Betty Hill sent a letter about her experience to retired Marine Corps major Donald E. Keyhoe, the director of a group of ufologists called the National Investigations Committee on Aerial Phenomena. She said that she had just read Keyhoe's book *The Flying Saucer Conspiracy* and wanted to know if he had any additional information that could help her. In the letter she also said that she was planning to have Barney hypnotized because he could not remember much of their experience.

Keyhoe responded by sending representatives to interview the Hills. Betty did indeed remember much more about the experience than Barney did; for example, she recalled seeing aliens, but Barney did not. Betty also reported having since had nightmares about being examined by the aliens while aboard the spacecraft, although she did not remember how she got on board. But although Barney had few memories of the actual alien encounter, he did have the feeling that something strange had happened to him. Shortly after the event he developed chronic stomachaches, and he frequently had panic attacks. In December 1963 Barney decided to see a neurosurgeon about these conditions, and this doctor, Benjamin Simon, decided they were psychosomatic. Simon then hypnotized Barney in an attempt to help him, and under hypnosis Barney recounted a detailed version of the abduction experi-

ence. Later Simon hypnotized Betty as well.

Under hypnosis the Hills provided what is now known as the most common abduction scenario. They told of being taken aboard the ship, separated from one another, and examined by alien beings. As before being hypnotized, Betty's descriptions of the ship, the aliens, and the medical procedures were far more detailed than Barney's. She also provided details of a star map, which she said the aliens had shown her.

Conclusions Simon's hypnotherapy sessions with the Hills lasted for several months, and in the end he concluded that the Hills' story was a fantasy. He felt that Betty had created the story in her dreams, then told Barney various details about her dreams over a period of weeks; Barney's conscious mind had forgotten these details soon after hearing them, but under hypnosis he was able to recall them.

Skeptics side with Simon, pointing out that many elements of Betty Hill's abduction story were already part of the popular culture. For example, a picture of the alien drawn by Barney Hill under hypnosis was strikingly similar to an alien that had appeared in an episode of the television show *The Outer Limits* only twelve days before he was asked to make the drawing. Skeptics also point out that Betty Hill was predisposed to have a UFO encounter because of her sister's story about seeing a UFO. As for the missing-time episode that the Hills experienced, skeptics point out that Barney said he felt drowsy before the episode, suggesting that the Hills were perhaps dozing off intermittently while driving, and only returned to full alertness after two hours.

SEE ALSO: alien abduction experiences; Key-

hoe, Donald E.; National Investigations Committee on Aerial Phenomena

hoaxes and frauds

For decades people have perpetrated hoaxes intended to prove the existence of a particular paranormal phenomenon. Some of the perpetrators of these hoaxes are motivated by a zealous desire to convince others of something they themselves believe; others are simply motivated by a desire for financial gain or fame. In the late nineteenth and early twentieth centuries, the most common hoaxes were those related to cryptozoology, spirit communication, and extrasensory perception. In regard to cryptozoology, hoaxers would use taxidermy techniques to put together parts of several different ordinary creatures to create what they said was a previously undiscovered beast, or they would fake photographs, footprints, or other “evidence” in support of sightings of mysterious beasts like bigfoot or the Loch Ness monster. Similarly, mediums would create a variety of illusions, such as ectoplasm, or spirit essence, made out of cheesecloth, to provide supposed proof of their contact with the spirit world.

There are also several cases of self-professed telepathics developing elaborate codes and tricks to make it seem as though they were reading people’s minds. For example, during the late nineteenth century four sisters known as the Creerys used extremely subtle physical and verbal signals to communicate with each other while claiming to be able to read each other’s minds. Several widely respected researchers, including Sir William Barrett, Edmund Gurney, and Frederic W.H. Myers, were taken in by the girls’ demonstrations of their abilities. In these sessions one girl would supposedly “transmit” the name of

an object, written on a piece of paper and chosen at random, to her sister. Later, however, other investigators caught the girls signaling to one another in code, and the Creerys confessed to faking at least some of their demonstrations.

Another pair of fraudulent mind readers who apparently tricked nineteenth-century psychical researchers were journalist Douglas Blackburn and hypnotist George Albert Smith—and they managed to do so despite controlled testing conditions. In 1882 psychical investigators blindfolded a seated Smith, plugged his ears, and covered him with two thick blankets so that he sat in complete darkness on a chair that had been placed on a rug heavy enough to muffle floor vibrations. Across the room, Blackburn was given an unfamiliar, nonsensical sketch to study, which Smith then attempted to draw while under his blankets. Because Smith’s representations were amazingly accurate, the investigators pronounced the men’s psychic connection authentic. More than twenty years later, however, Blackburn confessed that he had used sleight of hand to cheat by slipping Smith a copy of the sketch beforehand, concealed within a tube that was part of a pencil. (Smith, however, denied that he and Blackburn had cheated.)

In some cases, a person admits to being part of a hoax, only to retract the confession later. This happened with the Fox sisters, for example—two nineteenth-century mediums who confessed, one after the other, of being frauds, then said that their confessions had been lies. The Fox sisters blamed friends and relatives for pressuring them to confess. Pressure of a seemingly more sinister kind is sometimes cited in confessed hoaxes relating to UFOs. In such cases the U.S. government and/or mysterious men dressed in black suppos-

edly threaten the lives of people who claim they have seen an alien spacecraft. This was the case, for example, with a man named Harold A. Dahl, who, in 1947, claimed that he had witnessed debris coming from one of six alien spacecraft that had flown over Maury Island in Puget Sound. Dahl said that he could show the debris to others. Dahl later confessed that everything he had said regarding UFOs was a hoax, but he subsequently recanted his confession, saying he had only recanted out of fear for his life. He said that strange men wearing black suits and claiming to be from some unidentified government agency warned him not to tell anyone what he had seen if he wanted to remain alive. For their part, government spokespeople have insisted that the debris Dahl saw was radioactive waste that had come from the Atomic Energy Commission's plutonium-processing plant at Hanford, Washington, and that had been dumped from an airplane.

Whenever such a confession is made, even if it is later retracted, it increases skepticism regarding the paranormal among the general public. Consequently, skeptics have long used hoaxes as a way to convince the public not to believe in the paranormal. For example, in 1988 skeptic James Randi asked an actor, José Alvarez, to pose as the channeler of a two-thousand-year-old spirit named Carlos, providing Alvarez with videotapes of supposedly genuine channelers so he could study their vocal qualities, mannerisms, and speaking style. Alvarez then toured Australia, "channeling Carlos" for large crowds. Alvarez only revealed himself as a fake after thousands of people had become obsessed with Carlos and his teachings. Randi's effort backfired, however, since

many people refused to believe that Carlos was a fake, despite Alvarez's confession.

SEE ALSO: Fox sisters, the; Men in Black

hollow-Earth theory

The hollow-Earth theory postulates that Earth has a hollow, inhabited center. Believers in the hollow-Earth theory disagree on who these inhabitants are. The most common claim, however, is that the center of Earth is home to an advanced race of humans, and these humans are the "aliens" behind UFO sightings and alien abduction experiences. The purpose of these abductions, some believers say, is so the hollow-Earth beings can brainwash individual humans into helping them take over the civilizations on Earth's surface. Other believers, however, say these abductions are intended merely to torture humans because the hollow Earth inhabitants are sadistic.

Origins of the Theory The notion that UFO-piloting, sadistic "aliens" emerge from within the earth to abduct ordinary humans first appeared in tales published in the 1940s by Raymond A. Palmer. While the editor of *Amazing Stories* magazine, Palmer was contacted by a reader, Richard Sharpe Shaver, who claimed that he had ventured into the hollow-Earth realm and met its inhabitants. Shaver described three types of hollow-Earth beings: the Titans, technologically advanced giants who had lived on Earth's surface until radiation forced them underground; the Deros, evil creatures whom the Titans had created through genetic engineering; and the Teros, heroic beings who, though small in number, were trying to destroy the evil Deros. According to Shaver, the human

race was also the product of the Titans' genetic engineering.

Palmer published many tales based on Shaver's supposed adventures in the hollow-Earth realm. (Shaver's name was on these stories, but they were actually ghostwritten by Palmer.) These stories, which appeared in *Amazing Stories* and its sister publication, *Fantastic Adventures*, further developed the public's notions about a hollow Earth, but they also increasingly explored the evil, sadistic, and sexually perverse nature of the Deros. So many readers complained about these that in 1948 the magazines stopped publishing the material. Consequently, Palmer founded four other magazines to create venues for his hollow-Earth stories: *Fate*, *Flying Saucers*, *Mystic* (which later became *Search*), and the *Hidden World*, the latter of which was exclusively about the hollow-Earth realm.

Symmes' Holes But although Palmer and Shaver developed the idea that inhabitants of a hollow-Earth realm were responsible for alien abductions, they did not create the notion that an advanced civilization was hidden within Earth's core. Perhaps the first person to promote this idea was seventeenth-century British astronomer Edmund Halley, who suggested not only that the interior of Earth was populated but also that gases from this subterranean world were escaping through holes at the North and South Poles, thereby causing the aurora borealis and aurora australis, luminous atmospheric phenomena also called the northern and southern lights, respectively. In the early nineteenth century John Cleves Symmes so aggressively promoted the idea that there were holes at the poles that these supposed holes—each, according to Symmes, at least 4,000 miles (6,400km) wide—became known as

Symmes' Holes. He also unsuccessfully tried to find sponsors for an expedition into the hollow-Earth realm by way of one of the poles so that he could establish trade with the subterranean civilization.

Also in the nineteenth century, Cyrus Reed Teed gave numerous speeches, accompanied by the distribution of his own pamphlets, on the hollow Earth, and in 1906 William Reed's book *The Phantom of the Poles* argued that Symmes' Holes were so large as to make the poles nonexistent. In 1913 Marshall B. Gardner's *Journey to the Earth's Interior* suggested that the holes were only 1,000 feet (305m) wide, but he added that a sun, 600 miles (960km) in diameter, existed within Earth to provide heat and light to hollow-Earth inhabitants. By this time several works of fiction had also promoted the idea of a hollow Earth, most significantly Jules Verne's *Journey to the Center of the Earth* (1864), Edgar Allan Poe's *The Narrative of Gordon Pym of Nantucket* (1838), and H.G. Wells's *The Time Machine* (1895).

Seekers of the Realm During the early 1900s, however, interest in the possibility of a hollow Earth declined, until Palmer revived it with his magazine stories. As a result of Palmer's publications, several people during the 1950s and 1960s claimed to have seen the hollow-Earth realm for themselves and wrote popular books about their experiences. One such person was Walter Seigmeister, whose 1964 book, *The Hollow Earth*, published under the pseudonym Raymond Bernard, suggested that pole explorer Admiral Richard E. Byrd had actually gone inside the hollow Earth. In 1965 Seigmeister went searching for a rumored hollow-Earth hole in South America but fell ill and died in the jungles there. Seigmeister's level of passion about

the subject is rare today, however: Most people believe geologists' assertions that Earth's core is not hollow but instead is filled with molten lava and gases.

SEE ALSO: alien abduction experiences; *Fate* magazine; Palmer, Raymond A.

Holzer, Hans (1920–)

Dr. Hans Holzer is one of the foremost ghost hunters of the modern era. He has visited reportedly haunted sites throughout the world and has written 138 books on ghosts, haunted locations, reincarnation, and other paranormal subjects, as well as creating documentaries, films, and plays. Holzer first became interested in ghosts as a boy growing up in Vienna, Austria. In 1938 he moved to New York, where he currently lives. For a brief time he studied in London, receiving a doctorate in parapsychology at the London College of Applied Science.

Based on his work, Holzer has defined three types of haunting entities: ghosts, spirits, and stay-behinds. A ghost, he says, is a residual image, or psychic imprint, of a person who is no longer present. A spirit is an entity that people not only see but can interact with, and during these interactions it can seem intelligent. A stay-behind is the spirit of a person who does not realize that he or she has died and therefore does various things to make other people notice it; these things include not only trying to contact relatives in places familiar to the spirit but also moving objects around, sometimes violently. Holzer believes that stay-behinds are responsible for at least some incidents of poltergeist activity.

SEE ALSO: apparitions; ghosts, human

Home, Daniel Dunglas (1833–ca. 1886)

During the nineteenth century Scottish American spiritualist Daniel Dunglas Home was one of the most famous mediums in the United States, England, and Europe. Raised by relatives in America after the death of his parents in Scotland, he worked as a medium in the United States until 1855, when he moved to England. He then gave numerous séances in London, and as his fame spread he was invited to give séances in Europe and Russia as well. In 1871 two scientists in Russia examined his abilities and declared them genuine. Subsequently in England, noted scientist Sir William Crookes launched his own investigation into Home's talents, and he too said they were real. In fact, Home was investigated by many people, some of them skeptics looking for ways to prove he was a fraud, and no one was ever able to catch him faking his skills as a medium.

Home's séances, during which he usually seemed to be in a trance, typically involved a variety of physical phenomena, including the levitation of objects and even of Home himself. His most famous demonstration of levitation took place in December 1868, when he went into a trance, rose from a chair into the air, floated out a window, and then hovered outside the window for a few seconds before floating back inside, landing on his feet and sitting back down in the chair. Skeptics suggested that Home had used some kind of mechanical device to move himself about the room and out the window, or had done something to make the witnesses to this event hallucinate, but witnesses said neither was possible.

Home also appeared to be able to stick his hand into a fire without being burned. One witness to this phenomenon, Lord

Lindsay, told members of the Committee of the Dialectical Society in 1869 that he saw Home, while in a trance, pick up a red-hot coal and hold it in his hand during a séance. Lindsay and others said that when anyone else present touched the coal on their own, it would burn that person's finger, but when Home handed them the coal, they could hold it without being burned, though someone else reaching out to touch it might get burned. Sir William Crookes reported that he asked Home to hand him a hot coal on one occasion, but as Home was about to do so, he said that he was not strong enough at that moment to keep Crookes from getting burned. Those who believe Home was genuine say that this suggests that he was able to confer his immunity to fire to another person only when his psychic powers were in peak condition—though skeptics say that he could only pull off this trick when it had been set up in advance.

SEE ALSO: Crookes, Sir William; levitation; séances

hominology

Hominology is the scientific study of mysterious humanlike creatures, or hominoids, like bigfoot and the yeti. The term was first used in 1973 by Russian cryptozoologist Dmitri Bayanov, who defined the science as a branch of primatology. The word—and the concept it represents—immediately became popular among scientists interested in the possibility that human-apes exist, and today there are conferences, scientific institutes, and books devoted to the subject of hominology. Bayanov's own works on the subject include *In the Footsteps of the Russian Snowman* (1996) and *America's Bigfoot: Fact, Not Fiction—U.S. Evidence Verified in Russia* (1997).

SEE ALSO: bigfoot; yeti

Honorton, Charles (1946–ca. 1992)

Parapsychologist Charles Honorton is best known for two accomplishments: his experiments designed to discover whether dream content could be transferred from one person to another through mental telepathy, a process he called dream telepathy, and the development in 1971 of ganzfeld research, whereby extrasensory perception (ESP) test subjects are placed in a state of sensory deprivation because this state is believed to heighten their skills. Honorton conducted this research at the Maimonides Medical Center in Brooklyn, New York, along with Dr. Stanley Krippner and Dr. Montague Ullman. Honorton subsequently became the director of the Division of Parapsychology and Psychophysics at Maimonides. In 1979 he established the Psychophysical Research Laboratories in Princeton, New Jersey. He also wrote extensively on paranormal research.

One of Honorton's most noted articles was the result of an ongoing argument with skeptic Ray Hyman. Previously, in 1982, Honorton had given a presentation at a meeting of the Parapsychological Association in which he discussed the body of evidence from studies on ESP that, he concluded, proves ESP to be real. After Hyman publicly disagreed with Honorton's conclusion, the two agreed to embark on separate studies of the same data, with each analyzing the same forty-two ganzfeld studies conducted in ten laboratories around the world. In these tests, the subject attempts to "receive" images, by mental telepathy, from someone who is viewing and "sending" the image from a remote location. Honorton's analysis of the data was published in the *Journal of Parapsy-*

chology in 1985; Hyman's analysis was published in 1986. Not surprisingly, they again disagreed on whether the results proved the existence of ESP.

However, even before their conclusions were published, the two men exchanged correspondence in which they agreed that tighter standards for ESP testing methods were needed. As a result, they developed recommended procedures for ESP testing, commonly called the Honorton-Hyman guidelines, which Honorton used in 1983 to create a new automated type of ganzfeld testing, called autoganzfeld. Various experts, including stage magicians, have agreed that the autoganzfeld testing process cannot be manipulated and that the results of such tests are therefore reliable. Honorton engaged in autoganzfeld tests until 1989, when he could no longer find funding for his laboratory, and some of his test subjects showed a success rate much higher than chance would allow. Honorton's procedures are still being used today to test for ESP abilities.

SEE ALSO: dreams; ganzfeld studies; Hyman, Ray

Hopkins, Budd

One of the foremost researchers into the alien abduction experience, Budd Hopkins helped spread public awareness of this phenomenon through three popular books, *Missing Time* (1981), *Intruders: The Incredible Visitation of Copley Woods* (1987), and *Witnessed* (1996), as well as a 1992 CBS Network miniseries based on *Intruders*. *Missing Time* was the first work to demonstrate that there were commonalities among abduction stories; its title refers to the fact that many abduction stories come to light after a person is unable to account for what happened during a certain period of time.

Hopkins became interested in UFOs after seeing one himself, in Massachusetts in 1964 during the daytime, and at first his research concentrated on UFO sightings. In the late 1970s, however, he focused his attention on alien abduction accounts. During the 1980s he investigated more than 130 abduction cases with the help of David Jacobs, who hypnotized the abductees during more than 850 sessions in order to help them discover the full details of what happened during their missing-time episodes. (Jacobs published the results of this work in a 1992 book, *Secret Life: Firsthand Accounts of UFO Abductions*.) Over the past twenty years, Hopkins has investigated well over seven hundred cases. He also offers support to people who have had an alien abduction experience through the Intruders Foundation, an organization he established in the mid-1990s.

SEE ALSO: alien abduction experiences; Intruders Foundation, the; Jacobs, David M.; missing-time episodes

Houdini, Harry (1874–ca. 1926)

Born Ehrich Weiss, magician and escape artist Harry Houdini spent the latter part of his life trying to discredit spiritual mediums. At one point he apparently believed in the possibility of spirit communication, but after trying to use mediums to contact the spirit of his deceased mother, he decided that all mediums were frauds. He consequently participated in investigations of mediums conducted by the American Society for Psychical Research (ASPR) and other groups. Among the most notable of these was an examination of medium Mina Crandon, which pitted Houdini and ASPR investigator Walter Prince against



In a poster advertisement Houdini promises to disprove supernatural phenomena. LIBRARY OF CONGRESS

many other psychic researchers who believed in Crandon's abilities. Houdini devised several tests that he believed proved Crandon was a fake, but most of the public rejected this assessment, particularly after Crandon's husband accused Houdini of manipulating the test to make sure that Crandon failed it.

The son of a Hungarian immigrant living in Wisconsin, Houdini worked as a circus trapeze artist as a boy, then became a New York vaudeville performer. By the age of twenty-six he had become world renowned for his escape acts, during which he managed to free himself after being tied or shackled in various ways or locked in various containers. From 1916 to 1923 he

performed these feats in motion pictures as well.

In 1920 and 1924, respectively, Houdini wrote two books criticizing mediums, *Miracle Mongers and Their Spirits* and *A Magician Among the Spirits*, as well as a book about the French magician Jean-Eugène Robert-Houdin, who had been the inspiration for his own stage name, *The Unmasking of Robert-Houdin* (1908). The latter was intended to show that Robert-Houdin performed his magic through ordinary stage tricks rather than supernatural powers. In addition, Houdini and his wife, Beatrice, devised a way to test whether spirit communications were possible. Together the two agreed on a message that whichever one of them died first would send to the other. After Houdini died in 1926, his widow visited various mediums to see whether the message had come through. Shortly before she died in 1943, she said that she had received no word from Houdini.

SEE ALSO: American Society for Psychical Research; Crandon, Mina

Hurkos, Peter **(1911–ca. 1988)**

Born in Holland, Peter Hurkos was once among the world's most famous psychics, primarily because of his work as a psychic detective. He also appeared on numerous television programs and talk shows, including Johnny Carson's and Regis Philbin's, and he was the subject of film documentaries and several books.

Hurkos claimed that he received his psychic abilities after falling off a ladder in 1941. Then a housepainter going by the name of Pieter van der Hurk, he suffered a concussion and spent three days in a coma. When he returned home from the

hospital, he found that he was able to predict future events. He received a vision of a neighbor's house on fire, for example, and five days later it burned down. He shook a man's hand and knew instantly that the man would soon be murdered; a few days later this also came true. Consequently, van der Hurk changed his name to Hurkos and began performing in theaters, making predictions for individuals in the audience and telling them personal details about their lives.

One day Hurkos discovered that when he touched an object associated with the victim of a crime or tragedy, he would receive a vision of what had happened to that person. For example, when he touched the coat of one murder victim, he "saw" that the victim's stepfather had been the murderer. Sometimes Hurkos also received a vision of a past event without touching anything. For example, after learning of a missing child, he "saw" the girl drowned near a boathouse, and police subsequently found the girl at that location. Eventually Hurkos decided to devote himself to helping police and the families of victims.

In 1956 physician Andrija Puharich brought Hurkos to the United States in order to test the psychic's abilities under controlled conditions at her medical facility in Maine. Hurkos remained there for more than two years, during which time Puharich concluded that his talents were genuine. Hurkos eventually settled in Studio City, California, and continued to work as a consultant for many police departments both in America and Europe. Among his most famous cases were the Boston Strangler murders in Massachusetts and the Tate-LaBianca murders involving Charles Manson in Los Angeles, California. Hurkos was also an adviser to

U.S. president Ronald Reagan and First Lady Nancy Reagan.

SEE ALSO: psychic detectives

Hyman, Ray (1928–)

An outspoken critic of experiments that seem to show that extrasensory perception (ESP) is a real phenomenon, skeptic Ray Hyman has worked as an investigator for the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), which publishes a journal called *Skeptical Inquirer*. In 1982 he publicly disagreed with parapsychologist Charles Honorton's conclusion that there was ample evidence to prove that some people are telepathic. Shortly thereafter, the two agreed to embark on separate studies of the same data related to ESP, with each analyzing the same forty-two ganzfeld studies conducted in ten laboratories around the world. (In ganzfeld studies, the test subject attempts to "receive" images, by mental telepathy, from someone who is viewing and "sending" the image from a remote location.) Honorton's analysis of the data was published in the *Journal of Parapsychology* in 1985; Hyman's analysis was published in 1986. Not surprisingly, both again disagreed on whether the results proved the existence of ESP, but both agreed that tighter controls on ESP testing methods were needed. As a result, they developed recommended procedures for ESP testing, commonly called the Honorton-Hyman guidelines, to make sure that testers do not intentionally or unintentionally influence test results.

In 1995 Hyman again took the opposing viewpoint in an ESP study after the American Institutes for Research appointed him to a panel to evaluate the re-

sults of an ongoing remote-viewing project sponsored by the Central Intelligence Agency and other government agencies. This project was designed to find out whether telepathy could be used to gather information about remote sites for spying purposes. One of the members of the panel, statistics professor Dr. Jessica Utts, felt that the data indicated that remote viewing did have potential as an intelligence-gathering tool. Hyman countered that while the data did indeed suggest that remote viewing was a real skill, there was no proof that this data was accurate. As with Honorton, Hyman suggested that the testing methods were flawed, and after his report was submitted, along with Utts's report, the government decided to stop funding the remote-viewing project.

SEE ALSO: Committee for the Scientific Investigation of Claims of the Paranormal; ganzfeld studies; Honorton, Charles

Hynek, J. Allen (1910–ca. 1986)

An astronomer first at the Ohio State University and then at Northwestern University, where he was chair of the astronomy department, J. Allen Hynek founded the J. Allen Hynek Center for UFO Studies (CUFOS) in 1973 and served as its scientific director until his retirement in 1985. He was also the first person to use the phrase *close encounters* to refer to UFO sightings, and he created a classification system for these encounters.

In addition, Hynek is known for his participation during the 1950s and 1960s in the U.S. Air Force's Project Blue Book, a government attempt to convince the American public that UFO sightings were due to mass hysteria, hallucinations, or the

misidentification of ordinary phenomena such as meteors. Hynek was asked to work on Project Blue Book with the goal of finding an astronomical explanation for apparent UFOs, but his most controversial action involved an earthly phenomenon instead. In 1966 Hynek was sent to Michigan to investigate a rash of UFO sightings; eighty-six college students had seen a UFO hovering over a field, and shortly thereafter several individuals saw a large red object flying over a marsh. Hynek concluded that what the witnesses had seen was a large cloud of methane, or swamp gas, caused by rotting vegetation. This conclusion seemed so ridiculous to the public that it convinced many people the government was trying to cover up evidence that UFOs really were alien spacecraft. As a result, Congress ordered the Air Force to study the UFO phenomenon more seriously.

Meanwhile, Hynek had decided that there really might be an extraterrestrial explanation for UFOs, given the credibility of many of the witnesses in reports he had studied. After Project Blue Book was shut down in 1969, he started laying the foundation for CUFOS, which supports and conducts investigations into claims related to UFOs. He also wrote a book, *The UFO Experience: A Scientific Study* (1972), advocating a serious approach to the investigation of UFO reports.

SEE ALSO: Center for UFO Studies; close encounters; Project Blue Book

hypnosis

Hypnosis is a process whereby a person's mental state is altered in such a way that the conscious mind no longer stands in the way of the brain accessing memories or accepting suggestions that might change behavior. Hypnosis is sometimes used to

retrieve memories related to a person's paranormal experience and to study extrasensory perception. In regard to the latter, some experiments have shown that hypnosis heightens telepathic ability. For example, in one series of experiments in which one person tried to mentally send information to another person, the telepathic sender was left in a normal waking state while the receiver was placed under hypnosis. The two people were in different rooms. The sender was then given a substance like salt or sugar to taste, and the receiver was asked to identify what the sender was tasting. In a similar study, the sender was pinched and the receiver was asked what part of the sender's body was experiencing pain. Several of these tests yielded correct answers at a rate greater than what mere chance would have dictated. Because of these and other tests, many parapsychologists have concluded that a mind in an altered state is more receptive to telepathically sent images and sensations.

Skeptics dismiss all tests of psychic abilities conducted under hypnosis, generally saying that either the testing methods or the statistical analyses are flawed in some way. Skeptics also dismiss any claims of memories of alien abduction that are retrieved through hypnosis. Approximately 70 percent of alien abductees first remember their experience while hypnotized, and some ufologists say this is proof that the abductees are not making up their accounts. Skeptics, however, point to studies indicating that hypnosis does not keep

someone from lying intentionally. Moreover, they note that a few individuals can fake a hypnotic state so well that even an experienced psychologist cannot spot the deception. Skeptics further point out that hypnotized people sometimes misremember events, distorting some of the details of what happened, or recall things that never really occurred, and these false memories can be highly detailed.

Psychologists also know that hypnosis makes the mind so easy to influence that hypnotists can influence their patients' responses. Consequently, hypnotists trying to retrieve a patient's memories have to be careful about the way they phrase their questions. For example, asking abductees under hypnosis, "How did you get your scar?" is different from asking them, "Do you think your scar might have come from some kind of surgical procedure?" UFO skeptic Philip J. Klass has said that poor questioning is the reason ufologist Budd Hopkins can claim to have uncovered so many cases of alien abduction. He believes that Hopkins subtly encourages his hypnotized subjects to tell detailed abduction stories. According to Klass, Hopkins's abductees are so eager for his approval that they will say anything while under hypnosis in order to please him. However, ufologist David M. Jacobs, the hypnotist who worked with Hopkins and his abductees, says that the abductees were not led and that most abductees refuse to be led.

SEE ALSO: alien abduction experiences; Jacobs, David M.; Klass, Philip J.



I Ching

The *I Ching* is an ancient Chinese system of divination that has become extremely popular in the Western world. This system is based on a text, also called *I Ching* (the *Book of Changes*), with sixty-four hexagrams—numbered groups of six solid and/or broken lines. Each hexagram has its own meaning, and this meaning provides practitioners with insights into their past, present, and future. To determine which hexagram to consult, the practitioner uses one of several methods. In the West, the most common method is to toss three *I Ching* coins, which have numbers on them, to come up with the number of the relevant hexagram. While tossing the coins, it is customary to think of a question that the *I Ching* should address, such as “Will I find romance?” Believers say that this focuses the *I Ching*’s divination powers and makes it possible for the practitioner, by studying the hexagram, to determine the answer to the question or to gain insights into some other, related aspect of life.

Skeptics call this and all other forms of divination nonsense, but believers say that the *I Ching* is amazingly accurate in predicting the future. Still, even believers disagree on what power might be producing this effect. Typically, however, the lines of the *I Ching* hexagrams are said to represent the male aspect of life, yang, and the female aspect, yin, and to draw upon the balanced forces of the universe. Believers also disagree on when the *I Ching*

hexagrams were created. Some say that they were divined thousands of years ago by Chinese sages, others that the emperor Fu-hsi created them in approximately 2852 B.C. By Chinese tradition, the emperor is credited with developing the eight trigrams of the *I Ching*, while King Wen in 1143 B.C. is credited with creating the form of *I Ching* used today.

SEE ALSO: divination

Ica stones

Found in a cave near the Ica River in Peru, Ica stones are considered by some people to be proof that there was once a technologically advanced civilization on Earth—perhaps the same civilization now responsible, they believe, for UFO sightings. Scientific testing of the more than fifteen thousand stones dates them as being from prehistoric times, but the stones are carved with images of things that would have been unfamiliar to any known prehistoric people. For example, some of the stones seem to depict surgical equipment, blood transfusions, cesarean sections, and life-support systems, as well as men with dinosaurs and a man using a telescope.

However, the circumstances of the stones’ discovery are clouded. A farmer originally said that he had found them in a cave revealed when the Ica River changed its course, and indeed, the stones’ composition shows that they could have come from the cave, near which archaeologists have found fossilized bones from prehis-

toric times. But when the Peruvian government arrested the farmer for selling some of the stones (because, under Peruvian law, as antiquities the stones would have belonged to the Peruvian government), he changed his story, saying that he had made the carvings himself. Skeptics accept this confession as the truth, while believers say that it was a lie told to keep the farmer from going to prison.

Among those who believe that the stones were carved in prehistoric times, various theories have developed regarding the individuals who might have made them. Peruvian researcher Javier Cabrera, who now owns many of the stones, believes that they were created by a prehistoric people, whom he calls Gliptolithic man, who were part of an advanced civilization with knowledge of space travel. He theorizes that these people left Earth at a

time when the planet was undergoing changes that would have made it inhospitable, such as seismic cataclysms that split whole continents into pieces. Indeed, some Ica stones depict continents on Earth that do not exist. Others seem to show spacecraft hovering over the ground. Interestingly, the cave where the farmer claimed to have found the stones is near an area of mysterious lines scratched into the ground, the Nazca lines, which some people claim was once a landing site for extraterrestrial spacecraft. Cabrera thinks that this is the site from which Gliptolithic man left Earth. He further believes, based on some of the celestial drawings on the stones, that the Gliptolithics headed for a planet in the Pleiades star cluster.

SEE ALSO: astronauts, ancient; lost worlds; Nazca lines

ideomotor effect, the

First identified in 1852 by William B. Carpenter, who was both a psychologist and a physiologist, the ideomotor effect occurs when the human brain sends messages to certain muscles in the body without letting the conscious mind know that it is doing so. As a result, a person might make small, involuntarily movements without being aware that he or she is responsible for the movements. Consequently, the ideomotor effect has been proposed as an explanation for seemingly paranormal phenomena involving slight movements. These include dowsing and Ouija board messages.

SEE ALSO: dowsing; Ouija board

illusions, optical

Skeptics commonly dismiss supposed sightings of ghosts or other paranormal phenomena as optical illusions, which are false images caused by either quirks of human physiology or the way the brain processes information. Illusions that are physiological usually result from biochemical changes as the eyes send information to the brain. For example, when a person looks into a camera's flash as it goes off, white spots seem to remain hovering in air. This is the aftereffect of the eyes' retinas being unable to return to normal after sending the image of the flash to the brain. The other type of illusion is caused by the way the brain processes visual information. For example, when looking at a pattern consisting of alternating black and white squares, a person might at first perceive the black squares as being a bit farther away than the white squares; then, with a sudden switch of perception, the white squares will seem farther away than the black, creating the illusion of move-

ment and depth in what is actually a two-dimensional image.

Because of such effects, skeptics note that the saying "seeing is believing" is not necessarily accurate. When people see moving lights in the sky, for example, the lights might not actually be moving, or they might not be there at all. This suggests that all reported sightings of UFOs, ball lightning, and other phenomena involving moving lights are suspect. Indeed, believers in these phenomena admit that some reports must be discounted as the products of optical illusions. However, they argue that not all reports could be caused by errors in visual perception. Furthermore, they note that some reports include visual elements that cannot be explained away as an optical illusion. For example, some people have reported seeing UFOs that are not balls of light but are actual spaceships with windows. Skeptics dismiss such stories as being the result of cognitive illusions—that is, visual images created by the brain that do not involve the eye—created as part of elaborate hallucinations.

SEE ALSO: hallucinations

incorruptibility

Incorruptibility is a phenomenon whereby a dead body fails to decay, even after long periods of time. There are many examples of incorruptibility in historical records. For example, in 1678 the body of a nun called Mother Mary Margaret, also known as Mary Wake, was placed beside other bodies in a crypt in Antwerp in what today is Belgium. Thirty-eight years later, while work was being done on the crypt, those who looked at the bodies noticed that while most showed the usual signs of decay, Mother Mary Margaret's still had all of its flesh and organs intact. Some Christians say that when a body is found to be

incorruptible in this way, it means that the person was specially blessed by God. This belief is particularly common among devout Catholics, who say that saints' bodies never decay. Scientists, however, say that some unknown natural phenomenon must be responsible for cases of incorruptibility. They point out that environmental factors, such as temperature, have been shown to affect the rate at which a body decays.

SEE ALSO: miracles

International Cryptozoology Museum

Established by cryptozoologist Loren Coleman in Portland, Maine, in August 2003, the International Cryptozoology Museum includes in its collection a wide variety of artifacts, replicas, plaster casts of strange footprints, paintings, sculptures, and other items related to mysterious creatures, particularly man-beasts such as bigfoot. It also includes displays related to famous hoaxes, such as fabricated remains of a creature called a jackalope, which was supposedly a

cross between a jack rabbit and an antelope.

SEE ALSO: bigfoot; cryptozoology; hominology

International Society of Cryptozoology

Established in 1982, the International Society of Cryptozoology promotes serious scientific study of mysterious creatures, which it calls "unexpected animals." To this end, it publishes a quarterly newsletter as well as an annual journal, *Cryptozoology*.

SEE ALSO: cryptozoology

Intruders Foundation, the

Established by alien abduction researcher Budd Hopkins in 1989, the Intruders Foundation is dedicated to providing support to people who believe they were once abducted by aliens. The organization also conducts research into the alien abduction phenomenon and tries to educate the public on the subject.

SEE ALSO: alien abduction experiences; Hopkins, Budd



Jacobs, David M.

As an associate professor of history at Temple University in Philadelphia, David M. Jacobs specializes in the histories of American popular culture, twentieth-century America, and film. He is far better known, however, for his research into the alien abduction phenomenon, whereby people say that they have seen UFOs and have been abducted by their extraterrestrial occupants. As part of this research, which he conducted during the 1980s along with author Budd Hopkins, Jacobs hypnotized more than 130 abductees, in more than 850 sessions, in order to acquire details about their abduction experiences that could not be accessed when the subjects were awake. He published the results of this work in a 1992 book, *Secret Life: Firsthand Accounts of UFO Abductions*, which discussed common elements among abduction accounts. In 1998 he published *The Threat*, which offered his theories regarding why people have abduction experiences, and in 2000 he published *UFOs and Abductions: Challenging the Borders of Knowledge*, which is an anthology of UFO- and abduction-related articles by ten other authors.

Jacobs first became interested in UFOs in the late 1960s, when he wrote his doctoral dissertation on the history of American views on the subject. (In 1973 this material was published in revised form as a book titled *The UFO Controversy in America*.) Jacobs was also the first univer-

sity professor to regularly teach a course on UFOs, which he called “UFOs in American Society,” and he has given workshops to mental health professionals regarding methods for conducting hypnosis sessions and therapy on people who claim to have been abducted by aliens. In 1994, with Budd Hopkins, he wrote “Suggestions for Hypnosis and Therapy of Abductees,” a treatise for other experts dealing with abductees. He continues to write about hypnosis methodology as it relates to treating purported victims of alien abductions, in addition to researching a variety of anomalous experiences. Jacobs also continues to do research on anti-Communist attitudes in America following World War II.

SEE ALSO: alien abduction experiences; Hopkins, Budd; hypnosis

James, William (1842–ca. 1910)

American psychologist and philosopher William James is credited with many notable achievements, including the publication of a book, *Principles of Psychology* (1890), that helped to establish the study of the human mind as a science. In terms of the paranormal, though, perhaps his most significant achievement was the credibility his participation gave to early psychological research because he was a prominent Harvard professor who taught anatomy, physiology, psychology, and philosophy.

James was considered a leader in the scientific study of psychic phenomena and

was one of the founders of the American Society for Psychical Research in 1885. He decided to create this group, which primarily investigated the claims of mediums, after speaking with psychical researcher Henry Sidgwick, then the head of a similar group in England, the Society for Psychical Research. James also had a lifelong interest in mystical experiences, which he discusses in his book *The Varieties of Religious Experience* (1902), and much of his work was devoted to trying to bridge the gap between spirituality and psychiatry.

SEE ALSO: American Society for Psychical Research; mysticism; Sidgwick, Henry

Jersey Devil, the

The Jersey Devil is a mysterious man-beast that has been sighted in various parts of New Jersey since the early twentieth century. Descriptions of this beast vary widely, but many believers accept the one provided in 1993 by a park ranger who reported seeing a fur-covered, 6-foot-tall (1.8m), humanlike figure in some woods at night. This witness specifically called this creature the Jersey Devil because this name was used by the press in 1909 in reference to reported sightings of a similar creature or its tracks in a region of southern New Jersey and eastern Pennsylvania. Dozens of people claimed to have seen this Jersey Devil, with one woman even saying that it attacked her dog, but an investigation later revealed that the tracks and at least some of the sighting reports were made as part of an elaborate hoax whose purpose was to manipulate real estate prices in the region. Nonetheless, people continue to report seeing the Jersey Devil or its footprints in this area or elsewhere in the state. Believers suspect that this creature was the inspiration for an old New Jersey legend featuring the Leeds



The English burned Joan of Arc at the stake because they believed her predictions resulted from witchcraft. LIBRARY OF CONGRESS

monster, a devil-like, cloven-hoofed beast. Said to have been born to an ordinary woman, this creature supposedly fled from its mother on bat's wings and began haunting the area around the town of Leeds.

SEE ALSO: devil's footprints; man-beasts

Joan of Arc (1412–ca. 1431)

To those who study the paranormal, Jeanne D'Arc of Orléans, France, who is better known today as Joan of Arc, is considered a classic example of someone endowed with extrasensory perception (ESP)—particularly of a type known as clairaudience, which involves the hearing of voices from an unknown, mysterious source. In the fifteenth century, Joan was a thirteen-year-old peasant who heard voices

that she was convinced were those of Saint Michael, Saint Margaret, and Saint Catherine. The voices told Joan they were bringing messages from God concerning her future. They commanded the girl to do various things in order to realize her destiny, which, according to the voices, was to lead an army against the English, who at that time were occupying much of France.

Skeptics dismiss the idea that Joan was hearing saints' voices, instead suggesting that she had a mental illness such as schizophrenia. Others, particularly devout Catholics, in whose church she has been canonized as a saint, insist that she really was receiving divine messages. In support of the belief that Joan's experiences were real, Catholics point to a message involving the sword Joan would use in battling the English. One of the voices commanded her to look near the altar of the Church of Saint Catherine at Fierbois, France, for a buried sword whose blade had five inscribed crosses. Priests subsequently unearthed the sword exactly where Joan directed, and after the soil and rust were removed from its blade, they saw that it did indeed have five crosses. Joan went on to use the sword in fighting the English in the Siege of Orléans in 1429, and, as her voices also predicted, she was wounded in the battle.

People who believe that Joan had ESP say these predictions came not from the saints but from Joan's own mind, suggesting that she had precognition (an ability to see images of future events). They also say that Joan's knowledge of the sword's location came from her own ability to receive images of hidden objects psychically. The English, who captured Joan during the Siege of Orléans, believed that her

knowledge was the result of witchcraft and burned her at the stake in 1431.

SEE ALSO: clairaudience; miracles

Jung, Carl **(1875–ca. 1961)**

Swiss psychiatrist Carl Jung founded a school of analytical psychology and had numerous accomplishments during his lifetime. In terms of the paranormal, however, perhaps the most significant was his development of the theory of synchronicity and the theory of the collective unconscious, one of which led to the other. The theory of synchronicity (a word created by Jung) suggests that there are few genuine coincidences—that is, that most “coincidences” actually have a cause. The theory of the collective unconscious came out of Jung's observation that certain symbols and subjects appeared over and over again in his patients' dreams as well as in folklore and mythology. He decided that this was not a coincidence, and that people were accessing a common pool of symbols and images, such as those representing monsters and magical beings, in a realm accessible to all human minds at a subconscious level. Jung had long been interested in the paranormal because his grandmother claimed to be psychic, his mother had premonitions, and his cousin entered self-induced trances to speak with unknown entities. In fact, it was through studying this cousin and her friends that Jung decided to devote himself to psychology. His first work in the field was related to the psychology of mediums. Jung also took an interest in the work of other parapsychologists, including J.B. Rhine, and sometimes corresponded with them about their psychic experiences or his own.

SEE ALSO: alien abduction experiences, alternate explanations for; Rhine, J.B.



Keel, John A.
(1930–)

Ufologist and parapsychologist John A. Keel is perhaps best known for his book *The Mothman Prophecies*, about a mysterious being called the Mothman. However, Keel has also written extensively on UFOs and paranormal phenomena, and during the 1960s he collected first-person accounts related to these subjects, interviewing thousands of witnesses to paranormal occurrences. He noted many similarities among these accounts and various elements of folklore and religious stories, leading him to believe that whatever inspired stories about extraterrestrial beings also inspired stories about demons, fairies, and other fantastical beings. Eventually he developed the theory that intelligent entities, whom he has called “intelligences” or “ultraterrestrials,” have been behind all stories of UFOs, mysterious beings, and other paranormal phenomena throughout history. Keel says that these beings have been promoting a belief in such things so as to distract humans and keep them from discovering beings’ true activities and purpose. In interviews, Keel has called this distraction a new kind of enchantment, whereby people accept paranormal experiences as real when they actually are not. In calling the entities behind paranormal phenomena ultraterrestrials, he has suggested that they do not come from another planet—though he does think they are nonhuman. In fact, he has speculated that they might be demonic beings from other

dimensions of existence. He has also suggested that UFOs might be living beings rather than machines.

SEE ALSO: Mothman; UFOs

Keyhoe, Donald E.
(1897?–ca. 1988)

During the 1950s journalist Donald E. Keyhoe became one of the leading proponents of the theory that UFOs were extraterrestrial spacecraft. Keyhoe often suggested that the U.S. government was concealing evidence that aliens from another planet had been visiting Earth. A retired major with the U.S. Marine Corps who had trained as an aviator, Keyhoe was an expert on aircraft, which made him more credible on the subject of spacecraft than some of the other ufologists active during the middle of the twentieth century. Keyhoe also served as a director of the National Investigations Committee on Aerial Phenomena. His writings on UFOs include *The Flying Saucers Are Real* (1950), *The Flying Saucer Conspiracy* (1955), *Flying Saucers: Top Secret* (1960), and *Aliens from Space* (1973).

SEE ALSO: UFOs

Kirlian photography

Kirlian photography is a process by which an animate or inanimate object is photographed while being subjected to an electric charge. The resulting image shows

a band or halo of light surrounding the object, which some people say is an aura—a theoretical life force that they say emanates from all living and nonliving things.

There are several methods for accomplishing Kirlian photography. In the most commonly used method, the object is placed against a flat metal plate, beneath which is the photographic film, and then pulses of high-voltage current are passed through the plate. This current of high-frequency electricity causes the object's image to be transferred to the film, even though no camera has been used. When the film is developed, the resulting image of the object is dark but surrounded by the halo of light, sometimes streaked as though radiating outward.

Animate objects—living things—display a wide variety of halos in regard to color, size, and shape, and each of these halos continuously changes. For example, the fingers of most healthy humans, when photographed in this way, prove to be surrounded by a blue and white halo, while the forearm is typically greenish blue and the thigh olive green, but when people are upset, all of these areas become reddish. Inanimate objects, however, have a constant, unchanging halo that is bland and regular in appearance.

Interestingly, when researchers cut a piece from a living thing, such as a leaf, before subjecting it to Kirlian photography, the resulting image often shows the band of light surrounding the object as though it still had its original, whole form. In other words, the missing part is not missing on the image. Believers in auras have suggested that this means the aura is connected to some aspect of a living thing that is unaffected by external changes—its essence, perhaps, or spirit.

Kirlian photography was invented by Russian electrician Semyon Kirlian in 1939. At that time, Kirlian had observed that an electrode sometimes flashed when a person's fingertips were nearby, and he suspected that the fingertips were emitting some kind of electromagnetic energy that in turn was causing the electrode to discharge. Kirlian designed his photographic equipment and technique to prove this theory. In his first attempt at the process, he simply attached electrodes to one of his hands, placed his hand on a photographic plate, and turned on the power. He burned his hand, but he also concluded that the rings he saw in this, the first Kirlian photograph, were evidence of what he called bioplasmic energy.

This idea was displaced, however, by the concept of auras during the 1970s. By

this time, many people involved in psychic healing were claiming that they could see auras, and that these bands of light told them whether a patient was healthy. Consequently, researchers such as parapsychologist Thelma Moss, then with the University of California–Los Angeles Neuropsychiatric Institute, decided to examine whether Kirlian photography could be used to diagnose illnesses. These researchers discovered that when subjecting a person's body parts to the process, the halos change in response to changes in the person's emotions and level of health. They also change when the person is the subject of psychic healing. Skeptics, however, argue that the rings are merely the result of static electricity built up in the air and discharged during the process of performing Kirlian photography.

SEE ALSO: aura; psychic healing

Klass, Philip J. (1920–)

Philip J. Klass is one of the leading skeptics in America and has written six books and numerous articles in which he dismisses or proposes earthbound explanations for a variety of paranormal claims. His books include *UFOs: The Public Deceived* (1986) and *UFO Abduction: A Dangerous Game* (1989), in which he pledged to give ten thousand dollars to anyone who the Federal Bureau of Investigation could confirm has really been abducted by aliens. In 1989 he also began writing his own periodical, *Skeptics UFO Newsletter*. Klass decided to become a professional skeptic in the 1950s, when he learned that magazines were having trouble finding people qualified to say that UFOs were not spacecraft. He first stated this in 1953, in an article for *Aviation Week* magazine, arguing that most UFO sightings are actually of ordi-

nary aircraft, stars, or planets. At the time this article was published, Klass was an electrical engineer working for General Electric. He eventually became a senior avionics editor for *Aviation Week and Space Technology*, and he has won the Aviation/Space Writer's Association Award five times.

SEE ALSO: debunkers; skeptics; UFOs

kraken

The discovery of the kraken, now called the giant squid, is often cited as a cautionary tale for skeptics who are certain that a particular mysterious beast cannot exist. Until the late nineteenth century, scientists believed that this creature existed only in Nordic legend, where it was described as a many-armed sea monster of such enormous proportions that it was able to pull sailing ships down to the bottom of the ocean. In fact, whenever sailors would claim that they had seen a kraken, scholars would ridicule them. For example, in 1861, when the captain and crew of a French gunboat, the *Alecton*, claimed that they had harpooned and killed a kraken near the Canary Islands but had been unable to get the body aboard their ship, members of the French Academy of Science implied that the sailors were liars or fools. Scientists also scoffed at the work of a Danish zoologist named Johan Japetus Steenstrup, who, in 1857, published a supposedly scientific description of a kraken based on an examination of animal parts that had washed up on various beaches. Then, in the 1870s, several whole creatures fitting his description of the kraken washed up on beaches in Newfoundland and Labrador, and scientists were forced to acknowledge that the kraken was both real and large. One of the Newfoundland creatures

was estimated to be 60 feet (18.3m) long and up to 10 feet (3m) across, with tentacles 35 feet (10.7m) long. Today the kraken remains hard to find, and scientists are still not sure about its behavior or how big it can grow.

SEE ALSO: cryptozoology

Kresge, George J. (Kreskin) (1935–)

George Joseph Kresge Jr. became famous as a mind reader during the 1960s and 1970s, when he performed on stage using the name the Amazing Kreskin. He also had his own television show, *The Amazing World of Kreskin*, which aired in syndication from 1971 to 1975, and he appeared as a guest on other television shows, most notably the David Letterman show during the 1990s. Kresge became interested in stage magic and hypnotism as a boy, when he would perform for friends and family. As an adult, he patterned his stage techniques after his idol, Joseph Dunninger, who had performed mind reading more than thirty years earlier. Dunninger had been the target of scathing attacks on his abilities because he claimed to be a genuine psychic, so Kresge decided to call himself a mentalist instead. The Amazing Kreskin typically demonstrates his mind-reading talents by guessing birthdates and other facts related to members of his audience, by saying what is on a playing card without looking at it, or by finding an object that someone hid prior to his show. Skeptics say that all of these tricks can be accomplished by a trained stage magician, but others argue that Kresge is, like his idol Dunninger, a genuine psychic.

SEE ALSO: psychics

Kübler-Ross, Elisabeth (1926–2004)

Best known for her 1969 book *On Death and Dying*, psychiatrist Elisabeth Kübler-Ross was among the first medical professionals to document cases of near-death experience, which she wrote about in *The Tunnel and the Light* (1999). Kübler-Ross was also considered the foremost expert on the psychological aspects of death and dying. She wrote more than twenty books on dying and held more than twenty honorary doctorates.

Born in Switzerland, Kübler-Ross graduated from the University of Zürich Medical School in 1957, and the following year she married an American physician and moved to New York, where she began practicing psychiatry. As part of her practice she saw patients who were terminally ill and needed help coping with the psychological aspects of their illness and impending death. Some of these patients had experienced clinical death and had been revived. Those who had gone through this experience told Kübler-Ross that their spirits had continued to exist even after their bodies were dead. For example, in the late 1960s one of Kübler-Ross's patients, a Mrs. Schwartz, said that while her body was dead, her mind remained aware. In fact, she recalled feeling herself float up to the ceiling, and from that vantage point she had been able to view everything the doctors were doing to revive her. Shortly after telling Kübler-Ross this story, Mrs. Schwartz died and could not be revived; not long after that, Kübler-Ross thought she saw Mrs. Schwartz's ghost. This furthered her growing conviction that the spirit survived after death.

Eventually, Kübler-Ross became interested in out-of-body experiences, whereby the spirit supposedly leaves a living body

and travels some distance away. She soon found that she could induce her own out-of-body experiences after engaging in certain relaxation techniques, such as those that precede meditation. When she spoke about these experiences to colleagues in the 1970s, her reputation as a serious medical professional suffered. Nonetheless,

she continued with her work, and in the 1980s she began to concentrate on offering support to dying AIDS patients. She also gave numerous workshops on issues related to death and dying.

SEE ALSO: near-death experiences; out-of-body experiences



Lady Wonder

In the 1920s a horse named Lady Wonder became famous for supposedly being able to read minds, providing information about her “readings” via a special typewriter with oversized keys that she pushed with her nose. For a fee of one dollar per adult and fifty cents per child, people could visit Lady Wonder’s stall to see whether the horse could guess what they were thinking or to ask her questions about the future, which Lady Wonder was said to be able to predict. Indeed, the horse routinely made predictions about the outcome of various events, such as elections and horse races, and was often right.

In 1927 parapsychologist J.B. Rhine tested Lady Wonder’s psychic gifts, and at first he was convinced that her ESP talents were genuine. Eventually, however, he suspected that the horse was actually exhibiting what is known as the Clever Hans phenomenon, whereby she was basing her answers on subtle, unintentional clues provided by her owner, Claudia Fonda. Another person who tested Lady Wonder, stage magician Milbourne Christopher, subsequently agreed with this assessment. Moreover, Christopher noted that since Fonda was well versed in world events and trends, she would have been good at making predictions based on educated guesses. But despite public dismissals of her talents by Rhine, Christopher, and others, Lady Wonder continued to demonstrate her talents until shortly before her death, typ-

ing answers to questions for more than twenty-five years.

SEE ALSO: Clever Hans phenomenon; Rhine, J.B.

lake monsters

The term *lake monsters* refers to mysterious beasts that are said to live in certain bodies of water. Among the best-known examples of such beasts are the Loch Ness monsters in Scotland, Ogopogo of Lake Okanagan in British Columbia, and Champ of Lake Champlain in the northeastern United States. There are, however, more than three hundred lakes believed to be inhabited by lake monsters; most are very deep and very cold, and the creatures themselves seem to have commonalities as well. Typically, all are said to have elongated bodies, variously characterized as serpentlike, wormlike, or dragonlike. Usually they are said to move in an undulating fashion when on the surface of the water, which has led some cryptozoologists to speculate that lake monsters might actually be a zeuglodon, a snakelike primitive whale known to have existed but which most scientists say became extinct millions of years ago.

There have been many reported sightings of lake monsters by credible witnesses, but none has ever been confirmed. There have also been photographs taken of lake monsters, but skeptics dismiss all of them as fakes. Indeed, during the nineteenth century there were many confirmed hoaxes involving lake monsters. Moreover,

throughout history there have been many sightings of lake monsters that later proved to be cases of mistaken identity.

SEE ALSO: Champ; Loch Ness monsters; Ogopogo

Lemuria

Some people believe that an advanced civilization called Lemuria once existed, on either an island or a continent surrounded by the Pacific Ocean, though there is no evidence that this was the case. The concept of Lemuria was actually created by nineteenth-century scientists as an explanation of why fossils of a primate called a lemur had been found in Europe (later they were found in North America as well) while living specimens of the animal had only been found in Madagascar and the Comoro Islands. These scientists theorized that there was once a land bridge connecting Africa and India, and English zoologist Philip Schlater named it Lemuria after the lemurs. German naturalist Ernst Heinrich Haeckel subsequently expanded on this theory, suggesting that the first human beings came out of Lemuria, which eventually sank in the ocean. Haeckel said at the time that this explained why no fossil evidence of the “missing link” between humans and apes—that is, of a creature representing the evolutionary step between these two species—had ever been found.

The idea of this lost land might have remained an obscure theory if not for the work of medium Helena Petrovna Blavatsky, who discussed Lemuria in her 1888 book on the occult, *The Secret Doctrine*. Blavatsky said that spirits of the Orient had psychically made her aware that Lemuria had been a real place, a continent that once took up most of the Southern Hemisphere but eventually sank into the sea, and she provided detailed information

about the people who supposedly lived there. Several other people subsequently built on Blavatsky’s stories regarding Lemuria, including H. Spencer Lewis in his 1931 book *Lemuria: The Lost Continent of the Pacific*. Lewis suggested that survivors of the sinking of Lemuria had taken up residence deep within Earth beneath Mount Shasta in California. These beings, Lewis said, were 7 feet (2.1m) tall and had a third eye in the middle of their foreheads, which they covered with a special headdress. In the 1950s some who believed Lewis’s story took UFO sightings in the Mount Shasta area as proof that the Lemurians are real and had developed space travel.

SEE ALSO: Blavatsky, Helena Petrovna; hollow-Earth theory

leprechauns, elves, dwarfs, gnomes, and goblins

Found in the folklore of various cultures, leprechauns, elves, dwarfs, gnomes, and goblins are thought by some people to actually exist. They are described as tiny humanlike beings, and all but elves are said to be wizened (and, in the case of goblins, grossly deformed as well). Elves are generally regarded as looking perpetually young and attractive. Moreover, elves are said to have magical powers, including the ability to shape-shift in order to conceal their true identity and/or play tricks on people, sometimes harmless tricks but other times hurtful or even cruel ones. In folklore, elves are said to enchant or bewitch human beings, using spells that typically cause the human to lose track of massive amounts of time. Some who believe that elves really exist support this idea as well. Both in folklore and among believers today, gnomes and dwarfs are said to live in caves, caverns, other underground regions,

or deep forests, and some believe that they turn to stone when caught outside in sunlight. Dwarfs are also tricksters, and, like elves, their behavior ranges from relatively harmless to very harmful to humans. Goblins perform harmless mischief, such as overturning furniture, frightening animals, and ruining food on the stove. Leprechauns are thought to play tricks as well, but they might also mend people's shoes without being seen. Believers say that the trickery and occasional helpfulness of leprechauns, elves, dwarfs, gnomes, and goblins explains why, for example, keys and socks sometimes go missing for no apparent reason, or other objects in a home are discovered in a different place without anyone having moved them. Skeptics say that such events are due to simple forgetfulness and scoff at the notion that humanlike creatures, no matter how tiny, could have existed on Earth for centuries without being seen.

SEE ALSO: fairies

levitation

Levitation occurs when someone appears to defy gravity and begins to float into the air, or when someone claiming to have psychic powers concentrates on an object and causes it to rise into the air. Many believers in levitation say that this phenomenon is caused by psychokinesis, whereby a person's mind can affect the physical world. However, levitation usually occurs while the experient is in a trance, whereas psychokinesis usually occurs while the experient is in a normal waking state. Consequently, some believers say that some other, unknown phenomenon might be responsible for levitation.

One person who became famous for levitating in public was Daniel Dunglas Home, a British medium who lived during

the mid-nineteenth century and who would sometimes rise into the air during séances. The first written account of his levitation feats appeared in 1853, when he levitated several times without seeming to be able to control his movements. Later, however, he seemed to grow skilled at choosing where, when, and how he would levitate, even giving demonstrations before large audiences. In his most famous demonstration, which occurred in December 1868, he went into a trance, rose from a chair into the air, floated out a window, and then hovered outside the window for a few seconds before floating back inside, landing on his feet, and sitting back down in the chair. Home's séances also involved the levitation of tables, chairs, and other objects, as did the séances of many other mediums of his day. At the time, this was attributed to spirits who were called into the séance room by the medium.

Skeptics suggested that Home used some kind of mechanical device to levitate himself and various objects in the room, or that someone had in some way caused the witnesses to experience hallucinations. There is no proof, however, that cheating of this sort occurred. Moreover, witnesses insisted that they had not been having a hallucination when they saw Home go out the window. Adding credibility to this insistence is the fact that three years later, one of the most esteemed scientists of the nineteenth century, Sir William Crookes, saw Home levitate and declared that, as hard as it was to believe, he knew that his eyes were not lying.

For centuries, levitation has also been associated with religious, mystical, or magical practices. For example, according to Catholic tradition, some individuals who were later declared to be saints were

said to levitate when in a trance or state of ecstasy or rapture. According to some accounts, 230 saints had this ability to varying degrees. Saint Teresa of Avila (1515–1582), for example, wrote about how she would levitate in church, and Saint Joseph of Cupertino (1603–1663) was said not only to levitate but also to fly about once airborne. In some Eastern religions, levitation is said to be a skill developed by practicing certain breathing techniques and mental exercises to produce the altered mental state necessary for self-levitation. Skeptics suggest that instead of triggering actual levitation, the altered mental state is causing hallucinations that make the experiencer only think that he or she is able to fly. This does not explain, however, why witnesses to public levitations insist that they saw the experiencer rise from the ground.

SEE ALSO: Home, Daniel Dunglas; mediums, physical and mental; psychokinesis; séances

Ley, Willy (1906–1969)

Although the term *cryptozoology* had yet to be coined when he was alive, German scientist Willy Ley helped popularize the serious consideration of mysterious beasts, such as the unicorn. Calling his discipline “romantic zoology” Ley argued that instead of dismissing stories of mysterious beasts without investigating them, scientists should study such accounts and try to find out whether a real animal might have been at their source. His widely read books include *The Lungfish and the Unicorn: An Excursion into Romantic Zoology* (1941), *Dragons in Amber: Further Adventures of a Romantic Naturalist* (1951), *Salamanders and Other Wonders* (1955), and *Exotic Zoology* (1959).

SEE ALSO: cryptozoology

ley lines

Also called Earth-energy lines, ley lines are features of the Earth’s landscape that, when traced from one point on the ground to another, seem to connect places of religious, historical, or cultural significance. These lines were first identified by English businessman Alfred Watkins in the 1920s, who insisted that lines crisscrossing the countryside between England and Wales were clearly human-made rather than the result of natural objects, land contours, or erosion. He called the lines *leys* because this word, in ancient Saxon, means “cleared land.” Watkins noted that some of these lines linked burial mounds, ancient stone monuments, and similar places. One line, for example, connected the stone monuments of Stonehenge with a burial mound and with Salisbury Cathedral, which Watkins said was built on an ancient religious site. Not every religious site is connected in this way, but wherever entire lines or parts of lines are missing, Watkins speculated that buildings and other additions and changes to the landscape obliterated them. Watkins theorized that in ancient times, the leys were used by religious pilgrims as well as by itinerant traders.

Since Watkins first proposed the idea that ley lines were human-made rather than natural, similar lines have been discovered in other locations, including parts of Germany and Australia. However, views on their nature have changed over the years. In the 1950s some people suggested that instead of indicating routes of travel on Earth, these lines were actually associated with the celestial realm, perhaps serving to direct alien spaceships to landing sites or other Earth locations. In the 1970s adherents to the New Age movement con-

nected the idea of ley lines to their belief in Earth energy, arguing that the lines indicate places where the Earth's energy is particularly strong. Skeptics, however, say that there is no such thing as Earth energy and argue that Watkins was wrong when he suggested that the lines were human-made rather than natural.

SEE ALSO: earth drawings; Earth energy; Nazca lines

lights, mystery

Mystery lights is just one of many terms used to refer to various types of lights that to some people seem to appear and disappear for no apparent reason. Some of these lights reportedly wink on and off, but others are said to flit about, hover, or move across the ground, in the sky, beneath the sea, or within caves. Still others seem to follow people about, or otherwise appear to be guided by an intelligent force. Some mystery lights are a faint glow, but one type, known as ball lightning, seems to be a ball of fire and can explode when touched.

Mystery lights that appear high in the atmosphere are often called unidentified flying objects (UFOs) and are thought to be alien spacecraft. Skeptics, however, say that these lights are actually either associated with ordinary aircraft or are attributable to optical illusions. In fact, skeptics believe that most mystery lights are optical illusions. Those few that cannot be explained in this way, they argue, are caused by natural phenomena. For example, they suggest that mystery lights appearing over swamps are caused by gases—produced by decaying plant matter—that ignite after being released into the air.

SEE ALSO: ball lightning; earthlights; illusions, optical; Marfa lights; UFOs

Lily Dale

Located approximately 60 miles (97km) south of Buffalo, New York, on 167 acres (67.6ha) within the town of Pomfret, New York, Lily Dale was founded in 1879 as a community of Spiritualists—that is, of people who believe in and typically practice spirit communication. The community has always been tightly controlled, so that only Spiritualists can buy houses there. (The land beneath the homes is owned by the community as a whole.) Few Spiritualists live in Lily Dale year-round, but every summer dozens take up residence there, swelling the population to 450. Their presence attracts thousands of tourists interested in communicating with spirits. To this end, the Spiritualists conduct private spirit-communication sessions; group séances; and workshops related to Spiritualism, out-of-body experiences, or other topics related to the paranormal. Many of the visitors to Lily Dale insist that the town has energy vortices that affect their health and/or well-being in positive ways. Some also say that the woods around Lily Dale are inhabited by fairies or other magical beings, and most claim to have seen, heard, or felt spirits while in the town.

When Lily Dale was first created, tourists also flocked there to visit spirit photographers, who took photographs that appeared to show images of deceased loved ones. But after several spirit photographers in other communities were proved to be frauds, Lily Dale began discouraging the practice among its members. Another popular Lily Dale attraction that no longer exists was a cottage that was once the home of Margaret and Kate Fox, whose spirit communications in the cottage are said to have inspired the Spiritualist movement in 1848. The Spiritualists of Lily Dale

moved the structure to their community from Hydesville, New York, in 1916, but a fire destroyed it in 1955. A museum in Lily Dale offers historical information related to the Fox sisters and other aspects of Spiritualism, including spirit photography.

SEE ALSO: Fox sisters, the; photography, spirit; spiritualism

literature and the paranormal

Paranormal phenomena have been the topic of many works of both fiction and nonfiction, and some of these works have been particularly influential in fueling the public's acceptance that such things as man-apes, haunted houses, and visits from extraterrestrials might be real. In fact, skeptics have suggested that fiction is responsible for most reports of paranormal experiences; according to this theory, people who report seeing a ghost are being influenced by ghost stories they have read.

Indeed, some concepts related to the paranormal seem to have been spread through popular novels. For example, novelist H.G. Wells promoted the concept of time travel in *The Time Machine* in 1895, introduced the idea that extraterrestrials might visit Earth in *War of the Worlds* in 1898, and wrote about humans traveling into outer space in *The First Men in the Moon* in 1901. Novelist Jules Verne inspired the notion of a hollow Earth—perhaps with the lost world of Atlantis inside—in *A Journey to the Center of the Earth* in 1874. Likewise, Sir Arthur Conan Doyle based his 1912 novel *The Lost World* on the idea that dinosaurs still inhabit Earth.

Supposedly True Accounts Supposedly true accounts of paranormal experiences have been even more influential in regard to

the public's acceptance that such experiences are possible. For example, Charles Berlitz's 1974 book *The Bermuda Triangle* is widely credited with convincing large numbers of people that an area in the Atlantic Ocean known as the Bermuda Triangle is responsible for the mysterious disappearances of several planes and ships. Similarly, four books by Charles Fort containing supposedly true accounts of mysterious phenomena—*Book of the Damned* (1919), *New Lands* (1923), *Lo!* (1931), and *Wild Talents* (1932)—are often credited with having increased people's expectation that they might someday witness something mysterious and unexplainable, like a rain of frogs, spontaneous human combustion, or the sight of a savage man-ape. Another author to affect public perception in this way was radio broadcaster Frank Allyn Edwards, who wrote about mysterious phenomena in books like *Strangest of All* (1956), *Stranger than Science* (1959), *Strange World* (1964), and *Flying Saucers—Serious Business* (1966). Edwards also wrote regularly for *Fate* magazine which, along with other periodicals devoted to the paranormal—most notably *Strange* and the *Fortean Times*—played their own part in opening people's minds to the possibility that some things exist that cannot be explained by science.

But in addition to influencing public opinion in general, some works appear to have triggered specific reports of paranormal experiences. For example, before claiming to have been abducted by aliens, Betty Hill had read Donald E. Keyhoe's book *The Flying Saucer Conspiracy* (1955), which skeptics say would have predisposed her to think that a mysterious light in the sky was an alien spacecraft. In turn, skeptics suggest that a 1965 Boston newspaper article about Hill's experience, "The Inter-

rupted Journey: Two Lost Hours ‘Aboard a Flying Saucer,’” and a 1966 book developed from the article, *The Interrupted Journey*, both by John G. Fuller, might have inspired many, if not all, subsequent claims of alien abductions. Subsequent writings on alien abductions, including *Communion* by Whitley Strieber (1987) and *Missing Time* (1981) and *Intruders: The Incredible Visitation of Copley Woods* (1987) by Budd Hopkins, have also been said to have triggered new abduction reports. Such accusations have also been leveled against books devoted to mysterious creatures. For example, *The Loch Ness Monster and Others* by Rupert T. Gould, published in 1934, has been blamed for the many subsequent reports of Loch Ness monster sightings.

Skeptics’ Works Despite the risk that writing about a paranormal experience might inspire some people to fabricate—whether consciously or unconsciously—their own paranormal experiences, believers in such phenomena say that such writings are vitally important because they disseminate information about the paranormal and help further research into seemingly unexplainable events. Meanwhile, skeptics have produced their own books and magazines to counter claims of the paranormal. For example, skeptic James Randi has attempted to discredit the extrasensory perception abilities of Uri Geller in *The Truth About Uri Geller* (1982) and the predictive abilities of Nostradamus in *The Mask of Nostradamus* (1990) as well as a variety of paranormal claims in *Flim-Flam!* (1982) and *An Encyclopedia of Claims, Frauds, and Hoaxes of the Occult and Supernatural* (1995), and he writes regularly for the *Skeptic* magazine.

SEE ALSO: Fort, Charles; Hill, Betty and Barney; hollow-Earth theory; Keyhoe, Donald E.; Randi, James

little green men

During the 1950s and 1960s, when science-fiction stories often depicted aliens as having green skin, the phrase *little green men* was typically used to refer to extraterrestrials. Prior to that time, the phrase was used in reference to leprechauns, elves, fairies, gnomes, dwarfs, and other beings of folklore who were often described as being dressed entirely in green. Today, however, some experts in the paranormal use the phrase *little green men*, or LGMs, to refer to green-skinned or green-clad men, usually under 2 feet (.61m) tall, that have been reported in various places around the world. One of the most recent sightings occurred in 1996, when members of an Israeli collective community called Moshav Amihud reported finding a 2-inch-tall (5.1cm) green-skinned man, oozing green liquid, whose body collapsed when they touched it. A similar story surfaced in 1978, though the events contained in the story were said to have taken place in 1913, when a group of boys in Texas supposedly discovered some dogs tearing apart an 18-inch-tall (45.7cm), green-skinned man whose remains were gone by the next day.

Skeptics say that such creatures are actually frogs, either living or decomposing, rather than so-called little green men. Skeptics also dismiss LGM stories involving green-clothed rather than green-skinned beings, saying that witnesses are simply making these stories up or having some kind of hallucination based on remembered tales of elves, fairies, leprechauns, dwarfs, or gnomes. People who believe the reports of LGM sightings, however, say that beings mentioned in folklore are not necessarily fictional, suggesting that LGMs really might be elves, fairies, leprechauns, or the like. Some of these believ-

ers have instead suggested that the LGMs, whether green-clothed or green-skinned, are extraterrestrials, though all but a handful of people have reported the aliens as being gray-skinned and clad in white, silver, gray, or black clothing.

SEE ALSO: aliens, descriptions of; fairies; leprechauns, elves, dwarfs, gnomes, and goblins

lizard men

Also called Reptoids, lizard men are said to be amphibious bipeds that seem to be half-human, half-reptile. Reported sightings of such creatures are rare, but surprisingly, they tend to involve sites near inhabited areas rather than jungle regions far from civilization, where it would be easy for such a creature to escape detection. For example, lizard men reportedly have been seen in the Santa Ana River of California, the Ohio River, the Miami River, and Thetis Lake of British Columbia. In the Deep South of the United States, numerous swamps and bayous are said to be inhabited by lizard men, though sometimes these “swamp monsters” are described as being apelike rather than reptilian.

SEE ALSO: man-beasts

Loch Ness monsters

The term *Loch Ness monsters* refers to mysterious beasts that have been reported dozens of times in a Scottish lake known as Loch Ness, which is approximately 20 miles (32km) long and a little over 1 mile (1.6km) wide. Descriptions of these beasts vary, but they are usually said to be black or gray and 15 to 30 feet (4.6 to 9.1m) long, with a long neck like an elephant's trunk, and two or three humps that rise

above the surface of the water. The head is typically described as being similar to a horse's head, but with two small horns. A few people who claim to have seen a Loch Ness monster emerging from the lake onto shore describe it as being a combination of a horse and a camel, with some witnesses reporting that it had skinny legs or fins, a thin tail, and a mane.

Early Sightings Sightings of Loch Ness monsters date from at least 1771, though according to local legend a dragon was seen in the area in A.D. 565. (The beast supposedly emerged from the bottom of the River Ness, which leads from the north end of the lake to the sea, to attack and kill a man swimming there.) Reports of the monsters were particularly prevalent, however, during the 1930s. The first of this period, appearing in the August 27, 1930, edition of the *Northern Chronicle*, involved three fishermen who noticed a commotion in the waters around their boat and then spotted a strange creature about 20 feet (6m) long. This report received little attention, but another story in the May 2, 1933, issue of the *Inverness Chronicle*, which told of a couple's sighting of a “monster” in the lake on April 14, 1933, sparked a flurry of similar accounts, as various people came forward to say that they had seen the same monster in the 1870s, 1880s, or 1890s.

Controversial Evidence In April 1934 excitement over the Loch Ness monsters increased still further after physician R.K. Wilson took a photograph that he said was of the creature. Several other photographs of “Nessie,” as the beast is commonly called today, have also appeared, but some of them have proved to be fakes. In fact, skeptics suggest that all photographs of Nessie are either hoaxes or depict some ordinary animal or object mistaken for a monster.

For example, skeptics say that underwater photographs taken in the lake in 1972 and 1975—the latter of which seem to show a creature with a horselike, horned head—were either hoaxes or pictures of submerged objects like algae-covered junk or rotting tree stumps. Skeptics similarly discount the more than twenty films of Nessie moving across the lake, including a four-minute piece of footage taken by Nessie investigator Tim Dinsdale on April 23, 1960. While this evidence cannot be proved a fake, and is particularly convincing for those already predisposed to believe in Nessie, some skeptics say that the image was caused by an underwater wave produced by seismic activity in the earth beneath the lake. They also note that all Nessie photographs are too gray, murky, and grainy to show objects clearly.

Skeptics also dismiss apparent sonar trackings of Nessie, usually on the grounds that the equipment was faulty or the researchers were mistaken in concluding that the trackings were caused by Nessie. One such set of sonar trackings occurred as part of two searches for Nessie evidence. In the first, called Operation Deepscan, twenty ships used sonar to detect objects deep within the southern part of the lake, and after three days (October 8 to October 10, 1987) they found ten unidentifiable large shapes. In the second, which took place in 1997, a similar effort sponsored by the PBS television show *Nova* yielded similar results. But skeptics argue that with such sophisticated equipment, if Nessie were really in the lake, people would have found it—or at least discovered a carcass or bone as evidence of the creature's existence. Moreover, they say that there are not enough fish in the lake to support the eating habits of a creature as large as Nessie is supposed to be.

People who believe in the existence of the Loch Ness monsters counter that if Nessie can go undetected, so too could a volume of fish large enough to sustain them. They have also suggested that Nessie might be a species of dinosaur, such as the amphibious plesiosaur, which, scientist say became extinct more than 65 million years ago, or a prehistoric whale known as a zeuglodon. Interestingly, similar creatures have been sighted in other freshwater lakes that have characteristics similar to Loch Ness. Specifically, these lakes are all fairly cold and deep; the bottom of Loch Ness, for example, is approximately 1,000 feet (305m) deep, and the lake—even on the hottest of days—only has an average temperature of 45 degrees Fahrenheit (7.29°C). Believers do not know why lake monsters might be attracted to the cold, however.

SEE ALSO: lake monsters

Lodge, Sir Oliver (1851–1940)

Beginning in 1884, Sir Oliver Lodge was a member and at times president of England's Society for Psychical Research and was involved in many of its investigations. A professor of physics and mathematics at University College in Liverpool, England, he was not himself particularly interested in paranormal phenomena when he joined the group, but he felt that such phenomena deserved serious, objective scientific study. He subsequently came to believe that it was possible to communicate with the dead and wrote extensively about his psychical experiences with mediums. His most notable work was *The Survival of Man*, a book in which he claimed to have communicated with his dead son through British medium Gladys Osbourne Leonard. Noted parapsychologist J.B. Rhine later

said that this book was a major influence on his decision to go into psychical research in the 1920s; Rhine felt that if a noted scholar like Lodge could believe in such things as life after death, then they deserved serious study.

SEE ALSO: Rhine, J.B.; Society for Psychical Research

lost worlds

The phrase *lost worlds* is commonly used in one of two ways. The first usage is in reference to mythical civilizations, such as Atlantis and Lemuria, that some people believe once really existed. The second usage refers to existing, but as yet undiscovered, places where some people believe living dinosaurs dwell. The idea that a lost prehistoric world exists somewhere was popularized by a 1912 novel called *The Lost World* by Sir Arthur Conan Doyle, but prior to its publication there were newspaper reports of people claiming to have seen such places. For example, on January 11, 1911, the *New York Herald* reported that in 1907 two men traveling through Peru with a guide stumbled upon a swampy valley where they said they had found a large, strange beast that they thought might have been a type of creature known to have been extinct since prehistoric times. Even today, rumors persist that remote regions of South America harbor populations of dinosaurs. There are also rumors that mythical civilizations like Atlantis not only once existed but still exist, perhaps in underwater caves or deep within the earth.

SEE ALSO: Atlantis; dinosaurs, living; hollow-Earth theory; Lemuria

Lourdes

A city near Paris, France, Lourdes is a place where many people believe that miracle

cures have taken place. Seemingly miraculous cures began happening in 1858, after fourteen-year-old Bernadette Soubirous, while visiting a cave in Lourdes, saw the Virgin Mary in a total of twenty separate visions. Bernadette's first vision occurred one day while she and two other girls were gathering firewood near the Gave de Pau stream. Separated from her companions, Bernadette saw the Virgin Mary in the cave, or grotto. After nine subsequent visions in the same place, she discovered that a spring had begun to flow from the cave. Shortly thereafter, a sixty-nine-year-old blind man bathed in the water and reported that it had restored his sight. Other people soon discovered that by bathing in the spring's waters, they too were healed of various afflictions.

By Bernadette's sixteenth vision at the site, the Lourdes grotto had become famous as a place for cures. By 1883 the Catholic Church had established a panel of medical experts to investigate the Lourdes miracles, and this board deemed many of the cures authentic because people with documented disabilities and illnesses seemed to be healthy following their visit. Today approximately 3 million people visit the site each year seeking cures for a variety of ailments and conditions. In addition, miracle cures have supposedly taken place at religious shrines located elsewhere and dedicated to "Our Lady of Lourdes." For example, while praying at a Lourdes shrine in Oostakker, Belgium, in 1875, Pierre de Rudder suddenly found that his crippled leg, which also had an open wound, was suddenly healed. His injury had been well documented before the miracle cure, and after his death a physician discovered that the fractured, twisted leg had been mended by the unexplained growth of new bone.

Various explanations unrelated to religion have been proposed in regard to why people who visit Lourdes shrines experience such cures. Some have suggested that the miracle cures at Lourdes were caused by Earth energy at Lourdes and certain other sites in the world, which they believe has healing powers, or by the experiencers' own psychic ability to heal themselves. Skeptics have suggested that the people "healed" at the site, including the first person to be cured at Lourdes, had conditions that would have gone away by themselves, or that some people were never really sick to begin with. Regarding the latter, skeptics suggest that the people only thought they were sick, and that a visit to Lourdes satisfied a psychological need to

be healed.

SEE ALSO: Earth energy; miracles

lycanthropy

Lycanthropy is the clinical term for the delusion on the part of a person that he or she has turned into a wolf. In most cases, the deluded person believes that this transformation was the result of magic or witchcraft. Skeptics accept that lycanthropy is a real psychological condition and speculate that it is responsible for all claims related to the existence of werewolves, which are supposedly part human, part wolves.

SEE ALSO: werewolves



Mack, John E. (1929–2004)

Dr. John E. Mack was one of the leading experts on alien abduction experiences, in which people claim to have been temporarily held captive by extraterrestrials. In the early 1990s, as a professor of psychiatry at Harvard University, Mack began a ten-year study of two hundred persons who claimed to be abductees, concentrating more on the psychological aspects of the abduction experience than on trying to prove whether aliens were real beings. Nonetheless, by the end of his study he had decided that most abductees really had encountered aliens.

He wrote about some of his work in *Abduction: Human Encounters with Aliens* (1994), which is considered one of the most important books on alien abductions. In his book, Mack argues that anyone who cannot believe that aliens are real is “either unfamiliar with the rich complexity of the abduction phenomenon itself, or ... wedded to a worldview in which the idea of an intelligence or beings from outside of the earth visiting us is simply not possible.” In other words, ignorance and prejudice keep people from believing in aliens who come from another planet.

SEE ALSO: alien abduction experiences

Mad Gasser of Mattoon

The Mad Gasser of Mattoon is said to have been a mysterious being, described as looking human, who supposedly gassed

residents in the town of Mattoon, Illinois, in late August and early September 1944. The first Mad Gasser attacks supposedly took place on August 31, when four people living in two different houses awoke in the night feeling so ill that they were unable to get out of bed. The next night, another person awoke with an odd paralysis and smelled an odd, sweet odor in her bedroom; around the same time, someone saw a mysterious stranger outside her bedroom window. After these stories were reported in the local newspaper, several other attacks were reported on subsequent nights, all of them involving a mysterious stranger, sudden paralysis, and an odd, sweet-smelling gas. A doctor called to the scene of one of these incidents smelled the gas, too, adding credibility to the reports.

Police who investigated could find no evidence of gassing or of the mysterious stranger, however. Nonetheless, panicked residents began patrolling their streets each night. One of them claimed to see a woman dressed in men's clothing lurking under a bedroom window, apparently spraying gas near the glass. The next morning a woman's footprints were found in the same spot.

Interestingly, similar stories had been reported in the winter of 1933 through 1934 in Botetourt County, Virginia. These stories featured a gasser, a sweet odor, a strange paralysis, a mysterious stranger, panicked residents, and even a woman's footprints under a bedroom window. In both cases, public officials eventually de-

cided that mass hysteria was the source of the stories rather than any real gasser. However, the Virginia stories were never reported in Illinois, leading some to wonder how hysteria in one town could cause mass sightings of the mysterious Mad Gasser in another.

Those who believe these incidents were real attacks have suggested that one individual was responsible for the gassings—and that the Mad Gasser was not a human but an extraterrestrial. Some of these believers say they do not know why an extraterrestrial would attack humans in this way, but others suggest that the extraterrestrial was performing some kind of experiment on the humans. (Supporters of this theory also believe in alien abductions, whereby aliens are said to hold humans captive in order to perform experiments on them.) Skeptics, on the other hand, accept the official explanation: that the supposed gassings are examples of mass hysteria. This hysteria, they argue, caused fearful people to imagine that they smelled, felt, or saw things that were not really there.

SEE ALSO: alien abduction experiences

magic and spells

People who believe in genuine magic (which they sometimes spell “magick”) distinguish this phenomenon from stage magic, which involves sleight of hand designed to fool members of the audience. These individuals say that there are unseen forces that can be manipulated in order to achieve a desired result, such as the acquisition of personal wealth or the protection of a person, place, or thing. Those who work with magic are called by any of several names, including magician, wizard, sorcerer, and witch. They generally believe that the results of magic can be beneficial

or harmful. Moreover, they caution that a person practicing magic in order to harm others must be aware that the magic can harm the practitioner instead.

Spell Casting In practicing magic, a person employs words, actions, rituals, and objects that are specially designed for that purpose. The magician chants, speaks, or thinks words or phrases—also known as incantations or spells—in a certain order while focusing mental energy—which is believed to activate or enhance magic—on a desired result. This process is called “casting a spell.” Modern practitioners generally contend that the words in their spells are calling on, or invoking, either natural though mysterious forces within the universe, on deities, or on good or evil spirits to bring about the intended results.

Magic actions are movements and gestures performed in accompaniment to the chanting, speaking, or thinking of a spell. For example, a witch might tie a knot or light a candle while casting a spell, believing that without such actions the spell would not work or perhaps not work as effectively. When magic words and magic actions are used together, perhaps by following detailed written instructions, they compose a ceremony known as a ritual, and the practitioner is said to be performing ritual magic, complex sorcery, ceremonial magic, or high magic. In contrast, low magic, also known as simple sorcery, practical magic, or folk magic, involves spells that require only simple magic actions or perhaps no magic actions at all.

Both kinds of magic employ magical objects such as amulets and talismans, which have usually been ritualistically “charged” with magical power and might be carried to attract luck, good health, protection from evil, and other benefits. Ritual tools, such as candles or knives, might be

similarly charged prior to their first use in order to imbue them with magic intended to keep away evil forces. Other items sometimes used in the practice of magic include herbs, ropes, brooms, incense, and bowls of water. Dolls are sometimes used as well, under a belief known as sympathetic magic, which says that two things can be connected in a system of cause and effect. For example, some people believe that if they poke pins in a doll made to look like their enemy, their enemy will feel a stab of pain with each jab of the pin.

Underlying Forces Over the centuries attitudes have changed regarding the origin of the unseen forces that supposedly produce magic. In ancient times magic was viewed as being created by deities, nature spirits, and/or natural elements like moonlight, which the magician could learn to call upon to achieve desired results. By the thirteenth century, people had decided that the external forces that created magic were not natural but supernatural—specifically, magic was the creation of either angels or demons. By the sixteenth century, the Catholic Church had declared that all magic was the result of demonic forces. During the seventeenth and eighteenth centuries, some people continued to believe this, but others thought that the spirits of the dead might be the agents of magic instead. In either case, the prevailing view was that dabbling in magic could be dangerous. Cautionary tales of magicians who were injured or killed while calling on demons and spirits, perhaps because a magician did not recite a spell perfectly, were plentiful. In addition, it was believed that if a magician did not perform the spells within a protective magic circle (a circle drawn during a ritual), or if he allowed any part of his body to cross that boundary, a demon or spirit would

grab him and carry him away to some otherworldly place.

During the late eighteenth century, people began to suggest that magic was created at least in part by energy coming from within the magician, and by the nineteenth century this was the common view. In light of this new belief, occultists increasingly developed new ideas about how magic worked and should be performed. During the early twentieth century, many occultists promoted the notion that a magician's personal will and imagination were the source of magic because when heightened and focused through certain rituals they could access and direct nature's energy. This gradually led to the belief that superior mental abilities, psychic talents, and other hereditary qualities make certain people better at working magic than others.

Modern Practitioners This belief is still common today among those who accept that magic is a real phenomenon. Moreover, since modern practitioners think that magic is activated or enhanced by mental energy, they often meditate, chant, go into a trance, or otherwise alter their mental state before attempting to work magic, believing that these activities raise their power and allow them to connect with nature's energy and possibly also with certain deities. They also might perform their rituals at times when they believe that nature's energy will boost their mental energy, such as during a full moon.

In addition, modern practitioners generally believe that the rituals, spells, and incantations involved with producing magic are there primarily to help them focus their mental energy so they can visualize a desired result. Some even think that the details of the rituals are unimportant;

to them, spontaneity is acceptable as long as it helps increase mental energy. Their goal is to mentally turn a desire into concentrated energy—a “thought form”—and send it into the astral plane, a region that they say is a receptacle for the energy of the universe. Once there, the thought form will theoretically manifest itself, in the form of the desired outcome it represents, on the physical plane as well.

Skeptics say that even when magic does seem to produce a desired result, this is merely a coincidence, or that the practitioner of magic did other things, perhaps unconsciously, to make the thing happen. For example, a person who has performed magic in order to get a desired job might act more confident during the job interview, believing that the job is already his or hers, and consequently impress the prospective employer enough to get the job. Similarly, a person who has performed magic in order to find the perfect new home might subsequently be more focused on the house hunt and therefore notice “for sale” signs that might otherwise have been missed, which will increase the person’s chances of finding the desired home.

SEE ALSO: witchcraft

magnetism, human

Beginning in the nineteenth century, there have been reports of people exhibiting strange magnetic qualities, often accompanied by unusual displays of electric energy. Scientists are at a loss for how to explain this phenomenon, although a number of cases have been studied and well documented. For example, for ten weeks beginning on July 15, 1846, fourteen-year-old Angélique Cottin of France began repelling objects—some of them pieces of

heavy furniture—away from her body through some unseen electric charge whereby they would jump or spin away from her, usually after she touched them. At the same time, the needles of compasses held near her would spin violently. While investigating her abilities on behalf of the French Academy of Sciences, physicist François Arago determined that Cottin’s powers grew stronger as night fell and seemed to come from her left arm. He also noted that her pulse grew more rapid whenever she was displaying the phenomenon, and sometimes she would have convulsions during this period as well.

Similarly, in 1890 sixteen-year-old Louis Hamburger of Maryland was studied by researchers of the Maryland College of Pharmacy because of his magnetic qualities; metal objects would attach themselves to his skin so strongly that he could lift them off the ground. On one occasion, he lifted a 5-pound (2.3kg) jar of iron filings that had attached itself to three of his fingertips. In 1976 twelve-year-old Vyvyan Jones of England somehow became charged with electricity after breaking his arm, to the extent that he was able to illuminate a lightbulb simply by holding it, and for two days his magnetism caused any watch brought near him to stop running. He could also give people massive electric shocks and make lights flicker and appliances turn on and off.

The majority of people displaying such temporary abilities are adolescents, which has led some researchers to suggest that the same abilities are responsible for poltergeist activities (attacks on people, usually adolescents, that are often said to be caused by violent spirits). However, no one has been able to determine what might cause human magnetism, and skeptics are

largely silent on the issue (except, on occasion, to suggest that fraud is involved). They do comment, though, on the use of magnets to improve human health, which is usually done under the belief that a human body undergoes certain changes when subjected to magnetism. (For example, some believers say that magnets affect the iron in red blood cells, thereby improving circulation.) In evaluating such cases, skeptics typically say that magnets have no effect on the human body whatsoever.

SEE ALSO: poltergeists

man-beasts

Over the centuries many people have claimed to have seen strange humanlike animals that walk upright. The animal component of these man-beasts is most commonly described as being some form of ape, with the best known of these man-apes being bigfoot or Sasquatch, the yeti or abominable snowman, the *almas*, and the Minnesota Iceman. Occasionally, however, a man-beast is described as being part human and part something else, such as a reptile, a bird, or a fish (in which case they are known as mermaids or mermen). Man-reptiles, also called lizard men, are typically said to leave behind three-toed footprints, as is the case with the Honey Island swamp monster of Louisiana, the Thetis Lake monster of Canada, and the Scape Ore Swamp lizard man of South Carolina. Man-birds are usually said to have the wings of birds or of bats, although the Mothman of West Virginia is said to have wings similar to a moth's.

Other man-beasts, like the *chupacabra*, are described as resembling no known animal. While there is no proof that man-beasts really exist, in the case of certain man-beasts—particularly apelike ones—there have been enough reported sightings

by credible witnesses to convince crypto-zoologists that they might someday find such proof.

SEE ALSO: abominable snowman; bigfoot; lizard men; Mothman

Marfa lights

Also called the Marfa mystery lights, the Marfa lights are a nighttime phenomenon seen several times a year near Marfa, Texas, since at least 1883. At that time, a settler named Robert Reed Ellison saw what he thought were Native American cooking fires some distance away, but he later could find no evidence of such fires in the area. In the years since, people who have gotten closer to the lights typically describe them as brightly glowing white, yellow, or orange orbs, though some say the orbs glow blue or green. In most reports, the orbs are about the size of a volleyball, float about 4 feet (1.2m) above the earth, and move along the ground either slowly or quickly. Sometimes they appear individually, but most of the time witnesses report seeing two or more orbs together, though when they move they might part company for a few moments. The phenomenon might last only for an instant or for an hour or more. Various theories have been proposed to explain the Marfa lights. Some contend that they are due to some natural but as yet unknown phenomenon related to Earth's atmosphere, temperature conditions, geology, magnetism, or energy fields. Others speculate that Marfa lights are somehow related to UFOs. Still others have suggested that witnesses are experiencing some sort of hallucination or optical illusion. The most extreme skeptics, however, argue that for decades the people of Marfa have been engaging in an elaborate hoax in order to increase tourism in their town.

SEE ALSO: ball lightning; lights, mystery

***Mary Celeste*, the**

The *Mary Celeste* incident is one of the most famous cases of mysterious disappearance. On December 4, 1872, a ship called the *Dei Gratia* came across another ship, a brigantine named the *Mary Celeste*, in the Atlantic Ocean east of the Azores. The two ships' captains were already familiar with each other's planned routes, both having left New York a month earlier. Consequently, the crew of the *Dei Gratia* was shocked to see that the *Mary Celeste* was deserted, its sails ripped and hanging, its bow scarred with 6-foot-long (1.8m) gashes, and its lifeboat missing. Aboard the *Mary Celeste*, there were signs that the captain and his wife, their infant daughter, and the crew of seven had left in a hurry, and some of the equipment was damaged. Yet what might have caused everyone to abandon ship in such haste was a mystery. One possible explanation was an attack by pirates. However, the ship's seventeen hundred barrels of alcohol, a valuable commodity that pirates would have been unlikely to leave behind, was still on board.

No one known to have been on the *Mary Celeste* was ever found, nor was its lifeboat. At the time, most people suspected that the ship had been the victim of some ordinary sea disaster. One theory, for example, is that the captain ordered everyone into the lifeboat after striking some rocks, fearing that his ship was about to sink, but that the lifeboat and all ten of its passengers were subsequently lost at sea. During the 1970s, however, some people reexamining the incident suggested that the *Mary Celeste* had encountered a region similar to the Bermuda Triangle, a place known for mysterious disappearances, and that for some unknown reason

the people but not the vessel vanished, leaving the ship to drift toward the location where it was eventually found. (A few have said that the ship disappeared in the Bermuda Triangle itself, despite the fact that this region is hundreds of miles to the east of where the *Mary Celeste* was found.) Still others say that the *Mary Celeste*'s passengers suffered this fate after they left in the lifeboat. Another suggestion by believers in the paranormal is that once the vessel was in this region, perhaps a time warp or some other phenomenon teleported the ship's passengers to another time or dimension.

SEE ALSO: Bermuda Triangle, the; teleportation; time and dimension travel

materialization

The word *materialization* generally refers to the inexplicable appearance in semi-solid or solid form of a ghost, an apparition, or an object. (An object that materializes seemingly out of thin air is called an apport.) In some cases, a materialized spirit is said to seem so real that it casts shadows and/or produces a reflection in a mirror, although it might also seem to walk through solid objects. Materializations may occur spontaneously, perhaps as part of an ongoing haunting or poltergeist experience, or at the bidding of a spiritual communicator, or medium. Materialization at the bidding of a medium, however, is often suspect because many mediums have been caught faking materializations. In fact, stage magicians note that one of the most common objects materialized by mediums during the nineteenth century, a flower, is also commonly "materialized" during magic tricks.

SEE ALSO: apparitions; apport; ghosts, human; mediums, physical and mental

McDougall, William (1871–1938)

A professor at Harvard from 1920 to 1927 and at Duke University from 1927 until his death in 1938, psychologist William McDougall is credited with bringing the German term *parapsychology* to the United States to describe what was once called psychical research. He had received his degree in England, where he authored a book called *Body and Mind* (1911), in which he insisted that a full understanding of human nature would never be achieved without a thorough study of psychic phenomena. At Harvard, where he was allowed to develop his own curriculum, he consequently placed a heavy emphasis on the study of psychic phenomena. As a result, he greatly influenced future academic work on the subject. In fact, one of his students, J.B. Rhine—who eventually became the most prominent parapsychologist of his time—later credited McDougall’s *Body and Mind* with having a lasting impact on his thinking in regard to the paranormal.

SEE ALSO: Rhine, J.B.

mediums, physical and mental

Mediums are people who can supposedly communicate with spirits, and they are generally divided into two types: physical mediums and mental mediums. When physical mediums are engaged in spirit communications, they exhibit physical signs of this contact; for example, they might levitate in the air, exude a strange substance called ectoplasm from their bodies, or make objects inexplicably move or appear out of thin air. In contrast, when mental mediums are engaged in spirit communications, there are no physical signs to indicate what is taking place.

Physical mediums had their heyday during the Spiritualism Movement of the

late nineteenth and early twentieth centuries, but they are rare today. This is perhaps because such notable skeptics as Harry Houdini proved that many of these Spiritualist mediums had faked the physical proof of their connection to the spirit world. For example, some mediums were caught swallowing substances that they later intended to vomit up as “ectoplasm.” Nonetheless, some people believe that even those physical mediums who engaged in fakery to “prove” their talents might still have been gifted mental mediums.

Mental mediums are far more accepted as having genuine abilities to communicate with spirits. These mediums claim to receive their spirit communications in various ways. Some enter a trance or some other kind of altered state before connecting to the spirit world. During such a trance, some mediums relay the spirits’ messages, usually in a monotone voice. Others become “channels” for a particular spirit, which means that the spirit actually takes over the medium’s body, walking and talking in ways he or she once did in life. Mediums who do not need to go into a trance in order to communicate with spirits might receive messages either intentionally—after attempting to make contact with the spirit world, perhaps during a séance—or spontaneously and at sometimes inopportune moments. In either case, many mediums say that they receive their messages from the spirit world in the form of impressions or images rather than words, and these impressions and images are open to interpretation. Some mediums, particularly those involved in psychic detective work, report that they receive spirit messages in the form of movielike images that they “watch” inside their minds in order to find out, for example, how or where a particular person died.

Whenever mediums provide information that they apparently could not know without having communicated with a dead person, skeptics accuse them of being a good guesser or of obtaining the information through some form of trickery. All of the most prominent mental mediums of today, including James Van Praagh, John Edward, and Allison DuBois, have been targets of such accusations. Nonetheless, they and their many followers insist that their talents are genuine.

SEE ALSO: DuBois, Allison; ectoplasm; Edward, John; Houdini, Harry; spiritualism; Van Praagh, James

Men in Black

The phrase *Men in Black* refers to mysterious men wearing black suits and sunglasses. Witnesses of UFOs and other seemingly unexplainable events say these men show up after a reported UFO incident, demanding to be given any physical evidence that these events took place and threateningly advising witnesses to keep quiet about what they have seen. In many such encounters, the Men in Black claim to be government agents and display badges or official-looking documents; they are usually said to drive black cars, usually Cadillacs, or arrive in black helicopters. Some witnesses say that the Men in Black have an odd, somewhat foreign style of speaking and that their skin does not look human. Consequently, some people have suggested that the men are really aliens masquerading as humans. Others believe that they are humans working with the aliens and/or the U.S. government to conceal alien activities on Earth. Still others suggest that the Men in Black are part of a plan—developed by either the government or a skeptics organization—to make anyone who reports a UFO sighting seem

crazy. Under this theory, when someone who has reported seeing a UFO later claims to have been threatened by the Men in Black, people will doubt not only the Men in Black story but the UFO one as well.

Perhaps the first Men in Black story—considered by ufologists to be typical of all accounts—appeared in 1947 after Harold A. Dahl of Maury Island, Washington, reported seeing six UFOs flying over the waters of Puget Sound. Dahl claimed that he had photographed the UFOs, but a strange man dressed in black, who Dahl assumed was from the U.S. government or some branch of the military, visited him the next day to confiscate the photographs and demand that he remain silent about what he had seen. Later Dahl claimed to have made this story up, but this was after another part of his story—that some debris on Maury Island had been dumped there by the alien spacecraft—was proved false. (The debris was waste material from the U.S. government's plutonium-processing plant at Hanford, Washington.) Shortly thereafter, however, Dahl changed his story yet again, saying he had only claimed his UFO story was a lie because he feared for his life.

At some point Dahl told a ufologist, Alfred K. Bender, about what had happened. In 1953 Bender—who was the founder of a group called the International Flying Saucer Bureau and published a newsletter called the *Space Review* for UFO enthusiasts—said that he too had been visited by Men in Black and that they had warned him to keep quiet about this and other UFO-related events. In 1962 Bender published a book called *Flying Saucers and the Three Men*, in which he talked about the mysterious strangers who had visited

him.

Skeptics dismiss stories such as Bender's, saying that he made his story up to gain publicity. Meanwhile, some psychologists, such as John A. Keel, have said that the Men in Black are akin to fairies, demons, and other beings from folklore and might therefore be the product of enchantment. (Keel has developed an elaborate theory based on the concept that otherworldly beings, perhaps from another dimension, are enchanting human beings.) But believers in the Men in Black point out that on a few occasions, police have reported seeing unmarked black vehicles at sites related to UFO sightings or outside the homes of UFO witnesses, and such witnesses continue to say they have been visited by the Men in Black.

SEE ALSO: black helicopters; government cover-ups and conspiracy theories; hoaxes and frauds; Keel, John A.

mentalists, stage

Stage mentalists are people who perform mind-reading and other ESP-related tricks on stage before paying audiences. Such performers use a variety of methods to make it seem as though they have real mental powers. For example, they might use sleight of hand to substitute a stopped watch for a running one, after claiming that they can stop watches with a thought. They might also plant associates among the crowd waiting to fill the theater in order to gain information that later will help them appear to read the minds of audience members. Stage mentalists are also adept at using leading questions, astute observations, and other techniques to help them make educated guesses about people's thoughts and life circumstances. Stage mentalists readily admit to using such techniques, but skeptics often accuse

those who claim real psychic powers of using these methods to fool the public for financial or personal gain.

SEE ALSO: extrasensory perception; mediums, physical and mental

men, winged

Occasionally people report seeing winged humans or humanlike creatures either flying in the sky or resting on the ground. The descriptions of the winged men are fairly consistent. For example, on September 18, 1877, W.H. Smith claimed that he saw a winged human flying above Brooklyn, New York, and three years later, on September 12, 1880, several other New Yorkers claimed to have witnessed a similar phenomenon. These witnesses said that the flying man's wings were batlike, and he had legs like a frog. In the 1950s in Texas, three people reported seeing a bat-winged man, and in 1963 a similar figure was said to have been spotted in Kent, England.

The most frequently reported sightings of a winged man, however, are of the so-called Mothman of West Virginia. This creature was reported by at least one hundred people in the Ohio River Valley in 1966 and 1967, most of whom described it as being an upright, man-shaped creature approximately 5 to 7 feet (1.5 to 2m) tall, with mothlike wings and unusually large eyes. No evidence has ever been found to prove that this creature really existed, but some people believe that the number of eyewitness reports, coupled with the fact that bat-winged humans have been reported elsewhere, suggest that something unusual was indeed flying over parts of West Virginia at the time.

SEE ALSO: man-beasts; Mothman

mermaids and mermen (merbeings)

For centuries sailors have told stories of seeing mermaids and, less commonly, mermen while out to sea. In such stories, these merbeings are said to look like attractive humans from the waist up but to have scale-covered tails instead of legs. Modern cryptozoologists, however, are more interested in stories about merbeasts that seem more beast than human. According to various reports, these creatures range from 3 feet to 6 feet (.9 to 1.8m) in height, have almond- or oval-shaped eyes and three-toed feet, and—like the more beautiful mermaids—communicate through singing rather than speaking, though no one can understand their vocalizations. These beings, however, reportedly differ based on where they live. Seawater varieties of merbeings are often said to have smooth skin and a dorsal fin; freshwater varieties apparently have scaly skin and a row of spikes down the back. Some people say that the creatures have hair like a horse's mane either in addition to or instead of the fin or spikes.

Cryptozoologists hope to someday find evidence that such creatures really exist, noting that other animals, like the giant squid, were believed to be myths until a few specimens finally washed up on a beach. Skeptics, however, say that anyone claiming to have seen a merbeing has actually seen an ordinary sea creature, such as a manatee, which has roughly the same shape as a human. Tricks of the light or other factors, skeptics say, are responsible for such misidentifications. But some believers in merbeings say that these creatures are actually intelligent beings with their own communities located in the deepest and as yet unexplored regions of the sea. A few suggest that they might be

the inhabitants of civilizations like Atlantis, which supposedly sank into the sea thousands of years ago.

SEE ALSO: Atlantis

Mind Science Foundation

Located in San Antonio, Texas, the Mind Science Foundation is dedicated to studying the human mind and is particularly interested in finding out how consciousness arises in human beings. To this end, the group funds scientific research into explorations of human consciousness as well as on the origin of life and of the cosmos. The Mind Science Foundation was created in 1958 by multimillionaire entrepreneur Tom Slick, who died in a plane crash four years later at the age of forty-six. He also sponsored two expeditions to Nepal in the 1950s, specifically to try to find evidence that a human-ape known as the yeti existed there.

SEE ALSO: yeti

Minnesota Iceman

Now widely considered to be a hoax created to make money at carnival sideshows, the Minnesota Iceman was a supposed man-beast, claimed to be a possible cross between a prehistoric human and an ape. The Iceman was so-called because he was frozen in a block of ice and exhibited during 1967 and 1968 at various carnivals held across the midwestern United States. The exhibitor, Frank Hansen, allowed people to look at the creature, which he kept in a refrigerated glass box, for a fee of twenty-five cents. At a showing in Milwaukee, Wisconsin, in 1967, this display was spotted by a University of Minnesota zoology major, Terry Cullen, who reported what he had seen to various scientists, including

biologist and cryptozoologist Ivan T. Sanderson. Sanderson, who had written a book about the Abominable Snowman, along with naturalist and cryptozoologist Bernard Heuvelmans, subsequently arranged to see the Minnesota Iceman at Hansen's farm in Rollingstone, Minnesota. There, they saw the decomposing remains of what they believed was a real creature, a male roughly 6 feet (1.8m) tall, which had been shot in the right eye and had a broken arm. Hansen told them that Russian seal hunters had found the creature in an ice floe in the Sea of Okhotsk. (Later he changed his story, saying instead that Japanese whalers had found it.) Hansen claimed that it had been purchased in Hong Kong by an eccentric millionaire who then allowed Hansen to put it on display.

After they left Hansen's farm, Sanderson and Heuvelmans publicly declared the creature genuine and tried to convince the curator of the Smithsonian Institution's primate collection, John Napier, to support their view, showing him their detailed notes and diagrams of the creature. Napier asked to see the Minnesota Iceman for himself, but at this point Hansen said that its owner had taken it away from him. Hansen then offered to let Napier look at a model of the creature which, he insisted, resembled it in almost every way. Based on his dealings with Hansen, Napier decided that what Sanderson and Heuvelmans had been shown was a fake. Then, in 1981 C. Eugene Emery of the *Providence Journal-Bulletin* of Rhode Island reported that the Minnesota Iceman had actually been the creation of sculptor Howard Ball, who had also created figures for Disneyland. By that time, Ball had died, but his widow told Emery that her husband had created the creature based on artists' con-

ceptions of the prehistoric human known as Cro-Magnon man. Hansen later admitted that Ball had indeed made a model for him, but he insisted that he had shown Sanderson and Heuvelmans a real specimen, not this model. For their part, Sanderson and Heuvelmans, as well as Cullen—the student who had brought the Minnesota Iceman to their attention—continued to insist that what they had seen was not a model but a real creature. Heuvelmans eventually decided that what he had seen was a Neanderthal man, but cryptozoologist Mark Hall has suggested that what Heuvelmans saw might have been a different species of prehistoric hominid, *Homo erectus*. Both men, however, theorized that the creature was smuggled into the United States from the East, though there is no evidence to support this. In the 1990s Hansen said that he had allowed this creature to thaw and then disposed of it, fearing he would get in trouble for displaying a humanlike body, but these remains, if they indeed existed, were never found.

SEE ALSO: man-beasts

miracles

Miracles are paranormal phenomena—almost always positive in nature—attributed to the actions of a deity. Devout adherents to all religions accept the possibility of such intervention. In modern times, the most commonly cited examples of miracles are unexpected reversals of serious illnesses, such as occurs when a person suffering from a terminal cancer suddenly discovers that the disease has gone into remission, and instances where someone is saved from death under amazing circumstances, such as by walking away from a horrific automobile accident unscathed. However, some people define miracles in

stricter terms, by saying that true miracles are only those events that so defy the laws of nature that they could only have been brought about by divine intervention. In other words, they cannot be explained away by, for example, ongoing medical treatments or skilled driving and the wearing of a seatbelt. Instead, under this definition, a miracle would have to be something as dramatic and inexplicable as those said to have been performed by Jesus, such as the turning of water into wine and one fish and one loaf of bread into dozens of fish and loaves.

Devout Christians would place visible manifestations relating to their faith into this category. These are said to occur when people see the shape of the Virgin Mary, for example, in candle drippings or tree bark, or when a religious statue appears to be weeping tears or shedding blood. Devout Christians also consider to be miracles all cases of incorruptibility (whereby the body of a particularly pious person seems not to decay after death) and stigmata (whereby bleeding wounds suddenly appear on a person, matching the wounds said to have been suffered by Christ during his crucifixion) as well as healings accomplished at religious sites like Lourdes in France. Another Christian category of miracle is divine intervention, whereby a person is saved from death after praying for God to spare his or her life. Such was the case, for example, with John Lee. While waiting to be hanged for murder in 1885, he prayed for divine intervention, and afterward the trapdoor of his gallows refused to open four times. In between each attempt to execute Lee, various people tried to figure out why the trapdoor had jammed, but in every test of the mechanism it worked perfectly. (Eventually, under the belief that God wanted Lee spared,

officials commuted his sentence to life in prison, and after twenty-two years he was released on parole.)

Whenever prayer seems to cause such an event, skeptics call it coincidence. They also dismiss the notion that weeping or bleeding statues or paintings are caused by God, saying that these phenomena are due to flaws in the clay or paint used to make these objects. Skeptics also doubt that many of the stories of miracles are accurate. For example, skeptic Robert Todd Carroll, in his book *The Skeptic's Dictionary*, says that miracles stem from “the tendency of people at all times in all ages to desire wondrous events, to be deluded by them, to fabricate them, create them, embellish them, enhance them, and come to believe the absolute truth of the creations of their own passions and heated imaginations.” Carroll goes on to say that although this does not mean that miracles are impossible, it means “that when a miracle is reported, the probability will always be greater that the person doing the reporting is mistaken, deluded, or a fraud than that the miracle really occurred.”

SEE ALSO: faces appearing in objects; Lourdes; stigmata; weeping images

missing-time episodes

A missing-time episode is the perception on the part of a person that he or she cannot account for a span of time that might be as brief as a few minutes or as long as a day or more. Frequently, those who experience such episodes conclude that they have either seen a UFO (in the case of a short missing-time episode) or that they have been the victim of alien abduction (in the case of a long one). Experiences sometimes come to this conclusion on their own, but most of the time they are helped by a therapist who uses hypnosis

to uncover what are said to be repressed abduction memories. In fact, many missing-time experiencers have no clue that they might have been in contact with aliens until recalling the event while under hypnosis.

Believers in the connection between missing-time episodes and alien abductions generally say that the aliens perform a “memory block” on abductees to prevent them from remembering their experience; in most cases, believers contend, hypnosis eliminates this block. Skeptics, however, say that the reason for this connection is that the supposed abductee already has read or seen some material relating to UFOs or that the recollections were unintentionally planted by the therapist performing the hypnosis. The cause of missing-time episodes, skeptics say, is fatigue or some problem with memory. In the best-known case of alien abduction, that of Betty and Barney Hill, for example, skeptics have suggested that the Hills, who were on a long drive the night they had their experience, might have dozed off and slept for two hours. (Indeed, Barney Hill admitted to having felt drowsy right before the missing-time episode.) In other cases, experiencers might have simply lost track of time, as commonly happens when someone becomes engrossed in certain tasks or activities.

SEE ALSO: alien abduction experiences; Hill, Betty and Barney

mokele-mbembe

Mokele-mbembe is said to be a dinosaur, of a species known as the sauropod, still living in the African jungle of the Congo. Sightings of this animal, whose African name means “creature that stops rivers from flowing,” have been reported for well over two hundred years. Natives generally

say that the animal spends most of its time in the water (as scientists believe the sauropod once did) and has an elephant-sized body with a long neck and tail, both flexible. By some accounts, this tail is as long as 10 feet (3m), and the animals’ tracks are supposedly 3 feet (.91m) wide. In one account, natives claimed to have killed a *mokele-mbembe* with spears, after which some of them cooked and ate it. The story goes that anyone who ate the meat was dead shortly thereafter.

Cryptozoologists have attempted to find proof of the existence of *mokele-mbembe*, launching several expeditions into the region during the 1980s. Their efforts have been largely unsuccessful. On one of these expeditions, a biologist thought that he had caught the creature on film—only to realize afterward that he had forgotten to take the lens cap off his camera. In 1992 a Japanese film crew intending only to shoot footage of scenery accidentally caught what some think is a *mokele-mbembe* on fifteen seconds of tape. Though this image, which is of a long-necked creature moving swiftly across the surface of Lake Tele, is indistinct, it does not look like any known animal.

Skeptics say that while the image might not look ordinary, it is indeed of an ordinary animal. The briefness of the footage, they say, combined with its lack of sharpness, allows viewers to see whatever they want to see in the film. Moreover, skeptics insist that *mokele-mbembe* cannot possibly exist because, given its large size, cryptozoologists would surely have found a living or dead specimen by now if it were real. Skeptics believe that *mokele-mbembe* sightings are actually cases where natives have mistaken a hippopotamus, crocodile, or some other known animal for a mysterious beast. However, believers in the

mokele-mbembe note that hippopotamuses do not live in areas where the *mokele-mbembe* has been reported—a fact that seems to support, believers say, Congo natives' insistence that, even though the *mokele-mbembe* is an herbivore, it so hates hippopotamuses that it attacks and kills any it sees.

SEE ALSO: dinosaurs, living

Momo

Its name derived from the appellation “the Missouri monster,” Momo is described as a hair-covered, roughly 6-foot-tall (1.8m) bipedal, half-human-half-ape, that has been sighted in and around the town of Louisiana, Missouri, since at least the 1940s. Most of the reports simply are of sightings, but on one occasion, in 1965, the beast supposedly attacked a woman in a car; on another, in 1972, it reportedly killed a dog. The 1972 incident was the first of several sightings within a two-week period in a neighborhood where several dogs had disappeared. Skeptics dismiss Momo sightings as the result of hysteria or the misidentification of ordinary animals.

SEE ALSO: beasts, mysterious; man-beasts

monuments, ancient

Over the centuries scholars have debated how certain large objects and structures, such as the pyramids of ancient Egypt, could have been built, given the technology believed available at the time. In cases where an answer is particularly elusive, some people speculate that the ancient architects who created them were influenced by extraterrestrials and/or the inhabitants of technologically advanced—and now lost—civilizations on Earth. For example, Erich von Däniken, in his 1968 book

Chariots of the Gods? suggested that the stone figures on Easter Island were erected by ancient astronauts from another planet, while others have suggested that the pyramids of ancient Egypt were built with the help of people from Atlantis.

Supporters of ancient-astronaut theories note that many ancient monuments appear to be built with an eye toward the heavens, as they seem to be oriented toward the movements of astronomical bodies. To believers, this suggests that the monuments were somehow connected to space travel. But others argue that the location of most ancient monuments is based not on qualities of the heavens but on qualities of the Earth, suggesting that

the monuments are meant to indicate places charged with mysterious energy. Believers in Earth energy say that such sites have a beneficial effect on the minds and bodies of anyone in the area, which is why ancient people would have wanted to mark them and perhaps also use them for religious rituals.

Skeptics dismiss the idea of Earth energy as well as the notion that ancient astronauts once visited Earth and built monuments. Ancient monuments such as the pyramids in Egypt, skeptics say, were built to honor the builders' gods, to serve as a place of religious rituals, and—in cases where they are oriented in accordance with celestial movements—to act as astronomical calendars, marking times when the sun would be in certain parts of the sky, for example, for purposes related to religious worship or the planting of crops.

SEE ALSO: ancient astronauts; Atlantis; Däniken, Erich von; Easter Island

Moodus noises

Moodus noises are underground rumbling sounds and tremors that have occurred for centuries near the Moodus River in Connecticut. In fact, the river's name comes from Native Americans who inhabited the region and attributed these sounds and tremors to evil gods. They called the area Matchitmoodus, which, in their language, means "Place of Bad Noises." The Puritans who settled in the region during the 1670s also heard the noises, but they attributed the phenomena to the devil. According to some stories, by the 1760s the Moodus noises had caused so much concern that King George III of England sent an alchemist, Dr. Steel, to the region to find their source. Some people say that he attempted to solve the problem by removing what

Steel said was a giant pearl blocking the mouth of a cave near the river.

Whether Steel actually removed anything is uncertain, but around this time the noises and tremors became subdued and less frequent. In 1816 and 1817, however, the tremors turned into large quakes. Scientists of the time concluded that the phenomena were caused by underground gases or chemical explosions. By the twentieth century, scholars concluded that seismic forces were to blame. But even as late as 1981, when scientists declared that the Moodus noises were nothing more than the by-product of "micro earthquakes," the phenomena were still a matter of controversy, with some people refusing to believe that the cause of the strange rumblings had finally been identified.

SEE ALSO: phantom voices and sounds; Taos hum

Moody, Raymond A. (1944–)

Parapsychologist Raymond Moody has written extensively about near-death experiences, and some people credit him with being the first to use the phrase, which appeared in his 1975 best-selling book, *Life After Life*. This book, which presents more than one hundred case studies of people who experienced clinical death and were then revived, identifies several common aspects of near-death experiences, including a feeling of peace, an out-of-body experience, the perception of movement through a long tunnel with a bright light at the end, and an encounter with dead relatives or other beings believed to be in the afterlife. A 1989 sequel to *Life After Life*, *The Light Beyond*, presents near-death cases gathered over ten more years. In this work, Moody estimates that 8 million

people have had near-death experiences. In another work, *Coming Back* (1991), Moody turns his attention to what he calls “life before life,” also known as past lives. In this work, Moody discusses a two-year study aimed at uncovering possible proof of reincarnation. Moody admits to being a skeptic about past lives before he himself was hypnotized and discovered that he had lived nine previous existences.

SEE ALSO: near-death experiences; past lives; reincarnation

Moon and planetary anomalies

Moon and planetary anomalies are strange phenomena seen while looking at the Moon or planets, usually through a telescope. These include mysterious lights, flashes, shadows, clouds, and apparently moving objects. Skeptics believe that all such anomalies are illusions caused by problems with the viewer’s eyes or equipment. For example, what appears to be a moving object on the Moon might actually be an insect crawling on the telescope lens. Some people, however, consider these anomalies to be evidence that there is intelligent life on other planets and that these extraterrestrial beings have been spotted visiting the Moon.

SEE ALSO: illusions, optical

Morag

The Morag is a lake monster, similar to those reported in Loch Ness, that has been sighted in Loch Morar, a lake in Scotland near Loch Ness. Little attention has been paid to this creature, which, like those of Loch Ness, has been described as having a long body with humps that rise above the surface of the water. However, in 1970 and 1971 a group investigating Loch Ness

monsters decided to investigate Morags as well. The research team collected numerous eyewitness reports, and while studying the lake, one of the team’s members, Neil Bass, saw what he believed to be a Morag. The results of this research were published in *The Search for Morag* (1974) by two members of the team, Elizabeth Montgomery Campbell and David Solomon.

SEE ALSO: Loch Ness monsters

Mothman

For a full year beginning in November 1966, more than a hundred people in the Ohio River Valley, most of them living in West Virginia, said they had sighted a winged, apparently armless man, roughly 5 to 7 feet (1.5 to 2.1m) tall, either flying in the air or standing on the ground with its wings folded. Many witnesses said that the being’s eyes were red and unusually large and frightening, that its wingspan was approximately 10 feet (3m), and that its wings did not flap while it was flying. Some reported that it made a squeaking sound, but others said it was completely silent. Based on witness descriptions the day after the first sighting, the media dubbed the creature “Mothman” for its resemblance to a villain that had recently appeared in an episode of a popular television show of the time, *Batman*.

Credible Witnesses One possible explanation for sightings of Mothman is that people with very active imaginations were constructing memories based on the *Batman* episode. However, this creature might have been what was seen as early as 1960 or 1961 by a woman who reported the sighting years later. Furthermore, the 1966 to 1967 sightings were by credible witnesses—including National Guardsmen, firemen, and pilots—who were often in

groups when the sightings took place. For example, five men in a cemetery near Clendenin, West Virginia, saw a brown, flying, humanlike figure on November 12, 1966, and four women saw a similar figure on Route 33 in Ohio on December 7, 1966. The first sightings to attract media attention occurred on the night of November 15, 1966; the first of these involved building contractor Newell Partridge. Partridge later reported that he was inside his home in Salem, West Virginia, when, at around 10:30 P.M., his television screen suddenly went dark and then started displaying strange lines, after which the television set began making equally strange noises. His dog then began howling on the porch, and when he went outside he saw the glowing eyes of a strange beast. Newell ran back inside, and he never saw his dog again. Perhaps not coincidentally, a few hours later two couples, driving together in a car, spotted the body of a dog by the side of a road, and shortly thereafter they saw a winged creature standing near an abandoned explosives plant near Point Pleasant, West Virginia (roughly 90 miles [145km] from Salem). As they sped away from the scene, they noticed that the dog carcass had disappeared.

The two panicked couples drove immediately to the sheriff's office, and Deputy Millard Halstead, who knew and trusted all four of the witnesses, went to the explosives factory to look for the creature. He failed to find it, but he did note that his car radio began screeching and making strange noises as soon as he approached the scene. The next day Halstead's boss, Sheriff George Johnson, held a press conference to address people's concerns about the winged man, and local reporters shared the story with the world.

Keel's Investigation After hearing about Mothman, an investigator of anomalous phenomena, John A. Keel, went to Point Pleasant, West Virginia, to interview witnesses beginning in December 1966. He chronicled all of the sightings and subsequently wrote about his investigation in various articles and books, most notably *The Mothman Prophecies*, published in 1975. Keel reported that around the time of the Mothman sightings, UFOs were often seen near the factory, both at night and during the day. In fact, by Keel's calculations, more than a thousand UFO sightings occurred between the fall of 1966 and the end of 1967, with the largest number occurring in March and April 1967. In addition, Keel noted that some phenomena associated with UFO sightings were also associated with the Mothman sightings. Specifically, appliances, radios, and cars often suddenly and inexplicably stopped working in places where sightings had occurred or just before they occurred, and some people claimed to have suffered from eye troubles and/or skin irritations as a result of looking at Mothman.

Local authorities, however, ignored any suggestions that Mothman sightings were connected to UFO sightings, though because so many credible people witnessed the creature, they did not consider the Mothman sightings to be a hoax. Instead, unwilling to accept the idea that a flying man was terrorizing the Ohio River Valley, they suggested that the witnesses had actually seen some ordinary animal and mistaken it for a flying man. For example, a biologist from West Virginia University, Robert Smith, said that the creature was probably a sandhill crane, a large bird with long legs and red coloring in the eye area. Other experts suggested that the witnesses

had seen some other type of bird, such as an owl, or some kind of bear. The witnesses themselves, however, insisted that they had seen no ordinary animal, and Keel dismissed all of these theories. Instead, he theorized that whatever phenomenon was responsible for the presence of UFOs in the area was also responsible for the appearance of Mothman.

Keel also made a connection between the Mothman sightings and a disaster that occurred in the area right after the sightings stopped. At 5:05 P.M. on December 15, 1967, the Silver Bridge, which went from Point Pleasant across the Ohio River to Gallipolis, Ohio, suddenly collapsed, sending forty-six cars into the water and killing over thirty people. That same night twelve UFOs were spotted flying above some woods outside of Point Pleasant. While Keel does not blame the UFOs for collapsing the bridge, he says that UFO sightings and reports of strange events, unusual forces, and mysterious creatures often go hand in hand, and he suspects that they are all part of one experience, whether this experience is a real one or an otherworldly one.

In any case, after the bridge collapse, the creature was never again seen in the Point Pleasant area, though similar beings have occasionally been reported elsewhere throughout the world. The timing of Mothman's disappearance from West Virginia exactly a year after the sightings began has led some people to suggest that the creature is a harbinger of death. From this idea came the notion of the so-called Mothman death curse, whereby someone who sees the Mothman is destined to die within a year after sighting the creature. In fact, some people suspect that other mysterious creatures sighted in some places before a natural disaster, such as a bridge

collapse, have been the Mothman in a different form.

SEE ALSO: Keel, John A.

movies, television, and the paranormal

Skeptics contend that many reports of paranormal phenomena are the result of people having seen depictions of similar events in movies or on television. The example they most often cite to support this is the 1964 case of Betty and Barney Hill, a married couple who made the first widely publicized report of an alien abduction. Three years after the supposed abduction, when Barney was asked to describe under hypnosis the alien he had encountered, he drew an alien that looked almost exactly like one that had appeared in the science-fiction television show *Outer Limits* just twelve days before he was asked to make the drawing. Although the Hills subsequently denied being influenced by the media, skeptics say this proves that their abduction was a product of a media-induced fantasy.

Similarly, the television show *The X-Files*, which, during its nine seasons on the air, portrayed a wide variety of paranormal phenomena, often seemed to trigger reports of paranormal experiences. For example, in 1996, after the show featured a mysterious creature known as the *chupacabra*, several people in the United States reported sighting one. Previously, the animal had been primarily reported in Latin America, and most cryptozoologists who study *chupacabra* reports do not consider the post-*X-Files* sightings to be genuine.

Because the media can trigger reports of events that most likely never took place, government authorities have often attempted to play down reports of strange

occurrences in order to avoid mass hysteria. (A classic case of panic over a supposed landing of an alien spacecraft occurred on October 30, 1938, when CBS radio broadcast Orson Welles's dramatization of H.G. Wells's *War of the Worlds*; Wells's depiction of aliens invading Earth caused intense panic in New Jersey and New York among people who mistook the fictional story for an actual news report.) Some ufologists suggest that the public will never know for sure whether extraterrestrials have actually visited Earth: Government officials, they say, will keep this information secret.

SEE ALSO: literature and the paranormal

Mu

Mu is said to be a continent that once existed near the Gulf of Mexico in the western Carribean. This idea came from an ancient Central American people called the Maya, by way of two French scholars. The first was cleric Charles-Etienne Brasseur de Bourbourg. In 1864 he found a reference to a lost continent, Mu, in the text of a never-before-translated Mayan manuscript. According to Brasseur de Bourbourg's translation of the document, Mu sank into the ocean after a massive volcanic eruption.

When Brasseur de Bourbourg went public with this information, most other scholars dismissed it, saying that his translation was flawed. But French archaeologist Augustus le Plongeon, an expert on the Maya, agreed with Brasseur de Bourbourg's translation methods. Using the same alphabet key as Brasseur de Bourbourg, he deciphered writings on ancient Mayan ruins and discovered other Mu references.

After studying these references, Le Plongeon developed a theory regarding

what might have happened to Mu's inhabitants. Survivors of Mu's volcanic disaster, he said, had fled to Central America, where they passed on their knowledge to the Maya. Le Plongeon also believed, again based on his studies of the Mayan text, that prior to its destruction Mu had consisted of ten different kingdoms, and the queen of one of these kingdoms had been driven from her throne by a usurper. This queen, Le Plongeon said, went to Egypt and founded the ancient Egyptian civilization that built the pyramids. The Egyptians' concept of the goddess Isis, he asserted, was based on a memory of this queen.

Both Le Plongeon and Brasseur de Bourbourg felt that Mu had been destroyed approximately eight thousand years before the Maya had written about it. This was roughly the same time as, according to the writings of Plato, the ancient civilization of Atlantis was destroyed by a volcanic eruption. Consequently, today some people think that Mu and Atlantis were the same continent. During their own time, however, neither Le Plongeon nor Brasseur de Bourbourg could convince many people that Mu ever existed, and after a while the subject was largely forgotten.

Then, a book appeared in 1926 that made the American public interested in Mu: *The Lost Continent of Mu* by Colonel James Churchward. Churchward, who wrote several subsequent books on Mu, claimed that with the help of an Asian priest, he had translated ancient tablets in India and Mexico that had Mu writing on it. These writings, he said, made it clear that Mu was an advanced civilization even older than Atlantis, and the continent has sunk into the sea after an explosion of gases in caves deep within the earth. Ac-

cording to Churchward, who believed that Mu might have been the biblical Garden of Eden, the survivors of this disaster subsequently traveled to many places, where they left tablets like the ones he supposedly found. Churchward's writings convinced many people that Mu had once been a real place.

However, Churchward never actually showed anyone else the tablets he claimed to have found, and no one else has ever seen any other tablets like them. In fact, there is no evidence that the lost continent of Mu ever existed.

SEE ALSO: Atlantis

Murphy, Bridey

The story of Bridey Murphy is one of the most famous cases of apparent reincarnation. In the 1950s hypnotist Morey Bernstein of Pueblo, Colorado, was working with one of his clients, a twenty-nine-year-old housewife and mother named Virginia Tighe when, during one of their sessions, she spoke with the voice and memories of a nineteenth-century Irishwoman named Bridey Murphy. The first time this occurred, Bernstein had been trying to help Tighe to remember her childhood and had casually suggested that she “go to some other place in some other time.” He meant for her to remember some other period of her life, but instead she seemed to jump to the life of someone else who had lived long before. In an Irish accent, she told Bernstein that she, Bridey Murphy, had been born in 1798 and died in 1864 of complications from a broken hip. In this and subsequent hypnosis sessions, she also provided Bernstein with numerous details about her family, experiences, likes and dislikes. For example, she gave the name of the Catholic church in Belfast, Ireland,

where she had married Sean Brian Joseph McCarthy in 1818 and offered detailed descriptions of places where she had shopped for food. She also told Bernstein about the time in-between lives, when the spirit waited for a new existence. During this period, she said, she could travel anywhere with just a thought.

Bernstein tape-recorded each session, and in 1956 he published a book based on his work, *The Search for Bridey Murphy*. (Bernstein called Tighe “Ruth Simmons” in his writings in order to protect her anonymity, but journalists soon uncovered her real name.) Skeptics soon began noting flaws in Tighe's story. Many of her place descriptions, including details about where

Murphy had bought her food, were accurate, but other facts were not. The same was true of her language; some of the words she used were appropriate diction for a nineteenth-century Irishwoman, but others were those of a twentieth-century American. In addition, neither skeptics nor believers could find any evidence that anyone named Bridey Murphy had ever lived. Searches of church baptismal records and other records turned up nothing. However, historians note that because of carelessness and poor record keeping, the documents of many other, known historical figures cannot be found either, so the lack of documentation could not be considered conclusive.

Amidst the furor caused by attempts to track down evidence of the real Bridey Murphy, a Chicago, Illinois, newspaper published a series of articles that attributed Tighe's knowledge of nineteenth-century Ireland to Bridie Corkell, who had been born and raised in Ireland but who had subsequently moved to Chicago. Tighe had grown up in Chicago, and according to the newspaper, her family had known Corkell. Consequently, the newspaper suggested that while under hypnosis Tighe was recalling stories she had heard from Corkell but had forgotten. This did not end the matter, however. The newspaper's own credibility was called into question when it was revealed that Corkell had not actually spent any time with the Tighe family. Moreover, Corkell turned out to be the mother of the newspaper's editor. Skeptics continue to contend that details of nineteenth-century Irish life were available to Tighe, and she was simply creating, probably unintentionally, a story that Bernstein and others wanted to believe. Tighe's supporters, however, continue to

insist that she really did live a former life as Bridey Murphy.

SEE ALSO: reincarnation; xenoglossy

Mutual UFO Network

Originally called the Midwest UFO Network, the Mutual UFO Network (MUFON) is one of the largest and most influential organizations devoted to UFO research. The group was founded by Walter H. Andrus Jr. in 1969 as an alternative to the Aerial Phenomenon Research Organization, of which he was then a member, since he had had conflicts with the latter organization's leaders.

MUFON publishes a monthly magazine, the *MUFON UFO Journal*, hosts UFO conferences, and provides guidelines to people investigating UFO sightings. The group primarily supports the theory that UFOs are extraterrestrial spacecraft, although its magazine also publishes articles that consider other theories as to the origins of UFOs. It also promotes a serious scientific approach to the study of UFOs.

SEE ALSO: paranormal research organizations; UFOs

Myers, Frederic W.H. (1843–1901)

English poet Frederic W.H. Myers was one of the founders of the Society for Psychical Research, perhaps the most important psychical research organization of the nineteenth century. Taking a balanced, objective approach to investigations of claims related to the paranormal, he engaged in psychical research, gave lectures on the paranormal, and acted as spokesperson for the group. He also wrote extensively about the nature of consciousness and its survival after death.

SEE ALSO: Society for Psychical Research

mysticism

All major religions have adherents who practice some form of mysticism, which is defined as a means of learning a hidden truth and, in many cases, achieving unity with a divine being. In searching for divine or sacred truth, practitioners, known as mystics, typically seek to join with the divine or sacred by purging themselves of earthly desires—which involves striving for purity of thoughts and intentions—and gaining illumination or enlightenment

mysticism

about the nature of the divine and sacred. To this end, mysticism usually involves prayer and ritual. Experts on mysticism, however, have noted that these rituals can have much in common with the practice of magic and the occult and can lead to experiences that border on the paranormal. For example, the mystical experience might involve visions, feelings of timelessness and a oneness with the universe, and other otherworldly perceptions.

SEE ALSO: magic and spells; occultism; visions



National Investigations Committee on Aerial Phenomena

The National Investigations Committee on Aerial Phenomena (NICAP) was once one of the most prominent organizations of UFO researchers and enthusiasts in America. The group was formed in 1956 by a small group of Washington, D.C., businessmen, doctors, lawyers, clergymen, and scientists. Originally led by a U.S. Navy scientist, T. Townsend Brown, in 1957 the group named Major Donald E. Keyhoe as its director. Keyhoe in turn encouraged a rear admiral of the U.S. Navy, Delmer Fahrney, to become the group's chairman and to express public support for NICAP's efforts to document UFO sightings. The group also gathered together experts in various fields, such as astronomy, aerospace, engineering, aviation, chemistry, and physics, who could help in the investigation of UFOs. From 1959 to 1963, there were few sightings to investigate, but in 1964 the number increased dramatically, and from 1965 to 1968 there was a wave of sightings all over the United States. Because of this activity, in 1966 NICAP suddenly became both famous and popular with the public. As a result, the group was deluged with mail from people interested in NICAP's activities and/or wanting to report a UFO sighting. At the same time, Congress became interested in UFOs, and in 1966 it created a U.S. government-sponsored investigation into UFO sightings that became known as the Condon Committee. NICAP participated

in this investigation until its members determined that the people in charge of the project were not conducting their investigation in an objective manner. Instead, according to NICAP, the Condon Committee went into the investigation already knowing that it would declare there was no convincing evidence that UFOs were spacecraft. After the Condon Committee published this conclusion as part of its final report in January 1969, NICAP began working on a rebuttal. NICAP members could not agree, however, on how this rebuttal should be handled, and their dissension threatened to destroy the group. Moreover, donations to the group dropped dramatically as a result of the Condon Committee's insistence that UFOs did not deserve further investigation. The group remained in crisis for several years, rallied briefly, then began a serious, irreversible decline in 1976. In 1979 the Center for UFO Studies purchased NICAP's assets, which included more than twenty years' worth of comprehensive case files on UFO sightings, and NICAP was dissolved.

SEE ALSO: Center for UFO Studies; Condon Committee, the; Keyhoe, Donald E.

Nazca lines

Crisscrossing the desert plains between Nazca and Palpa, Peru, in the foothills of the Andes mountains, the Nazca lines are thousands of lines of different lengths and widths that ancient people made sometime between 600 and 200 B.C. by moving stones and scraping the surface of the

earth. Since this region is one of the driest and least windy places on earth, the lines have not been subjected to much erosion, allowing today's researchers to see them much as they appeared in prehistoric times. Most of the lines are straight, and of these, some seem to chart celestial objects. For example, one of the first Westerners to visit the Nazca lines, historian Paul Kosok in 1941, noticed that on the day of the winter solstice in the Southern Hemisphere, the Sun set over the end of one of the longest of the Nazca lines.

Kosok decided that the lines' purpose was to keep track of celestial movements. Later, however, scientists discovered that certain lines, when viewed from the air, appeared to be part of intricate geometric designs, and others were part of dozens of

drawings that depicted a variety of figures, including a man with unusually large eyes, a giant spider, a lizard, a monkey, and eighteen birds. The smallest of these drawings is 27 feet (8.2m) long, the largest is more than 450 feet (137m) long, and together they cover some 500 square miles (1295 sq. km) on what is now known as the Nazca plateau. Since these pictures can be seen only from airplanes or helicopters but were created at a time when aircraft did not exist, some people have suggested that the pictures were meant to be viewed from spacecraft. Others have theorized that the ancient people who made the lines thought they would be viewed by the gods they worshipped.

SEE ALSO: earth drawings

near-death experiences

On occasion, after a person whose heart has stopped beating is revived, he or she recalls remaining conscious during the experience. Such claims are part of what is called a near-death experience (NDE), and the stories people tell of their experiences tend to be similar throughout the world. NDErs, as experiencers are called, tell of traveling through a dark tunnel to a place of light that many people believe is some form of afterlife. This idea was promoted in such works as *Life After Life* by Raymond Moody (1975) and *The Tunnel and the Light* by Elisabeth Kübler-Ross (1999).

Typical Beginnings As reported by those who have had one, the NDE typically begins with a sudden feeling of peace and the perception that one's consciousness has floated out of the body and is looking down on it. Many NDErs give detailed descriptions of what doctors and nurses were doing and saying while trying to revive them. Sometimes NDErs report attempting to speak to the doctors, but they say they could not make themselves heard. After this point, most say, a strange noise began—usually a buzzing, a loud ringing, or a roaring wind—and then got louder and louder until they felt themselves being drawn into a dark place, typically a tunnel or cave, then moving through this place toward a bright light. After emerging from the dark into the light, they saw and perhaps also talked to (either via speech or telepathy) deceased relatives, angelic beings, and/or a being they perceived as a deity, such as God or Jesus. Of interest to researchers in paranormal phenomena are studies that have suggested that people whose NDE was part of a long illness typically recall seeing more deceased relatives than do people whose NDE was unexpected. The implication, some researchers

into the phenomenon say, is that the relatives have been expecting the arrival of their loved one.

Some NDErs recall only their interactions with the beings in the light, but a few describe their surroundings. Typically, they tell of an unusually beautiful landscape with brilliant colors. A few NDErs, however, report that they found themselves in a horrible place with gruesome images and demonic beings. Interestingly, many of these people have committed serious crimes or what they and/or society consider to be immoral acts, and after their NDE they vow to amend their ways. In fact, even NDErs who have led good lives usually say that the place of light made them review their previous behavior. Many also report that one of the beings in the light showed them images from their life, as though in a movie and without passing judgment, as if to give them the opportunity to review everything they have done.

At this point, a majority of NDErs say they had to decide whether to move forward into the land of light, usually by passing some sort of barrier. For example, they might have faced a choice of whether to cross over a stream, river, or bridge, to climb over a fence, or to walk through a gate. Some recall making a definite choice not to move forward—often after thinking about the friends and family they would be leaving behind—and then immediately beginning a return to normal consciousness. Others recall actually choosing to move forward only to feel themselves being yanked back to consciousness. In either case, the majority recall feeling at least some disappointment over not being able to stay in the beautiful place, which most interpret as being the afterlife.

Research into NDEs The first person to write extensively about the commonalities

of NDEs was Raymond Moody, whose book *Life After Life* brought the concept to other researchers' attention. One of these was cardiologist Michael Sabom, who subsequently interviewed more than three hundred hospital patients who had been revived after experiencing clinical death. Forty percent of them reported NDEs, and their stories were similar to those Moody had uncovered. Moreover, Sabom studied hospital records in order to determine whether his NDErs were accurately describing what they saw while their consciousness was supposedly floating over the doctors trying to revive them. Sabom discovered that on many occasions, the NDErs' descriptions matched what was going on at the time. For example, some of his patients who had died while undergoing open-heart surgery were able to describe what their hearts and their incision had looked like. As a result of his study, and additional ones, Sabom has concluded that the mind does separate from the body after death, and that NDEs might be glimpses into the afterlife.

Another NDE researcher, Dr. Kenneth Ring, agrees that this might be the case. However, he has also theorized that the place of light might instead be a realm where all imaginative thought has accumulated. He calls this the imaginal realm and explains that although the components of this realm were created by thought, the beings that exist there—including those seen by NDErs and interpreted as deceased loved ones—are real. He further suggests that it can be accessed by certain people when they are in an altered mental state, such as occurs during an NDE or, he theorizes, a supposed case of alien abduction. Ring sees many comparisons between the experiences of NDErs and people who claim to have been abducted by extraterrestrials, and this has led

him to conclude that abductees are really seeing beings within the imaginal realm instead of aliens.

Skeptics' Explanations Some people dismiss Ring's theories as being too complex, arguing that it makes more sense to accept NDErs position that they have actually seen a glimpse of the afterlife. Skeptics, though, say that there is another, more logical and scientific explanation: NDEs are the result of changes in the brain during the dying process, which trigger visions of bright lights, sensations that the spirit is floating away from the body, and memories of childhood experiences, religious teachings, and deceased loved ones. Scientists cannot prove this, however, because there is no way to completely simulate an NDE, short of actually stopping the heart altogether. Still, some researchers have managed to reproduce some of the elements of an NDE by enveloping the head in a magnetic field, others by stimulating the temporal lobe of the brain with electricity, and still others by subjecting the brain to certain drugs. In fact, people who have ingested a hallucinogenic drug called ketamine report experiences that can be very similar to NDE stories. However, researchers have been unable to find a natural substance in the body that, during the dying process, would act like ketamine to produce all aspects of NDEs. The failure to find this NDE "substance," then, fuels ongoing speculation that the views of some sort of afterlife are somehow genuine.

SEE ALSO: Kübler-Ross, Elisabeth; Moody, Raymond A.; Ring, Kenneth; Sabom, Michael

New Age

The term *New Age* refers to beliefs and practices that stem from or are part of the

New Age movement, which began in the United States in the 1970s and flourished in the 1980s. This movement centered around the idea that spiritual exploration would ultimately lead to an era (literally a “New Age”) in which peace would reign throughout the world and social ills such as poverty, disease, and hunger would finally be conquered. Today’s believers do not necessarily know about the concept of a literal “New Age” but merely embrace the various beliefs that arose out of the spiritual practices of early members of the movement.

Many of these beliefs and practices are associated with the paranormal, including channeling, reincarnation, divination, psychic energy, angels or other spiritual beings, out-of-body experiences, auras, energy vortexes, the use of crystals for healing, and the conviction that there are no coincidences. Adherents of New Age beliefs, called New Agers, also typically express an interest in UFOs and aliens. In addition, many think that Atlantis and similar legendary civilizations once actually existed, along with magical beings like fairies and elves.

In regard to beliefs related to psychic abilities, spirits, and the afterlife, scholars have noted that the New Age movement and New Agers have much in common with the nineteenth-century Spiritualism movement and Spiritualists—which is no coincidence since it was a leading Spiritualist, Helen Petrovna Blavatsky, who first spoke of the literal “New Age.” In addition, just as nineteenth-century Spiritualists often endured ridicule for their beliefs, so too have New Agers, and in the early years of both movements, adherents formed their own communities where they could practice their beliefs openly. Centers of New Age practices include Big Sur, Cali-

fornia; Boulder, Colorado; and Sedona, Arizona. In recent years, however, New Age beliefs have become so accepted by mainstream America that most New Agers no longer feel the need to isolate themselves. In fact, New Age is such an integral part of American life that large bookstore chains have sections exclusively devoted to New Age writings.

SEE ALSO: Blavatsky, Helena Petrovna; spiritualism

Nostradamus (1503–1566)

Beginning in 1550, French philosopher, physician, and alchemist Michel de Nostradame, more commonly known as Nostradamus, wrote and published prophecies that some people believe are startlingly accurate in foretelling future events. For example, he is said to have predicted the birth of Napoléon, the rise of Nazi Germany, the bombing of Hiroshima and Nagasaki, and the terrorist attacks on New York’s World Trade Center. Nostradamus’s first prophecies appeared in an almanac; he then published a ten-volume work called *Centuries* that carried his predictions to the year when he said the world would end, 3797. He did not, however, make his predictions in a straightforward, easy-to-understand form. Instead, they appear as four-line verses that make use of metaphors and allusions that are often obscure and can be interpreted in various ways.

Adding to the confusion is the fact that Nostradamus’s works, which were written in French, can be translated so as to make them extremely vague or highly specific. Depending on the translation, both skeptics and believers in prophecy claim support from Nostradamus. For example,

skeptic James Randi has translated some of Nostradamus's verses in ways that strip them of any possible references to world events or world leaders, while believer Erika Cheetham, author of *The Final Prophecies of Nostradamus* (1989), has translated them in ways that strengthen their connection to such events and people. This is evident, for instance, in their respective analyses of one of the most famous quatrains, verse twenty-four from *Centuries*, volume 3, which many people believe concerns the rise of Adolf Hitler and Nazism in Germany. The typical translation of the verse reads:

Beasts wild with hunger will swim
across rivers,
The greatest part of the field will op-
pose Hister,
In a cage of iron he will drag the
leader
When German offspring knows no
law.

Believers have said that the first two lines refer to the fact that Hitler crossed

rivers to take over other countries, which tried to oppose him. Some have also said that *cage of iron* refers to the iron cross, the symbol of Nazi Germany, and that Hitler is the "German offspring" who knew no law. And, of course, they note that the word *Hister* is very close to *Hitler*, suggesting that Nostradamus almost provided the exact name of the German leader. In Cheetham's translation of the verse, however, she replaces *Hister* with *Hitler* (since she thinks it was clear what Nostradamus meant) and *German offspring* with *son of Germany*. In Randi's translation, he replaces *Hister* with *the Lower Danube* (arguing that *Hister* is an ancient name for this region) and *German offspring* with *the child brother*. Similar battles over translations, involving other believers and skeptics besides Cheetham and Randi, have occurred for every quatrain that strongly seems to have predicted a future event.

SEE ALSO: divination; prophets and prophecies; Randi, James



Occam's razor

Also called the principle of simplicity, Occam's razor is often referred to by skeptics commenting on investigations of the paranormal. This principle essentially states that when several explanations for a phenomenon are possible, it is always best to choose the simplest one. For example, if a person sees a shiny metal object flying across the sky, the simplest explanation would be that the object is an airplane rather than an extraterrestrial spacecraft. Using Occam's razor, choosing to explore the theory that UFOs are extraterrestrial spacecraft would be foolish because this theory would require many assumptions, including the notion that extraterrestrials exist, that they are intelligent, that they are capable of space travel, that their planet is close enough for them to visit Earth, and that they would want to visit Earth. The basic point of Occam's razor, which is that in developing theories people should make as few assumptions as possible, is typically expressed with the Latin phrase *Entia non sunt multiplicanda praeter necessitatem*, which means "Entities should not be multiplied beyond necessity." This was first proposed by a fourteenth-century English friar, William of Ockham, and it has since been used by theorists in all branches of science.

SEE ALSO: UFOs

occultism

The word *occultism* refers to a wide variety of beliefs, rituals, and practices that collec-

tively are based on the theory that spirits and other unknown forces exist and can interact with the known world. Practices most commonly associated with occultism include magic and witchcraft, alchemy (which involves attempts to magically turn base metals into gold and to prolong life), divination, and efforts to influence beings such as demons.

SEE ALSO: demons and the devil; divination, magic and spells; witchcraft

Ogopogo

Similar to lake monsters thought to live in Loch Ness and Lake Champlain, the Ogopogo is said to inhabit Lake Okanagan in British Columbia, Canada. Various witnesses have described the freshwater creature as being approximately 40 feet (12.2m) long, with a long neck that perhaps has a mane. As with Loch Ness monsters, cryptozoologists suspect that Ogopogo is some species of aquatic dinosaur that has survived undetected for millions of years. The most likely candidate, they say, is a species of prehistoric whale called a zeuglodon, though some say it is more likely that Ogopogo is a reptile rather than a mammal.

SEE ALSO: Champ; dinosaurs, living; lake monsters; Loch Ness monsters

omens

Omens are occurrences that are interpreted as being signs of luck, either good or bad, to come. For example, among the Scots,

Irish, and Welsh, some people believe that seeing or hearing a spirit known as the banshee is a sign of impending death, either of the person having the experience or of one of that person's loved ones. Also among the Welsh, the sight of a "corpse candle"—a mysterious light seen in the distance, perhaps as though being held aloft by an unseen hand—foretells death, with the color of the candle indicating the gender of the person who will die (white for women, red for men) and the height of the candle indicating the person's age (the taller the candle, the older the person). In various cultures the sight of certain animals is believed to foretell death as well. For example, in the United States some people believe that seeing a black cat running across one's path is a bad omen, and among Native Americans the sight of a white buffalo is considered a good omen. In ancient times, not only was seeing a particular animal considered to be an omen of some sort, but the direction the animal was moving was thought to influence the degree and nature of the predicted occurrence.

SEE ALSO: banshee; *Flying Dutchman*, the

oracles

In ancient times oracles were divine communications, usually prophetic, delivered after a person had petitioned the gods for such a message. The word *oracle* is also used to refer to a place where divine communications or prophecies were delivered, or to the medium delivering the message. At oracular shrines, the god of the shrine would be consulted through a method of divination unique to that shrine. In some cases the method was nothing more than having the person seeking the message ask a question of the oracle, after which a divinely inspired person would answer, ei-

ther in a straightforward manner or in cryptic verse. In others the method might involve interpreting patterns in tossed stones, sticks, or leaves, much the way divination is practiced today.

SEE ALSO: divination

Oudemans, Antoon Cornelis (1858–1943)

Dutch zoologist Antoon Cornelis Oudemans originally specialized in insects and worms as the director of the Royal Zoological and Botanical Gardens at the Hague, but during the late 1870s he became fascinated with sea serpents. Beginning in 1881 he wrote numerous articles on the subject, and in 1892 he published *The Great Sea Serpents*, based on his investigation of 187 sea serpent sightings. Oudemans concluded that sea serpents were actually some type of seal, but interestingly, before reaching this conclusion he thought that sea serpents might be the descendants of prehistoric whales, which is the view currently held by many cryptozoologists today. In either case, Oudemans's ideas were rejected by most of his peers. In 1895 he quit his position with the zoological gardens and became a university biology teacher, then began writing about extinct birds. However, he returned to his interest in sea serpents, as evidenced by the fact that at the time of his death, he was planning to write another book on these elusive creatures.

SEE ALSO: lake monsters

Ouija boards

Invented in the late 1800s, the Ouija board is supposedly useful for communicating with spirits. It has letters, numbers, and *yes* and *no* printed on it. The name *Ouija* is a combination of the French and German words for *yes*: *oui* and *ja*, respec-

tively. To use the board, a person puts two hands lightly on a planchette, which is a small teardrop-shaped platform that functions as a pointer while resting on the board. The user then calls for an entity from the spirit world to move the planchette to spell out words. Although a game manufacturer began marketing Ouija boards as a form of entertainment in the mid-1960s, it is still considered by many to be a serious means of spirit communication.

In fact, some people who believe in Ouija boards' use for spirit contact warn that using the device can have dangerous consequences. For example, ghost hunter Hans Holzer has said that a spirit can become obsessed with the person who has called it or can even possess that person. In his book *Ghosts*, Holzer reports on such

a case, involving a forty-nine-year-old housewife, "Mrs. G." in 1964. Mrs. G. was invited to attend a Spiritualist church, and while there she heard members discussing how to contact spirits with a Ouija board. She decided to buy a board and try it herself. Prior to this time, Mrs. G. had experienced two paranormal phenomena. Often she would know what people were about to say before they said it, and on one occasion she said she saw an apparition of a man when she awoke in the middle of the night, although at the time she had dismissed the experience as a dream. But when Mrs. G. put her hands on the planchette, something even more astounding happened. She felt the planchette vibrate, and the longer she left her hands on the planchette, the stronger the vibration became. Then her hands began to move the

planchette, seemingly against her will. It pointed to a series of letters that spelled out, "Hello, this is John W." Mrs. G. was shocked; John W. was a man who had been in love with her and had gotten upset when she married someone else. He had recently died of a heart attack.

The board continued to spell out words, apparently from John W., saying that he still loved Mrs. G. and wanted to be with her always. The spirit also complained about the way she had once spurned him. Upset, Mrs. G. put the board away, but soon she found herself drawn to it again. Day after day she would communicate with John W. Then one day she was startled to hear the sound of John W.'s voice, speaking directly to her within her mind. From this point on, he never stopped talking to her, and she began to feel as though he were right next to her. In fact, one time she felt him trying to kiss and caress her. She threw away the Ouija board, but to no avail. Then she went to a physician, who thought she needed mental help and sent her to a hypnotist. Once she was in a hypnotic trance, Mrs. G. began speaking in the voice of the spirit, and the hypnotist was able to carry on a conversation with "John W." During this conversation, the spirit said that it would never leave Mrs. G., and indeed, according to Holzer, it never did, though its visits with her lessened.

There is no hard evidence that Mrs. G.'s "possession" was anything but a psychological problem, but sometimes the Ouija board has appeared to provide proof that a ghost is present. For example, on one occasion the board kept spelling the word *candles* while a girl was trying to use it. Right before the spelling started, the girl had asked for proof that her grandfather still existed in the spirit world. Finally

the girl gave up and went to bed; the next morning she awoke to find that someone had lit all of the candles in her room. She decided that this was her grandfather's way of telling her that his presence was still nearby. Skeptics, however, would suggest that the girl's subconscious mind made her hands move the planchette so that it kept spelling *candles*, and that she subsequently lit the candles herself as part of a sleepwalking experience, also driven by her subconscious.

SEE ALSO: Holzer, Hans

Ouspensky, Petyr Demianovich (1878–1947)

Mathematician and mystic Petyr Demianovich Ouspensky wrote numerous books related to the occult, including *The Symbolism of the Tarot: Philosophy of Occultism in Pictures and Numbers*, and promoted the idea that there was another, higher level of reality, which he referred to as the fourth dimension. He also developed the theory that in various places of the world there were hidden learning centers where mystics taught ancient knowledge to those who came seeking it. Ouspensky looked for these centers himself but could not find them. He did, however, find a teacher: Russian mystic George Ivanovitch Gurdjieff. Ouspensky spent several years with this mystic before founding his own teaching center, the Society for the Study of Normal Man. Later he worked on Gurdjieff's writings, translating them to make them more accessible to Western readers; perhaps his best-known effort in this regard was *In Search of the Miraculous—Fragments of an Unknown Teaching and Answers to Questions Based on the Teaching of G.I. Gurdjieff*.

SEE ALSO: Gurdjieff, George Ivanovitch; mysticism

out-of-body experiences

An out-of-body experience (OBE) is the feeling that one's consciousness has become separated from one's body. Studies suggest that approximately one-fourth of the population will experience an OBE at some point in time, although typically only once in a lifetime. In most cases the OBE is triggered by an accident, illness, episode of severe pain, or by taking a drug, such as an anesthetic. One of the most common types of OBE is the near-death experience, in which the mind seems to separate from the body as part of the dying process, rising high above the body to travel to a spiritual realm. OBEs can also occur as part of meditative or religious experiences or other times when a person's normal state of consciousness is altered.

Whereas in approximately 80 percent of OBEs the experient seems to be observing events from above his or her physical body, in the remainder of OBEs, the experient seems to be far from the body. For example, some experients report seeing their own bodies lying in a hospital bed, while others report observing doctors and nurses elsewhere in the hospital. One OBE experient, Robert Munroe, reported a series of OBEs during which he would lie down to rest and suddenly find himself observing a variety of distant landscapes and events from high above the ground. Other OBEs are triggered by violence. For example, in his book *Death and Consciousness*, David H. Lund cites the case of Ed Morrell, whose spirit would travel to distant places while he was being physically abused in an Arizona prison. Lund says that many of the events Morrell observed were later confirmed, including a ship-

wreck the prisoner could not have known about.

Common Traits In studies of people who have experienced repeated OBEs, certain common traits have been discovered. First, these people have a strong ability to resist distraction. They also have a greater tendency to dream vividly, to practice meditation, and to fantasize, and they are highly susceptible to hypnosis. Consequently, many psychologists and skeptics believe that OBEs represent a fantasy, a hallucination, or are simply a product of an active imagination. Some psychologists suggest that the OBE is an example of depersonalization, a sense of psychological detachment that often accompanies stress or trauma. People who have suffered physical abuse, for example, often report that they felt they were watching the event happen to someone else. However, such theories do not account for the fact that many OBEs begin with the experient in a case of relaxation or meditation. They also do not account for OBEs that include detailed descriptions of events the experients could not have physically observed. For example, in his book *Closer to the Light*, Dr. Melvin Morse describes the case of an eight-year-old boy named Jimmy who was able to describe things he saw during his thirty-minute death. Jimmy had drowned after falling off a bridge and hitting his head on a rock, and he later was able to describe his entire rescue and eventual resuscitation at the hospital in great detail, saying that he had witnessed everything from a point above his body.

Some psychologists suggest that such experiences can be explained by the brain's subconscious awareness of what is going on around it. Perhaps before Jimmy suffered clinical death, for example, he might have heard various voices and sounds that

led him to guess what had been done to him. However, this would not explain the many highly accurate details that Jimmy was able to provide before anyone would have had a chance to tell him about them,

including the name of the police officer who tried to revive him at the scene.

SEE ALSO: altered state of consciousness; astral projection; near-death experiences



Palmer, Raymond A.
(1910–1977)

During the 1950s editor and author Raymond A. Palmer was responsible for numerous stories related to paranormal phenomena and was a leading proponent of the hollow-Earth theory. Palmer's involvement with this theory began in the mid-1940s, while he was working as the editor of *Amazing Stories* magazine. At that time Palmer was contacted by a reader, Richard Shaver, who claimed to have ventured into the hollow-Earth realm and met its inhabitants. Shaver described three types of hollow-Earth beings: the Titans, technologically advanced giants who had lived on Earth's surface until radiation forced them underground; the Deros, evil creatures whom the Titans had created through genetic engineering; and the Teros, heroic beings who, though small in number, were trying to destroy the evil Deros. According to Shaver, the human race was also the product of the Titans' genetic engineering.

Palmer published many tales based on Shaver's supposed adventures in the hollow-Earth realm. His work appeared not only in *Amazing Stories* but in its sister publication, *Fantastic Adventures*, as well. (Shaver's name was on these stories, but they were actually ghostwritten by Palmer.) The first of these stories, "I Remember Lemuria," appeared in *Amazing Stories* in 1945. By 1948, however, Palmer's tales had become so lurid, by focusing on the sadistic sexual practices of the Deros, that magazine readers complained about

them, and in 1948 both *Amazing Stories* and *Fantastic Adventures* refused to publish any more of them. As a result, Palmer established *Fate* magazine, with Curtis Fuller, and shortly thereafter *Flying Saucers* and *Mystic* (which later became *Search*) magazines, in order to have other venues for his Shaver stories. In 1961 Palmer also created the *Hidden World*, a magazine devoted to hollow-Earth stories, both new and reprinted.

Palmer is also known for his association with Kenneth Arnold, a pilot whose 1947 sighting of "flying saucers" triggered a rash of similar sightings throughout America. The first issue of *Fate* included an article on Arnold's experience, and in 1952 Palmer and Arnold coauthored and self-published a book about it, *The Coming of the Saucers*.

SEE ALSO: Arnold, Kenneth; Deros; *Fate* magazine; hollow-Earth theory

palmistry

Also called chiromancy or chirosophy, palmistry, or palm reading, is a form of divination by which a person's fortune and character supposedly are discerned by looking at the naturally occurring lines, marks, rises, and indentations in the palm of the hand. Palm readers rely on a wide variety of books that explain the significance of these features. These references give various features in the palm names depending on their purpose. For example, the "life line" is believed to tell how long a person will live, the "head line" reflects on

a person's intellect, and the "heart line" relates to a person's emotions and love life.

Scholars disagree on where palmistry originated, but most think that it began in ancient India and then spread, also during ancient times, to China, Tibet, Persia, Mesopotamia, Egypt, and Greece. Much later, palm reading came to be used for more than just divination. In Europe during the Middle Ages, some people used palmistry to identify witches, believing that an individual's evil activities could be "read" in the hand, and any dark spots in the hand indicated its owner had a pact with the devil. Indeed, it was around this same time that palmistry and other forms of divination began to be associated with witchcraft and the devil.

Today, some people continue to associate palmistry with witchcraft, but adherents to New Age beliefs consider it to be a valid and helpful form of divination. Skeptics and scientists do not think it has any value in this regard, though scientists do think that palmistry might have some merit in regard to how modern palm readers often remark on human health. For example, a palm reader might tell someone that, based on the color and shape of his or her hand, the person is eating too many carbohydrates and will suffer from an illness if this habit is not curtailed—and physicians have indeed found that by looking at someone's hands, much can be learned about that person's physical health.

SEE ALSO: divination; New Age; witchcraft

Paluxy tracks, the

Found along a tributary of the Paluxy River near Glen Rose, Texas, in 1910, the Paluxy tracks are a series of footprints preserved in limestone that caused a contro-

versy regarding the theory of evolution. According to widely accepted scientific theory, humans evolved many millions of years after dinosaurs walked the earth, but the Paluxy tracks, preserved in limestone, appear to show dinosaurs and humans walking in the same area during the same period of time. Some of the tracks were three-toed impressions clearly identifiable as belonging to two species of dinosaur, the theropod and the sauropod. The remainder were about 15 to 18 inches (38 to 45.7cm) long with a deep, long heel. Upon their discovery, some people immediately concluded that they had been made by an unknown species of dinosaurs. However, at the time, the common view was that two-legged dinosaurs always walked on their toes, so even some scientists decided that the prints must have come from a humanlike creature.

For many years, arguments raged over whether a primitive form of human had made the prints, with Creationists arguing passionately that the Paluxy tracks proved that God had made all creatures, including humans and dinosaurs, in their current form, at the same time. The Creationists argued that God subsequently created a great flood that destroyed just some of these creatures, including the dinosaurs. Some notable Creationist writings on this subject as it related to the Paluxy tracks were *The Genesis Flood* (1961) by John Whitcomb and Henry M. Morris and *Man's Origin, Man's Destiny* (1965) by A.E. Wilder-Smith, who also produced a film on the subject, *Footprints in Stone* (1972).

In 1970 and 1980 two scientific studies of the tracks conducted by Creationist scientists, hoping to show that the tracks were human, concluded that the Paluxy tracks were indeed made by dinosaurs, either of some unknown species or whose normally identifiable tracks had been distorted by geological phenomena, though they did not rule out the possibility that humans could have been in the area at the same time. In 1984 a study by non-Creationist scientists also concluded that dinosaurs had made the tracks, which they said had shown three toes before erosion distorted them, and stated that the dinosaur that had made the tracks had pressed harder with its heel than with its toes. Other studies during the late 1980s confirmed this conclusion. This means that there is no evidence to support the idea that humans and dinosaurs once walked the earth at the same time. Nonetheless, Creationists still sometimes refer to the Paluxy tracks as being proof that evolutionary theory is wrong.

SEE ALSO: dinosaurs, living

paranormal research organizations

There are numerous organizations devoted to researching paranormal phenomena. The majority of them take their work seriously, approach their studies scientifically, and avoid any activities or people that might cast doubt on their professionalism or commitment to discovering the truth behind various paranormal phenomena.

Most of these groups are devoted to just one particular phenomenon, such as the International Association for Near-Death Studies (which deals with the near-death experience), Children's Past Lives Research Center (which focuses on reincarnation), the Consciousness Research Laboratory (which seeks to examine the nature of human consciousness), and the Mutual UFO Network (which concentrates on UFO and abduction experiences). Other organizations are devoted to a broader range of phenomena, often related to psychic abilities. These include the American Society for Psychical Research, the Society for Psychical Research, the Parapsychological Association, and the Rhine Research Center. Some of these organizations publish journals to disseminate information about studies of the paranormal and ongoing research projects, such as the Central Premonitions Registry and the Princeton Engineering Anomalies Research program.

SEE ALSO: American Society for Psychical Research; Mutual UFO Network; Princeton Engineering Anomalies Research program; Rhine, J.B.; Society for Psychical Research

Parapsychological Association, the

Founded in 1957 in Durham, North Carolina, at the urging of noted parapsycholo-

gist J.B. Rhine, the Parapsychological Association (PA) is an international professional organization consisting of scientists and scholars who study psychic experiences, or psi, which include telepathy, clairvoyance, precognition, psychokinesis, remote viewing, and psychic healing. The main goal of the organization is to improve scientific knowledge about psi, and to this end it supports research efforts and helps disseminate information about psi and psi testing methods to other scientists and to the public at large.

PA members are involved in a wide variety of projects related to studying all forms of psi and their possible practical applications, to developing psi-related technology, and to understanding the significance of psi-related experiences to various cultures around the world. Since 1969 the PA has been affiliated with the American Association for the Advancement of Science whose members include some of the most respected scientists in the world. It is also affiliated with several peer-reviewed publications: the *Journal of Parapsychology*, the *Journal of the American Society for Psychical Research*, the *Journal of the Society for Psychical Research*, the *European Journal of Parapsychology*, and the *International Journal of Parapsychology*. The organization maintains an Internet site at www.parapsych.org. According to this site, as of 2002 there were approximately three hundred PA members throughout the world.

SEE ALSO: parapsychology; psi; Rhine, J.B.

parapsychology

Psychologist William McDougall is credited with bringing the German term *parapsychology*—from the words *paranormal* (“unusual”) and *psychology*—to the United States in the 1920s to describe what was

once called psychical research. This field of study, which was granted recognition as a science by most psychologists thanks to the efforts of J.B. Rhine in the 1930s, examines all phenomena related to psychic abilities: forms of extrasensory perception, such as telepathy, clairvoyance, and precognition; psychokinesis; and experiences suggestive of survival after clinical death, such as out-of-body and near-death experiences, reincarnation, apparitions and ghosts, and poltergeists. Parapsychologists are careful to point out that they do not study other paranormal experiences, such as astrology or bigfoot or UFO sightings, since these are unrelated to mental abilities. However, they remain open to the possibility of discovering new principles of physics, biology, or psychology as they seek to find out what underlies psychic experiences, and they generally believe that a full understanding of paranormal experiences will only be achieved when all scientific disciplines work together to explain them.

As serious scientists, parapsychologists conduct laboratory experiments and field investigations as well as case studies and analytical studies, construct theoretical models, and develop new methodologies, statistical tools, and equipment. Nonetheless, their work is controversial. Even when they seem to prove one theory or another, few people in other scientific disciplines accept their results. According to the Parapsychological Association, a major international organization for parapsychologists, the controversy over their discipline is due to the many misconceptions about the field perpetuated by the popular media, by skeptics seeking to discredit parapsychology, and by various social and religious groups that condemn psychic abilities out of fear or ignorance.

SEE ALSO: extrasensory perception; McDou-

gall, William; Parapsychological Association, the; Rhine, J.B.

past-life memories

Believers in reincarnation say that after people die, they are reborn in a new body. This occurs, believers say, whether or not someone remembers having lived a previous life, and indeed, most people do not have such memories. Sometimes, however, a child spontaneously remembers details from a past life, and accounts from these youngsters can be very convincing. For example, in 1926 three-year-old Jagdish Chandra of India recalled having once been a man named Jai Gopal, who had lived and died in a city 3,000 miles (4,827km) away. The little boy provided many details about his former life that were later verified, and when he was taken to meet Gopal's relatives, he reportedly pointed the way to their house even though he had never been there.

After studying dozens of reincarnation experiences, Ian Stevenson, a parapsychologist with the Division of Personality Studies at the University of Virginia, identified certain common aspects of the phenomenon. The experient typically lives within 100 miles (161km) of the person named as a past life, is of the same culture as that person was (usually a culture in which a belief in reincarnation is prevalent), and is usually between the ages of two and four when the past-life memory occurs. In addition, there is typically a gap of at least a few weeks before the supposed rebirth; in other words, experients rarely claim to have been reborn immediately after death. Moreover, although the amount of detail that experients provide about a past life varies, they almost always know how they died in that past life, and in most cases the death was violent. Memories of

past lives typically fade between the ages of five and eight, though an experient might later exhibit a phobia related to how the previous life ended. For example, someone who recalled dying by drowning might later on have no recollection of that, but still exhibit a serious, lasting fear of water.

There have also been cases in which adults remember a past life, but in these cases the memories are usually retrieved through hypnosis, as part of a therapy session known as past-life regression. This type of therapy is undertaken because some people believe that hypnosis unlocks past-life memories stored in the unconscious mind. However, Stevenson usually does not study past-life experiences uncovered in this way because of the possibility that the memories have been tainted by the therapist. Indeed, psychologists know that whenever hypnosis is used, there is the risk that unless the hypnotist is extremely careful, he or she can accidentally implant false memories in the patient.

Whether a patient recalls past lives seems in part to depend on what patients think are the therapist's expectations. In one study conducted in 1987 through 1988, psychologist Robert Baker divided sixty students into three groups; he told the first group that they were going to undergo a new kind of hypnotherapy that would most likely help them recover a past life, the second group that they might or might not recover a past life through this therapy, and the third that they would probably not recover a past life while hypnotized because only mentally ill people report such things. As a result, whereas only 10 percent of the third group reported a past-life memory, 60 percent of

the second group and 85 percent of the first group described a past-life memory.

Skeptics see in this study proof that past-life memories recovered under hypnosis are not genuine—indeed that many are nothing more than fanciful stories. Skeptics note that most memories recovered through hypnosis prove to be made up of details from books that the experient has read. In one case, for example, a person who remembered six former lives was later shown to have been recounting information from a variety of historical novels. As for children who remember past lives spontaneously, skeptics say that the children must have been coached to provide detailed memories of their former lives. Those who hold to this theory speculate that the children's parents or other relatives create the past-life experience so that they can benefit monetarily or in some way from being associated with a particular deceased person's family.

SEE ALSO: reincarnation

pendulums, use of for divination

Pendulums are objects suspended from a fixed point so that they can swing freely back and forth. Small pendulums hung from strings, cords, ribbons, light chains, or similar strands are often used for divination. In such cases the pendulum is held steady, so that its string runs straight down from the fingers to the pendulum object—which is often a crystal—while the user asks a question and waits for the pendulum to move on its own. If and when this occurs, the direction of the movement is believed to provide a “yes” or “no” answer to the question.

Pendulums employed in this way often do seem to move on their own, and users say this is proof of their power. Skeptics,

however, say that it is the result of a phenomenon called the ideomotor effect whereby the human brain sends messages to certain muscles in the body without letting the conscious mind know that it is doing so. As a result, a person might make small involuntarily movements without being aware that he or she is responsible for the movements, which might be enough to move the string of a pendulum to make it swing.

SEE ALSO: divination; ideomotor effect, the

pentagrams

A pentagram is an image of a five-pointed star, often inscribed within a circle. This image, also called a pentacle, has been associated with magical spells for centuries. The image is often displayed on a small flat disk usually made of wood, wax, clay, or some kind of metal that can be worn on a cord around the neck. In ancient times magicians often used these as amulets to protect themselves from attacks by evil spirits or as talismans that enabled them to conjure and command spirits. In modern times pentacles have a similar use. Most often they are used to protect the wearer or help the wearer achieve a specific goal, in which case the material chosen for the pentacle depends upon its intended magical use.

Throughout history the pentagram has been compared to a human figure, with one point as the head, two opposing points as the arms, and two lower points as legs. To many who believe in the pentagram's magical powers, the solitary point at the top represents pure spirit, and the other points represent the four elements of earth, air, fire, and water. Witches often incorporate pentagrams into their magical work by drawing the symbol during vari-

ous spells and rituals and by using it as a focus of concentration that helps them turn thoughts and desires into reality. They also routinely draw a circle around the pentagram because they believe that this circle strengthens the pentagram's magic and offers additional protection to the user.

The origin of the pentagram's association with magic is unclear. However, the symbol appears in writings related to an ancient Hebrew mystical system known as the kabbalah, whose beliefs have influenced many occult groups throughout history. A pentagram within a circle also appears on rings worn by members of a mystical brotherhood founded by the Greek philosopher Pythagoras (c. 570–c. 500 B.C.)

SEE ALSO: magic and spells; witchcraft

phantom armies

Throughout history, in many different countries, there have been stories of phantom armies haunting battlefield sites. For example, in 490 B.C. a battle was fought near Athens, Greece, between the Athenians and the Persians, and for years thereafter, visitors to the site would hear the sounds of the battle and/or see the ghosts of the warriors who had fought there. In most cases reports of phantom armies occur in the first few months or years after a battle has taken place. Sometimes, however, they occur many years later. One such case was investigated by the Society for Psychical Research (SPR) in 1950 after a woman in Scotland reported seeing ghostly figures in tights and tunics, carrying torches, searching the ground in a field. Eventually the SPR discovered that the site had been the location of a battle in A.D. 685 between Scottish Picts and Northumbrians; after the battle the Picts, who won

the battle after killing the king of Northumbria, searched the area for their dead. Similarly, over a decade after World War II ended, people on a South Pacific island where Allied and Japanese forces battled in 1944 would see the ghost of a Japanese soldier manning the remnants of a Japanese antiaircraft gun every night at midnight. People who believe that such sightings are real have theorized that witnesses are experiencing retrocognition, an ability to see images from the past. Others have suggested that the traumatic nature of warfare causes people who have died during a battle to leave “psychic residue” of themselves at the site of their deaths, and this residue is responsible for the images. Skeptics, however, say that such images are hallucinations or fantasies.

SEE ALSO: ghosts, human; retrocognition

phantom hitchhikers

Phantom hitchhikers are said to be a kind of ghost or apparition that seems to be hitchhiking, that stands by the side of the road, or that suddenly appears in the middle of the road. People who believe in these ghosts say that they look like real human beings, and when hit accidentally by a car, they seem so solid that drivers stop their cars, thinking that they have injured a real person. Upon investigating, drivers supposedly find no body and no damage to their cars.

Most phantom hitchhikers seem to inhabit one particular stretch of road and reappear on many occasions, to many different people. Some stretches of road become notorious for these sightings. For example, the Blue Bell Hill Road in Kent, England, is well known for its ghost sightings. From the 1960s through the 1990s,

numerous drivers thought that they had hit a ten-year-old girl only to find, when they got out of their cars, that no one was there. Others saw a girl after getting out of the car and wrapped her in a blanket, but the girl disappeared—leaving behind an empty blanket—before the police arrived. Interestingly, the same stretch of road was the site of a major automobile accident in 1965, during which three people were killed—though all of the victims were young women, not children.

Since many of the sightings along Blue Bell Hill Road were reported to authorities, the drivers were obviously seeing something, though what they saw is uncertain. Skeptics suggest that sightings of this sort are probably attributable to hallucinations caused by extreme fatigue. Skeptics note that many of these phantoms are seen on particularly monotonous roads, where driving fatigue more easily sets in; and most phantom hitchhikers appear at places along these roads, particularly sudden curves, where a sleepy driver might be startled into a more alert state. The circumstances of such sightings, the skeptics say, suggest that the phantom-hitchhiker experience is somehow connected to sudden changes in the driver's level of awareness.

SEE ALSO: apparitions; ghosts, human

phantom voices and sounds

Phantom voices and sounds are noises that appear to be coming from ghosts. Sometimes a phantom voice or sound is only heard once or twice, but other times it occurs over and over at a particular site. For example, the *Queen Mary* ocean liner, currently docked at Long Beach, California, has long been associated with phantom voices and sounds. In 1942 the ship was

being used as a troop carrier when it collided with another vessel, and approximately three hundred people were killed in the accident. More than sixty years later, people continue to report hearing voices, shouts, and the sound of rushing water in the section of the ship where the collision damaged the hull. In 1988 parapsychologist William G. Roll even managed to record some of these noises on a sound-activated tape recorder he left on board overnight.

No one knows why such noises occur. Skeptics say they are ordinary sounds, misconstrued by people with active imaginations. Other explanations defy known physical laws. For example, some suggest that the sounds might be the “psychic residue” left by people who once occupied these places, or that some people are actually hearing sounds that are being generated during a different time period. Another theory is that the sounds are caused by a ghost who is haunting a particular place in order to call attention to its presence. An example of a case that might be explained by any of these theories involves the ocean liner *Great Eastern*, which operated from the 1850s until 1887. Several men were killed during its construction, and one worker mysteriously disappeared. Afterward the ship was plagued not only with incredibly bad luck (including several more accidental deaths as well as collisions and other accidents) but also with a rapping sound, as though someone were hammering against its hull. Finally, in 1889, while the ship was being cut into scrap metal, someone found a human skeleton within the hull; next to it was a bag of tools. Many people believe that these were the remains of the missing worker, accidentally sealed into the hull during the ship's construction.

SEE ALSO: ghosts, human; phantom armies

Philadelphia Experiment

Also called Project Rainbow, the Philadelphia Experiment is considered to be a case of teleportation (the supposed ability of a person or thing to move from one point to another, across a great distance, in an instant). The event is said to have occurred during a U.S. Navy experiment in 1943, when a destroyer, the USS *Eldridge*, was made invisible and transported instantly from Philadelphia, Pennsylvania, to Norfolk, Virginia. There are various versions of the story. In some versions, a few members of the crew disappeared during the process of teleporting. In others, when the ship materialized in Norfolk, crew members were found embedded within the ship's metal hull, deck, or other solid structures.

None of these stories can be verified by military records, which include logs and diaries related to the whereabouts and activities of the *Eldridge* throughout its time in service. Moreover, no witnesses have ever come forward to corroborate any version of the story. Believers say this is because they were subjected to brainwashing techniques to forget what they had seen, and/or because they suffered serious mental and physical damage as a result of being subjected to teleportation. Skeptics, however, say that the Philadelphia Experiment is nothing more than an urban legend. Moreover, they suggest that the source of the first Philadelphia Experiment story was a ufologist who wanted to suggest that invisibility and teleportation were possible in order to argue that this is how extraterrestrial spacecraft were able to reach and move about Earth unseen.

SEE ALSO: teleportation; UFOs

photographic evidence of paranormal phenomena

From time to time someone produces a photograph, videotape, or film that supposedly proves the existence of something many people believe is not real, such as UFOs, ghosts, or strange beasts like Loch Ness monsters or bigfoot. For example, there have been more than twenty films of monsters moving across Loch Ness, including a four-minute piece of footage taken on April 23, 1960, that appears to be of a large, unknown creature moving across the lake. In most cases, however, there will only be one or two images related to a mysterious creature, such as a film of bigfoot supposedly taken by Roger Patterson on October 20, 1967, in which the creature is glimpsed walking off into the woods.

No matter how convincing the actual footage or image might be, however, the motives of the individuals wielding the camera become an issue and reduce the credibility of the evidence. Almost always, skeptics point out that the person producing the photographic evidence has reason to fabricate it, with the supposed reason being money and/or fame as well as the desire, in cases involving the most passionate believers in the phenomenon, to persuade others that the phenomenon is real. Moreover, skeptics note that in modern times the existence of sophisticated equipment makes it easy, even for amateur photographers, to create fake photographs, whether for fun or for profit.

Even in earlier times, however, people were able to create convincing false images under certain circumstances, whether intentionally or unintentionally. This was the case, for example, in the late nineteenth century with spirit photography. At that time, people would go to studios to

have pictures taken of themselves with their deceased relatives in the background. These pictures were taken by professional photographers who insisted they had the ability to capture the images of real spirits but who actually employed photographic trickery in order to accomplish this. Other photographers, though, sometimes discovered “ghosts” in their photographs by accident. For example, in 1891 Sybell Corbett took a photograph of an empty room and later discovered a ghostly figure sitting in a chair. Though this image was taken as proof that ghosts are real, it was probably the result of a double exposure because in order to take the picture, the film had to be exposed for an hour while the camera was left untended. This meant that someone could have entered the room, sat in the chair and then left, all while the picture was being taken, thereby creating the ghost image. Many other accidental “spirit photographs” taken during this period were caused by errors in the photographic developing process that produced strange lights or blurs, or by cracks in the camera casing, which enabled light to leak in during the photographic process.

Defying Logic Sometimes, though, a photograph of a ghostly image will defy logical explanation. For example, in 1959 Mabel Chinnery of England took a photograph of her husband sitting alone in a car. When the photograph was developed, she saw a ghostly image sitting in the backseat that looked like her mother, who had recently died. A photographic expert later declared that the image could not have been created by any kind of double exposure or reflection of light. Similarly, in 1966 a Canadian clergyman named Ralph Hardy took a photograph in a British maritime museum and later noticed the image of a ghostly hooded figure

on a staircase. Again, an expert declared that no photographic trick could have accounted for the image. But skeptics point out that just because an expert cannot detect trickery or some sort of equipment malfunction does not mean that such were not involved.

Skeptics also suggest that people see what they want to see in photographs. For example, skeptic James Randi examined one photograph connected with a UFO sighting in March 1966 and determined that the two “alien spacecraft” in the photo were actually the Moon and either Venus or a bright star. There are, however, much more convincing—and therefore much more controversial—photographs said to be of UFOs. For example, on the night of December 21, 1978, the crew of a cargo plane flying from the city of Blenheim, New Zealand, to nearby Dunedin detected an object on their radar equipment and then saw a UFO in the corresponding location. Once this story reached the news media, an Australian camera crew decided to retrace the plane’s route to see if it could film the same phenomenon. On December 30 at 11:46 P.M., crew members took off from the city of Wellington, just north of Blenheim, and within a half hour they were seeing a UFO, which was also picked up on their radar. They filmed the object, landed, refueled, and took off to return to Wellington; during this flight they saw and filmed the UFO again. Once more the object was detected on their radar equipment as well as on radar equipment at the Wellington airport. On film the UFO appears as an oval object with rings of flashing bright lights.

When this film was shown, skeptics immediately said it had to be a naturally occurring celestial object, such as Venus or Jupiter, or birds, or the lights from fishing

boats, or some kind of natural atmospheric phenomenon. They also insisted that the radar data had to be faulty, perhaps due to multiple equipment malfunctions. Nobody has been able to prove that such malfunctions occurred, and the controversy over what this film shows continues unresolved.

SEE ALSO: bigfoot; Loch Ness monsters; photography, spirit; UFOs

Piasa, the

The Piasa is a legendary giant bird that some people believe might have once really existed in the area of Alton, Illinois. When French explorer Jacques Marquette visited this region in 1673, the Native Americans there told him of the bird, whose name in the language of the Illini tribe means “Giant Bird That Eats People.” In subsequent writings about his experiences, Marquette described the beast—which is also depicted in an Illini rock painting—as being about the size of a calf, with horns; a long tail; red eyes; a scale-covered red, green, and black body; and a humanlike face. The Piasa was supposedly strong enough to carry off a man in its talons, and legends tell of it doing this and eating its prey. There is no evidence, other than Illini stories, that such a creature existed. Still, some people say that together with stories about another giant bird, the thunderbird, which also was supposedly sighted in the same area, it is reasonable to assume that some kind of giant bird once dwelled in the area.

SEE ALSO: birds, giant

Podmore, Frank (1856–1910)

As one of the first members of the Society for Psychical Research (SPR), postal offi-

cial Frank Podmore became a major opponent of spiritualism. In fact, in many of the SPR’s early investigations, Podmore was the person who took it upon himself to dissuade other members from declaring a medium genuine without a careful scientific examination of that medium’s claims.

Podmore’s skepticism was based on the fact that, prior to joining the SPR, he himself had been tricked by a prominent medium. At that time, Podmore believed that spirit communication was possible—until he was disillusioned by American medium Henry Slade. Slade would conduct séances (for a fee, usually of one pound) during which a variety of physical effects were evident—for example, tables would levitate, musical instruments would be played by unseen hands, and séance participants would feel pinches and shoves—but he was most famous for the fact that at these sessions, spirit messages would appear on writing slates that had been apparently sealed so that no one could tamper with them. Podmore was one of many people who witnessed these phenomena, and afterward he announced that Slade had erased all of his doubts about whether people could communicate with the dead. Then, in 1876, a prominent skeptic, Professor Lankester, managed to grab and look at one of Slade’s slates before a spirit had supposedly written on it, and he found writing already there. Later Slade insisted that Lankester had grabbed the slate just as Slade heard a spirit begin writing on it, but few people believed this, and on October 1, 1876, Slade was put on trial for fraud, found guilty, and sentenced to three months of hard labor. Faced with such credible evidence that the medium he had believed in was a fake, Podmore changed

his view on spirit communication completely.

In his later years Podmore wrote extensively on mediumship and other aspects of spiritualism. His works include *Apparitions and Thought-Transference* (1892), *Studies in Psychical Research* (1897), *Modern Spiritualism* (1902), *Telepathic Hallucination: The New View of Ghosts* (1909), and *The Newer Spiritualism* (1910). *Modern Spiritualism* is considered one of the most thorough works on Victorian era spiritualism.

SEE ALSO: mediums, physical and mental; Society for Psychical Research

poltergeists

Poltergeists are invisible forces that inter-

act violently with the environment by, for example, throwing stones and other objects, pinching people, pulling hair, and knocking pictures off walls. Poltergeist activity can start suddenly, continue for months or years, and then cease as suddenly as it began. It is also often associated with strange incidents related to water, such as the mysterious appearance of puddles inside a house, unexplainable fires, levitations, and noises like piercing shrieks and loud moans that seem to come from nowhere. On rare occasions someone who has been physically attacked by a poltergeist will exhibit scratch or bite marks, though these marks typically look as though they have been made from beneath the skin rather than from on top.

In most cases, poltergeist phenomena seem to be tied to one particular person

or family. For example, in 1965 a fifteen-year-old boy in Germany seemed to be followed by poltergeist activity wherever he worked. Similarly, in one of the most famous poltergeist cases, commonly called the case of the Bell Witch, an unseen force frequently attacked all of the members of a family—which included two parents and nine children—except for twelve-year-old Betsy Bell. When Betsy became engaged, however, the unseen force began attacking her as well.

Teenagers' Turmoil In both of these examples, the fact that the poltergeist activity involved a teenager is considered significant by experts who have studied such phenomena. In fact, in one study, approximately 62 percent of experients were under age eighteen and were living away from home for the first time when the poltergeist activities began. Since teenagers in such a situation could be expected to experience emotional turmoil, some parapsychologists have argued that poltergeist phenomena are caused by a combination of psychokinesis, which is the psychic power to affect one's surroundings, and roiled emotions that make control of that power more difficult.

The view that poltergeists are somehow connected to the turmoil of adolescence suggests that at least some of the activity is unintentional. However, the word *poltergeist* comes from a combination of two German words—*poltern*, which means “noisy,” and *geist*, which means “spirit”—that reflect the belief of many people that the unseen forces are actually angry, violent, noisy spirits. In this camp is ghost hunter Hans Holzer, who argues that the reason poltergeist phenomena can seem attached to a particular human being is because a ghost is using that person's energy to cause the phenomena. Moreover,

he says, such ghosts might be drawn to teenagers because an adolescent's level of emotional energy is easiest to access.

Angry Spirits In support of the idea that ghosts are responsible for poltergeist activity are cases in which experients see an apparition while such activities are going on. In the case of the Bell Witch, for example, several members of the Bell family saw the ghost of an old witch who sometimes spoke to them; on one occasion the ghost supposedly said that she was going to torment John Bell, Betsy's father, until the day he died, which did indeed occur.

Also supporting the notion that poltergeists are angry spirits are cases like an incident reported in 1984 by the *Journal of Psychical Research*. This incident involved “Frances Freeborn” (a pseudonym), who, in 1981, purchased a furnished house in Bakersfield, California, that immediately became the site of strange events. As soon as she moved in, Freeborn heard loud noises that seemed to have no source, found doors and cabinets inexplicably open when they should have been closed, and found that lights she had turned off when she left a room were on again when she returned. Freeborn hired carpenters and electricians to check the house's structure and wiring for problems, but no one could find any flaws that could explain what was happening.

The poltergeist activity in Freeborn's house became more dramatic when she began redecorating. At this point, windows and doors often slammed open and shut, banging noises echoed through the house, and, on one occasion, something gave Freeborn a hard shove. During this period, Freeborn spoke with the former owner of the house, who revealed that his mother-in-law had died there and that the furniture in the house had been hers. Free-

born concluded that the woman's ghost did not want her living there and decided to abandon the house entirely. Once she left, she experienced no other poltergeist phenomena, nor had she experienced any before moving into the house. Moreover, Freeborn had never believed in ghosts prior to this experience.

Skeptics' Arguments Skeptics who have examined this and similar stories argue that the phenomena were caused not by ghosts but by the ground settling beneath the house, a known phenomenon that can cause doors to open and close, move objects, generate various sounds, and even cause electrical problems within a house. In fact, ground movement has been proved to be the cause of several supposed poltergeist cases, including a 1955 incident in Ousedale, England, involving a house being used as a medical clinic. The behavior of the "poltergeist" at this location was fairly mild; doctors regularly heard unexplained loud noises but only occasionally did objects appear to move. In an attempt to explain the noises, doctors first called in a variety of building experts, but when they found nothing, paranormal investigator Trevor H. Hall was brought in. He quickly determined that the regularity of the noises fit a certain pattern, and he noted that the "poltergeist" noises were loudest when tides of a nearby river were high and did not occur at all when the tides were low. Consequently, he concluded that the ground beneath the house was in some way shifting in accordance with the increase and decrease in the river's water level. Although he did not prove that this was the cause of the strange activity, his timetable convinced the doctors that no spirit was haunting their house.

Where ground settling is a less likely explanation for apparent poltergeist activ-

ity, skeptics say that pranks are a likely source of the phenomenon. For many people, the fact that teenagers are so often connected to the activity in some way supports this view. Indeed, some poltergeist cases have been found to involve fraud, or at least the likelihood that a youthful prank was the source of the poltergeist activity. For example, in 1958 in Seaford, Long Island, the family of a twelve-year-old boy named Jimmy Hermann seemed to be plagued by a spirit that produced mysterious noises and sometimes moved objects but which primarily enjoyed removing bottle tops and lids, either by popping them or unscrewing them. Whenever any of these things would happen, Jimmy would be nearby—often when he was the only one present. Two leading experts on the paranormal, J. Gaither Pratt and J.B. Rhine, examined the phenomena and attributed it to a paranormal force. But then a magician and skeptic named Milbourne Christopher announced that he could duplicate the happenings at the Hermann house. In front of Pratt and several reporters, he suddenly and inexplicably made several lids jump off bottles, after which several objects appeared to fly across the room.

Christopher then showed the astonished group how he had pulled off these tricks. First, Christopher had triggered the sound of the popping lids through a hidden device. He had then turned his head in the direction of the bottles, causing his guests to assume that the sound had come from that direction. (In actuality, though, the lids had been off the bottles all along.) Distracted by the popping and by Christopher's movements, the guests failed to notice Christopher yanking on thin black threads, which had set the flying objects into motion. Despite this demonstra-

tion, Pratt refused to declare Jimmy a fraud. However, he was equally unwilling to declare that the Hermanns were victims of a poltergeist, and skeptics often cite this case as an example of parapsychologists being duped by their own tendency to support a paranormal explanation without objectively considering other possibilities first.

SEE ALSO: Bell Witch, the; Borley Rectory, the; psychokinesis

precognition

Precognition is a form of extrasensory perception, often occurring in a dream, that provides a specific image of or clear information about an event that will occur in the future. (Precognition is distinct from premonitions, which involve hunches or vague feelings that something is about to happen.) Approximately 85 percent of precognitive information is related to death or disaster. One of the most famous examples of this involves U.S. president Abraham Lincoln. In 1865 he had a dream that was so unsettling he shared it with friends; in his dream, Lincoln had seen a corpse in a coffin, around which were stationed several soldiers, and when, in the dream, Lincoln asked one of them the identity of the corpse, he was told it was the president of the United States. One week after having this dream, Lincoln was assassinated.

Despite such seemingly accurate insights, scientists disagree on whether people can actually “see” an event before it occurs. While some scientists argue that the future depends completely on what happens in the present, others believe that the future exists even as the present is taking place. In other words, time is like a series of frames in a motion picture; the entire movie already exists, but under the

right conditions, individual frames can be viewed out of order.

Changing the Future Parapsychologists are interested by the fact that even though the film metaphor suggests that the future is fixed, in fact some evidence suggests that change is possible. For example, in the 1930s parapsychologist Louisa Rhine studied 191 precognitive experiences involving subsequent attempts to change the future and found that in 131, or 69 percent, of the cases, the person was successful in preventing a foreseen event. This seemed particularly true if the precognitive dream was rich enough in detail to allow for specific steps to be taken. In one example of such a case, a streetcar conductor dreamed of a fatal crash involving his streetcar and a truck. In his dream he clearly saw the precise route of the streetcar as well as a vivid image of the truck and its occupants. At work the next day, he recognized a series of events as having been part of his dream and realized the crash was about to occur. He abruptly stopped his streetcar, just in time to miss hitting a truck that exactly matched the one he had seen in his dream.

However, there are many cases in which a precognitive dreamer does not “see” enough details to act on his or her dream. For example, one woman dreamed of a fiery plane crash at the shore of a nearby lake. Although she told friends about her dream, she did not contact any authorities because she did not know the airline or the time the event would occur. A few days later she saw a plane flying overhead and realized that it was the one she had seen in her dream. She told her husband to alert the fire department so that their personnel would be on hand to douse the flames, but by then it was too late. The crash had already occurred.

Paradoxically, studies appear to also indicate that dreams with an unusually large amount of detail are unlikely to predict the future at all. According to a study of twelve hundred reports of extremely vivid dreams that occurred between 1967 and 1973 and seemed to concern events in the future, fewer than a dozen predicted events with any degree of accuracy. What some studies have shown, however, is that precognitive dreams may contain messages that are highly symbolic. For example, a woman might dream that her sister has just adopted a puppy and the next morning receive news that her sister is pregnant.

Searching for Proof In studying precognition, researchers have tried to create tests that will prove without doubt whether it exists. Their greatest challenge has been to ensure that precognition, not telepathy or psychokinesis, is occurring during the tests. The tests involve the subject predicting what card someone will draw from a deck. However, since in most test situations human beings provide the deck and select which cards will be drawn, there is no way to guarantee that the selection of a particular card is not being influenced by a mental link between the subject and the tester. There is also the theoretical possibility that psychokinetic ability might be able to influence the shuffle of the cards.

Consequently, Helmut Schmidt, a physicist working for a psychic research center called the Mind Science Foundation in San Antonio, Texas, invented a machine that produced a random event that no researcher could influence or predict. It flashes lights in a pattern determined by the decay of a radioactive isotope called strontium 90; the decay is completely unpredictable, which means that the pattern of the lights is completely unpredictable as

well. Researchers have been using the Schmidt machine for several years, and it has helped them conduct a large number of tests under universal, tightly controlled conditions. However, as with tests for telepathy and clairvoyance, skeptics argue that any correct guesses regarding the pattern of the lights are due to luck.

Skeptics' Views Skeptics apply the same argument to even the most impressive stories regarding the use of precognition in everyday life. Among these is the case of Englishman John Godley, who later became known as Lord Kilbracken. In 1946, while an undergraduate at Oxford University in England, Godley dreamed that he was looking at a written account of the results of some horse races. The next day he learned that two of the horses he had “read” about in his dream were indeed running a race that day. He mentioned this to some friends, who encouraged him to bet on the horses, and he won his bets. Over the course of the next year, Godley had several more racing dreams that showed him not only the names of the winners but often the statistics regarding their odds of winning as well. Each time he told his friends about his dreams and placed bets in accordance with those dreams, and in all but two instances he—and the friends who placed similar bets—won money. Skeptics say that Godley was either incredibly lucky or, because he was an experienced gambler who knew a lot about horse racing, his subconscious mind was able to pick winning horses and convey this information to his conscious mind through dreams.

Skeptics also see support for their position in records kept by the Society for Psychical Research, which indicate that many of the predictions of professional psychics are wrong. For example, in 1997

professional psychics publicly announced dozens of false predictions, including one stating that the movie *Gone with the Wind* would be made into a musical. Moreover, skeptics say, events the professionals fail to see suggests that precognition is a fantasy. For example, professional psychics failed to predict the death of Princess Diana of England, a significant and emotionally charged event that skeptics believe would have been predicted by psychics if precognition were possible.

SEE ALSO: clairvoyance; premonitions; random-event generators; telepathy; Zener cards

premonitions

Also called hunches, premonitions are a type of precognition (the ability to see the future) in which, instead of receiving a strong image believed to foretell a future event, the experient only gets a vague feeling that something is about to happen. For example, Winston Churchill, who was the prime minister of Great Britain during World War II, once avoided being killed by a bomb after a premonition told him not to sit where he normally did. Later he said that he often had strong feelings that some “guiding hand” was helping him avoid trouble.

Some people have premonitions that involve just enough detail for the person experiencing the event to know not only that something is going to happen but also exactly what that something might be. For example, on several different days in 1968, a piano teacher in London, England, named Lorna Middleton had a hunch that U.S. senator Robert Kennedy was about to be assassinated. She reported her premonition to researchers who had established a registry for all kinds of precognitive experiences, and when Kennedy was indeed

killed, her premonitions were verified as accurate.

Middleton’s hunches were among 469 similar premonitions registered with the researchers; 18 proved accurate, with Middleton and one other individual providing twelve of those correct premonitions. Another registry, the Central Premonitions Registry in New York, also received a correct prediction of Robert Kennedy’s assassination prior to the event. Though these statistics indicate that the phenomenon is rare, paranormal investigators suspect that many more people have experienced premonitions but fail to report their hunches because the feelings are vague and the experiencer does not want to risk appearing overly fearful, superstitious, or foolish.

Some people do, however, apparently act on their hunches by changing their customary habits if they have a vague feeling that something bad is about to happen to them during the normal course of their day. For example, in the early 1960s an extensive study by American parapsychologist William Cox of train passengers’ behavior patterns found that far fewer people than normal turned out to be on board a particular train on a day when it ended up having a serious accident; Cox calculated the odds against such drops in passenger numbers as more than one hundred to one, suggesting that many of the missing passengers might have avoided taking the train because of a premonition.

SEE ALSO: precognition

Price, Harry (1881–1948)

During the 1930s and 1940s Harry Price was among the most prominent psychical researchers in Great Britain. Although he believed in the possibility of paranormal

phenomena, he took a skeptical approach to his work and was therefore just as likely to declare a claim related to the paranormal false as to declare it genuine. In fact, his first major success as a psychical researcher, in 1922, was to show that spirit photographs taken by William Hope were fake.

Price investigated a number of mediums as well as the apparent demonic possession of a Romanian peasant girl, Eleonore Zugun (1926); a magic ritual said to turn a goat into a beautiful woman (1931); Indian rope tricks whereby a person seemed to be suspended in the air (1934); a supposed talking mongoose (1935); fire walking (1936); and many other cases related to paranormal phenomena. Price was noted, however, for his investigation of ghosts and poltergeists. Among these cases, his best known was a ten-year investigation of the Borley Rectory in Essex, England, beginning in 1929. Price believed that this place was indeed haunted, but skeptics later accused him of faking the poltergeist activity at the rectory himself—or at least of beginning his investigation with a biased opinion since he started out believing that the rectory was most likely haunted by ghosts. Skeptics made similar accusations in regard to some of Price's other investigations. He did not let these attacks deter him, however, and in 1938 he revitalized the Ghost Club of London, England, which had been founded as a ghost-hunting organization in 1862 but which had nearly dissolved, and he served as its chairman. He also wrote extensively about his experiences as a ghost hunter in such works as *The Confessions of a Ghost-Hunter* (1936).

SEE ALSO: Borley Rectory, the; ghost hunters and ghost investigators; spirit photography

Princeton Engineering Anomalies Research program

Established in 1979, the Princeton Engineering Anomalies Research (PEAR) program is dedicated to scientifically studying whether human consciousness can interact with physical devices, systems, and processes related to engineering. To this end, the bulk of PEAR's research activities concern human/machine anomalies—that is, instances in which machines act strangely in the presence of humans. In some of these studies the humans are operating the machines or at least are aware of their presence. In others, machines are hidden in places where humans are engaging in various activities to see whether the machines are affected by these activities, which include sacred rituals (performed by both individuals and groups), theater performances, and business meetings. Interestingly, some of this research shows that the machines do not behave in any unusual ways during business meetings, but they do sometimes act strangely during rituals and theater performances. To some people this suggests that during gatherings involving emotional energy, the mind transmits this energy somehow to the machines, thereby affecting their performance.

Two other areas of PEAR's research activity involve remote viewing and the creation of theoretical models related to how human consciousness might interact with the environment. In its studies on remote viewing—which PEAR instead calls remote perception—two participants are placed in two different, randomly selected locations a great distance apart. One of these people, designated the agent, is then told to carefully observe and record impressions related to what the place looks like and feels like; the other participant, designated the

percipient, is asked to describe the composition and character of the distant place being viewed by the agent. For example, when this experiment was conducted with the agent located at some ancient ruins of Urquardt Castle at Loch Ness in Scotland, the percipient reported that the place had very dark blue water beside a tall structure “similar to a castle,” an “old, unused feeling,” and other characteristics that were indeed present at the site. To PEAR researchers, such events suggest that the transmissions of human consciousness occur irrespective of distance.

PEAR believes that its work is vital given how dependent the world has become on advanced technology; if human consciousness can indeed influence machines, the consequences could be devastating. What if, PEAR suggests on its Internet site (www.princeton.edu/~pear), the human mind inadvertently disrupts surgical equipment, aircraft controls, or missile-silo devices at an inopportune moment? Given the seriousness of such possibilities, PEAR researchers argue that more study is needed on human/machine interaction.

SEE ALSO: remote viewing

Project Alpha

Masterminded by skeptic James Randi, Project Alpha was the code name for an experiment—or some would say a hoax—to see whether psychical researchers could be tricked into believing that a pair of purported magicians had genuine psychic powers. The idea for the experiment came after Randi heard, in 1979, that the head of the McDonnell Douglas company, James McDonnell, had funded the establishment of the McDonnell Laboratory for Psychical Research at Washington University in St. Louis. As this new laboratory was being set up, Randi contacted its

head scientist, physicist Peter Phillips, and insisted that the lab follow Randi’s guidelines during its tests for psychic ability. He also wanted to be present during the tests to assure that they were being conducted properly. Randi was very insistent about this because the laboratory had already announced that its first research project would involve using spoon bending to test for psychokinesis, the ability to use the mind to affect physical objects. Randi had previously worked to debunk a psychic, Uri Geller, who claimed to have the same ability.

When Phillips rebuffed Randi, the skeptic decided to try to discredit the laboratory, and to this end, he found two amateur magicians, Steve “Banachek” Shaw and Michael Edwards (aged eighteen and seventeen, respectively), who were willing to pretend to be spoon benders. Randi coached them in how to perform spoon-bending tricks and others related to telepathy in ways that would violate all of the guidelines that Randi had suggested the laboratory follow. Based on Randi’s coaching, the two young men were able to manipulate the tests and fool the investigators throughout three years of testing. Then, in July 1981, Randi intentionally began spreading rumors that someone involved in the testing was involved in a hoax, suspecting that Phillips would hear the rumors and come to him for help in finding out which person was the fraud. After this happened, Randi then offered to work for the laboratory to tighten up testing procedures. After the laboratory followed his suggestions, Shaw and Edwards were no longer able to fake their psychic abilities.

By this time, though, Shaw and Edwards had become celebrities in the psy-

chic community because of their supposed talents, and they appeared several times in front of audiences to demonstrate them. They were so convincing that several prominent people in the psychic community called them highly gifted psychics. Meanwhile, some parapsychologists had begun to suspect that Randi was involved in the rumored hoax, and a few accused him and Phillips of working together on it. Shortly thereafter, Randi decided it was time to reveal what he had done, which he did with great delight. The news caused a furor in the field of parapsychology, the closure of the McDonnell Laboratory, and the cancellation of funding for numerous parapsychology projects at facilities throughout the United States.

SEE ALSO: Geller, Uri; psychokinesis; Randi, James

Project Blue Book

Begun in 1952, Project Blue Book was the last in a series of U.S. Air Force investigations into the nature of UFOs. UFO enthusiasts say, however, that its purpose was not to examine UFO sightings objectively but instead to find earthly explanations for these sightings in order to stamp out the belief that extraterrestrials might be visiting Earth. To this end, the members of Project Blue Book were charged with examining more than twelve thousand UFO sightings and finding ways to dismiss them. They were able to come up with ordinary explanations for 80 percent,

but this result did not please government officials, who wanted the result to be 100 percent.

In fact, the military had already eliminated two predecessors to Project Blue Book, Project Sign and Project Grudge, because they were unable to show that UFOs could not possibly be extraterrestrial spacecraft. Project Sign, created in 1947 in response to a UFO sighting by pilot Kenneth Arnold, was shut down in 1948 after it concluded that there was enough evidence to suggest that UFOs were alien spacecraft. (This information was kept from the public.) Project Grudge, established in 1948 to debunk UFO sightings and discredit the people who reported them, was shut down in 1952 after it concluded that 23 percent of UFO sightings could not be explained by any normal phenomena.

Faced with a similar failure, military officials ordered the members of Project Blue Book to reduce their 20 percent to 0 percent. As a result, the members soon reported that only 6 percent of the sightings could not be explained. Then, with more urging, they stated that less than 1 percent were unexplainable. They did this, in most cases, by saying that the sightings were due to mass hysteria. As for the remaining few unexplainable cases, the members of Project Blue Book were ordered not to discuss them with the public. In 1953 the project was shut down, after another government investigation, the Robertson Panel, recommended that all such studies into UFOs be discontinued.

Nonetheless, one of the project's participants, astronomer J. Allen Hynek, decided that there were enough curiosities related to the dismissed sightings that they, and UFOs in general, deserved further study. Though he had started the project

as a skeptic, as a result of his work on Project Blue Book Hynek became an outspoken critic of government attempts to dismiss UFO sightings without investigating them seriously. He consequently established his own group dedicated to studying UFOs, the Center for UFO Studies.

As to why government and military officials worked so hard to convince people that UFOs were not extraterrestrial spacecraft, some later claimed that they wanted to avoid mass panic over something that was not, after all, real. Ufologists, however, have suggested that the government was actually trying to cover up the fact that extraterrestrials really had been visiting Earth. Some have also said that by the time of Project Blue Book, the government had acquired crashed alien spacecraft and perhaps the bodies of aliens found at crash sites as well.

SEE ALSO: Arnold, Kenneth; Hynek, J. Allen; Robertson Panel, the; UFOs

prophets and prophecies

A prophet is a person who makes comments about the present and/or predictions of the future, called prophecies, that he or she claims are coming from a divine source. Sometimes a prophet claims not just to be receiving a message from the divinity but to be possessed by a divine spirit or god, which speaks through the prophet. In either case, prophets insist that they have not added their own interpretation to the messages they have received but are repeating them word for word.

The nature of these messages is what, according to some experts in paranormal phenomena, distinguishes prophecy from divination. People practicing divination typically focus on an individual's needs and concerns, whereas most prophecies

are intended for a much broader audience, to warn social, political, and/or religious groups that unless they take certain actions or change their ways, then bad things will happen. However, believers in the ability to foretell the future disagree on whether prophecy and divination are fundamentally different in regard to how the prophet or fortuneteller makes a prediction. Some agree with prophets that their predictions come from a divine source, while others believe that the messages are the result of the prophet using a form of extrasensory perception called precognition in order to glimpse the future. Skeptics, however, say that the prophet has imagined the message.

SEE ALSO: divination

psi

Parapsychologists commonly use the term *psi* as shorthand for *psychic phenomena*. The latter include the three main categories of extrasensory perception (ESP): telepathy, clairvoyance, and precognition; plus psychokinesis as well as all related psychic experiences, including remote viewing, near-death experiences, and out-of-body experiences. The term *psi* was first used in 1942 in a minor publication on ESP, but it was popularized by parapsychologist J.B. Rhine beginning in 1948.

SEE ALSO: parapsychology

psi assumption, the

The phrase *psi assumption* has been coined by skeptics to refer to the belief, held by parapsychologists and others, that the laws of chance can be used as a basis for proving psychic ability. Skeptics argue, for example, that just because there is a one-in-a-million chance that someone would be

able to predict which cards will turn up in a particular order in a particular stack of cards during an extrasensory perception (ESP) test, it does not follow that someone who succeeds in making such a prediction is exhibiting ESP. Instead, skeptics say, that person could be cheating on the test or exhibiting incredible luck—that is to say, he or she simply beat the odds.

SEE ALSO: psi

psi waves

Researchers in paranormal phenomena theorize that mental waves of energy, called psi waves, exist. These waves have been proposed to explain the process by which telepathy—mind-to-mind communication—works. Under this theory, during either intentional or unintentional telepathic communications, whether between two people, a person and an animal, or even a person and an extraterrestrial, waves from both minds spread in all directions around their sources and are eventually exchanged, though they might be distorted somewhat by various factors in the environment. (Believers in psi waves say this distortion can be minimized by intense concentration, as is produced during meditation or religious rituals.) People who believe in psi waves liken them to waves in the electromagnetic spectrum, which can also be distorted and which also spread in all directions. Such people also say that both psi waves and some electromagnetic waves work at very low energy and are therefore difficult to discern. However, the presence of electromagnetic waves can be measured with various devices, whereas psi waves have never been detected.

SEE ALSO: extrasensory perception; telepathy

psychic detectives

Psychic detectives are psychics who use their abilities to help law enforcement agencies solve crimes. These individuals claim to receive information about crimes in a variety of ways. Sometimes they spontaneously receive a psychic image of a crime victim and/or a crime in progress, but other times they must encourage a psychic vision by visiting the scene of the crime or by handling an object associated with it (a process called psychometry). Throughout history many prominent psychics have used both touch and location to tell them about past crimes. For example, psychic Peter Hurkos solved a notorious killing of a cabdriver in 1958 after holding a photograph of the missing man and sitting in his cab. Hurkos was able to give police a complete description of the man's killer, along with the killer's hometown, nickname, and information about another crime committed by the same person. Other psychics claim that they learn about crimes from the victims or a spirit in contact with the victims in the spirit world. For example, medium Sylvia Browne, who has often been asked to find missing persons or help police solve murders and other crimes, says that her information comes either through clairvoyance or from a spirit guide named Francine. Browne does not need to touch anything to receive this information, nor does she need to visit a crime scene. When asked about a crime, she says she either forms a mental image of the crime happening or finds she can provide useful information about it.

Browne and other psychic detectives say in many cases the information they receive relates not just to the present but to the future as well. As an example, in 1987, police in Los Altos, California, asked

Browne about a serial rapist. She was immediately able to describe him and report that his last name began with an S. She also said that his job required him to work under the street. Then she went one step further: She predicted where he would strike next, advising the police to double their patrols in nearby Redwood City. The police subsequently caught the rapist in Redwood City and discovered that the man, whose name was George Anthony Sanchez, had a job repairing sewers. In most cases, however, police cannot rely solely on the work of psychic detectives in order to solve a particular crime; instead, they must combine such tips with solid police work. Moreover, tips provided by psychic detectives do not serve as evidence in court.

One of the most famous psychic detectives of the twenty-first century is Allison DuBois because of a popular TV series, *Medium*, in which she is portrayed. While working in the office of the district attorney of Phoenix, Arizona, she discovered that when she looked at a crime-scene photograph and/or handled physical evidence from the crime scene, she could often psychically see the crime being committed. Since then, she has claimed to be able to access images from both the victims' and the perpetrators' minds. Sometimes her visions are detailed enough to help police solve the crime, but other times they are too vague to be of use. In her 2005 book *Don't Kiss Them Goodbye*, DuBois says that in working with law enforcement, it is important for psychic detectives to only share useful information, because "if you bug the police too often with every little feeling, they will start to not listen to you. You will be branded as a wacko psychic and you will lose all credibility with law enforcement."

Skeptics, however, say that no psychic detective has credibility, and any law enforcement officer who works with one is wasting valuable time that could be spent on real detective work. Any apparent successes by a medium, skeptics say, are merely cases where the medium has made lucky guesses. In fact, some skeptics assert that no psychic has ever been responsible for a crime being solved—and indeed, good police work has always been ultimately responsible for such successes. Nonetheless, police investigators' increasing willingness to employ psychics suggests that law enforcement agencies recognize their value. According to some surveys, more than 40 percent of America's urban police departments admit to having used psychic detectives at least once, with varying degrees of success, in order to help them solve crimes.

SEE ALSO: Browne, Sylvia; DuBois, Allison; Hurkos, Peter; psychometry

psychic healing

Psychic healing is the process of curing another person's illness by concentrating one's thoughts on the disorder. Some parapsychologists believe that psychic healing involves the use of psychokinesis (PK)—that is, the mind's ability to influence the physical environment—to alter the unhealthy aspects of the sick person's body, thereby effecting the cure. Other researchers believe that this same cure is effected by the patient's own mind. Indeed, there is ample evidence that individuals can alter their own heart rate, blood pressure, and immune systems using techniques such as meditation. There is also ample evidence that symptoms of illness disappear if patients believe themselves to be well. Consequently, even skeptics admit that psychic healing can, in some cases, benefit a pa-

tient, but they believe that these benefits are being caused by the patient rather than by the "healer."

Given that patients' beliefs can affect the course of an illness, some scientists have decided that tests of psychic healing are only reliable if they are carried out using animal subjects instead of humans. In one animal study, two groups of mice with tumors of identical size were placed in separate cages. Ten times per week for several weeks, a psychic healer concentrated on slowing tumor growth in just one of the groups. The results appeared to support the idea that psychic healing can have an effect: By the end of the study, the group "treated" by the psychic healer had significantly smaller tumors.

Scientists have also studied psychic healing using Kirlian photography, a process that seems to produce a picture of an electrical field, or aura, emanating from an object that touches an electrically charged photographic plate. Some people believe that auras look different depending on how healthy a person is, and indeed, researchers discovered that auras appeared more vibrant and distinct—a sign, believers in auras say, of good health—whenever test subjects were being treated by psychic healers. These tests led some researchers to wonder whether psychics' auras also changed during the process of psychic healing, and ultimately they determined that this seems to be the case. As an example of such a test, Professor Douglas Dean, a New York electrophysiologist and parapsychologist, used Kirlian photography to view the energy field of psychic healer Ethel DeLoach. First he photographed her index finger while she was in a resting state, and then he photographed it while she was thinking about healing. During her projection of healing thoughts,

her finger's energy field, which had a few minor flares emanating outward, began to enlarge and the flares increased in size and number. Skeptics dismiss such results as nonsense, rejecting the existence of auras and saying that Kirlian photography therefore cannot be producing images of them.

SEE ALSO: auras; Kirlian photography; psychokinesis

psychokinesis

The word *psychokinesis*, which means “mental movement,” refers to the use of mental powers to affect the physical world. Experts in paranormal phenomena say there are several types of psychokinesis (PK). The most basic is the apparent ability to move, bend, or otherwise physically alter inanimate objects using mental power alone. This alteration can be mild or dramatic, and the person creating the alteration might not even know that he or she is using PK or even has the ability to do so. For example, a person who routinely seems to be knocking over glasses of water might think that these incidents are due to clumsiness, when in fact his or her mind, rather than hand, is actually knocking over the glasses. Other seemingly ordinary events that believers say might be controlled by PK include computer glitches and slot-machine wins in gambling casinos.

Increasing Power Those who study PK say that the power appears to increase during crises or when someone is under stress. For example, there have been many stories of clocks or watches stopping at the exact moment that someone dies, either in the same room or some distance away, suggesting that certain people are able to affect timepieces at the moment of their death. In some cases, though, it appears

that PK is a power that can be turned on at will. For example, Israeli psychic Uri Geller, who first began demonstrating his psychic powers in the early 1970s, appears able to stop and start watches and clocks, and in front of paying audiences he appears able to bend keys and spoons as well, simply by concentrating on them with his mind. On some occasions he would tell audiences watching televised performances at home that his mental efforts had affected their own possessions, urging them to check their watches and spoons. Afterward, viewers would call in and claim that they did indeed discover stopped watches and bent spoons. Skeptics note, however, that in most cases the viewers did not claim to have actually seen the watches stop or the spoons bend, which means that the objects could have been damaged before they were checked.

Because of such possibilities, Geller's claims have long been controversial, and skeptic James Randi has accused Geller of being nothing more than a skillful stage magician who uses sleight of hand to substitute running watches and straight spoons with stopped watches and bent spoons during public performances. During one such performance, televised nationally, Randi made certain that Geller was unable to use sleight of hand—and in that case Geller's attempts to affect objects failed. Still, some believers attribute this failure to the fact that Geller's mind was rattled by Randi's hostility.

PK and Mediumship Accusations of fraud are particularly common in cases where the individual using PK is also a medium. This is largely because during the Victorian era, people claiming to be mediums often faked various physical effects, including the mysterious movement of objects or inexplicable knocking sounds. Upon

close examination, however, these effects were proven to be created by various devices, such as hidden wires and/or hidden assistants.

In cases where the medium's talents seem genuine, people disagree on whether spirits are really moving the objects (in which case the phenomenon is called telekinesis) or whether the mediums are unwittingly creating movements and sounds via PK. This same dispute surrounds at least some poltergeist phenomena, whereby angry spirits are said to be violently moving objects, making loud noises, and pushing, pinching, and shoving people. Especially when these angry poltergeists seem to be focused on attacking one particular person over and over again, some investigators have suggested that PK is in fact being exerted by the person seemingly under attack.

Making this explanation seem more plausible is the fact that many of the experiencers involved in poltergeist incidents are adolescents. In one study approximately 62 percent of experiencers were under age eighteen and living away from home when the poltergeist activities began. According to this line of reasoning, poltergeists are actually cases of PK being triggered by the experiencer's need to relieve emotional tension. Rather than poltergeist activity, then, these incidents are considered by some experts as a special form of PK: recurrent spontaneous psychokinesis (RSPK).

Testing for PK Scientists attempting to prove the existence of both PK and RSPK have developed various ways to test for these abilities. For example, one series of PK studies employed a random-event generator, which is a machine that flashes lights in a random and therefore unpredictable pattern. Test subjects were instructed to "will" the machine to create a

specific pattern, and in some cases they appeared to be successful in this regard. In another series of tests, a dice-rolling machine was used instead of the random event generator, again with some subjects seemingly able to influence the roll of the dice to create combinations at a rate significantly better than what the laws of probability would have predicted.

As with other ESP laboratory tests involving machines, dice, and cards, there is no way to prove conclusively that these successful results were not simply due to an unusual run of luck. Therefore, parapsychologists have looked for ways to test for PK that do not involve chance at all. For example, in one test in Russia, researchers cracked an egg into a saline solution and asked psychic Nina Kulagina to separate its yolk from its white using her mind alone. She did so, although it took over thirty minutes. Yet Kulagina was unable to repeat this accomplishment, so some Western scientists distrust the test results.

Parapsychologists have also conducted many PK tests related to the mind's ability to affect plant growth. In one series, each test subject was asked to concentrate on one group of seeds while ignoring another, with the aim of making the first group grow more rapidly. When the growth rates of the two groups were compared over time, the first group did indeed show better progress, and in the end the plants in that group were somewhat taller than the others. These tests on biological organisms might also support the existence of a type of PK known as psychic healing, whereby an individual claims to have the ability to mentally cure another person's illness.

Affecting Film and Tape Psychics have also apparently been able to physically alter photographic plates, mentally producing

images on them. For example, in the 1970s psychic Ted Serios demonstrated this ability under the supervision of psychiatrist Julie Eisenbud. Serios was able to create either all-white photographs or all-black photographs, pictures of shadows and fuzzy shapes, and pictures of images he was asked to produce. (The latter, however, were not very clear, and skeptics have said they could be interpreted in a variety of ways.) Other psychics have apparently been able to alter electronic recordings, producing sounds on tape using their minds rather than their voices. This PK phenomenon was first noticed in the 1950s, but further research into the subject has been scant. However, studies of other types of PK and extrasensory perception are relatively abundant, and the growing body of better-than-chance results is making it harder for skeptics to argue that luck is responsible in all of these cases. Nonetheless, some have attempted to do so, suggesting that it is wrong to make what they call the psi assumption—that is, the assumption that events that seem to defy the laws of probability prove that psychic ability is real.

For all their efforts to prove the existence of PK, experts in paranormal phenomena have not yet come up with a definitive explanation for exactly how it works. In attempting to solve this mystery, some researchers have speculated that the ability might have something to do with the Earth's magnetic field. For example, parapsychologist Dean Radin has studied rates of slot-machine payoffs, which he believes are often influenced by PK, and found that the rates are the highest during a full moon, a time when the Earth's magnetic field is subjected to less interference. Research into this possible connection, and others, is ongoing.

SEE ALSO: Geller, Uri; psi assumption, the; psychic healing

psychometry

Psychometry is the apparent ability to discover facts via clairvoyance (a type of extrasensory perception) by touching or being near an object. This link between touch and clairvoyance has been suggested by several laboratory studies. For example, in the 1960s, researchers in what was then the Soviet Union conducted a series of tests on a girl named Roza Kuleshova, who apparently demonstrated the ability to “read” text and “see” colors while blindfolded simply by running her fingers over printed words or touching colored objects.

The most common use of psychometry is in the work of a psychic detective. According to some surveys, more than 40 percent of America's urban police departments admit to having used psychic detectives at least once, with varying degrees of success, in order to help them solve crimes. In some cases, police allow the psychic detective to visit the scene of the crime in the hope that the psychic detective will receive a vision. In other cases, the psychic gathers information by touching an object associated with the victim but not with the crime scene.

In the 1980s psychic investigator Lawrence LeShan conducted tests on a noted psychic, Eileen Garrett, who appeared to be skilled in psychometry. He gave her three identical boxes and told her what was inside of them: a girl's lock of hair, a dog's tuft of hair, and a rosebud. He then put the boxes behind a screen and mixed them up. Garrett could reach behind the screen to touch the boxes, but could not see them. Nonetheless, she was able to identify the contents of each box correctly, and to provide detailed informa-

tion—about the girl, the dog, and the source of the rosebud—that LeShan believed she could not possibly have known.

While skeptics dismiss such results as lucky guesses, believers have various theories regarding how and why psychometry works. The majority say that psychometry is most likely to occur when an upsetting event has left what they call a psychic residue on any people or objects in the vicinity. This residue, believers say, is what enables someone skilled in psychometry to reconstruct the event later on. Most cases of psychometry seem to deal with a past event, which suggests to some that the psychic residue can only be created in the past. Sometimes, however, psychometry will reveal an image from the future. This has led some people to say that the future, the present, and the past all exist simultaneously, and that psychic residue can enable certain psychics to glimpse other points in time. Other people, however, have said that psychics who are gifted in psychometry might not just be clairvoyant but also precognitive, which means that they have the ability to predict the future. Under this view, the future that psychometry reveals can be altered.

SEE ALSO: clairvoyance; extrasensory perception; precognition; psychic detectives

psychics

Psychics are people who appear to have one or more psychic abilities. Psychics whose ability appears to be spirit communication are called mediums or channelers, psychics whose ability appears to be telepathy might be called telepaths, and those with apparent clairvoyance might be

called clairvoyants. Other psychic abilities include clairsentience, psychokinesis, and the ability to have an out-of-body experience at will.

SEE ALSO: astral projection; clairsentience; clairvoyance; telepathy

pyramid power

The phrase *pyramid power* refers to the idea that pyramids have magical or supernatural properties that produce energy fields beneficial to animate and inanimate objects. The term was first coined by Dr. G. Patrick Flanagan in 1973, when his book *Pyramid Power* suggested that not only do the Egyptian pyramids have this power but so also does any model of a pyramid made to the exact specifications of an Egyptian pyramid. Flanagan asserted that if a razor or knife blade, for example, were placed under a model pyramid, it could be kept forever sharp, and that if someone placed a pyramid model on his or her head, then that person would have a sharper mind. After the book came out, some people did indeed build their own pyramid models and place them on their heads, thereby inviting ridicule by many skeptics. In addition, some people experimented with putting various objects and devices beneath pyramids to see whether their properties changed, as Flanagan suggested they would, but the results of these experiments were largely disappointing. However, some people who have been inside the Egyptian pyramids insist that the experience gave them an energy boost or some other physical or psychological benefit.

SEE ALSO: Earth energy



rains, strange

Among the events of interest to those who first collected reports of paranormal phenomena, such as Charles Fort in the early twentieth century, were strange rains. Such people defined *rains* as anything unusual that fell from the sky, including animals of all sizes, but particularly water-dwelling creatures such as frogs, fish, and eels, as well as organic matter like algae, seeds, nuts, or berries. Inanimate objects such as stones, balls, jewelry beads, golf balls, pieces of pottery, coins, and religious crosses or similar artifacts—raining individually or in groups—are also included. In one highly unusual case, which took place on November 11, 1846, residents of Lowerville, New York, saw a bright light in the sky, saw something fall from it, and later found a weird jellylike material in a field. They decided that it had rained from the stars.

Skeptics dismiss such ideas, saying there are ordinary explanations for every case of raining animate and inanimate objects. Most cases involving small objects, they argue, are caused by people dropping things from private airplanes, while most instances of animals falling from the sky are caused by tornado-like winds that suck animals into the sky and then deposit them miles away. This does indeed appear to be the case when the animals fall to earth dead and frozen, which would suggest that they spent a significant amount of time at a high altitude. However, in many such cases the animals are alive

when they hit the ground, showing no signs of having been in a whirlwind.

Consequently, some people theorize that the animals have not fallen as part of a weather event but have been accidentally dropped by large birds. Birds cannot account, though, for incidents in which a large number of animals have fallen at once. In such cases, some people have suggested that the animals did not rain down at all but were already on the ground, hidden by mud until a storm or other event uncovered them. But people who believe that strange rains have a paranormal cause—though they do not know what that cause might be—point out that in many cases multiple witnesses actually see the animals or objects falling. For example, a well-documented shower of fish occurred during a clear day in Jelapur, India, on February 19, 1830; according to witnesses, many of the fish that rained down upon them were rotten and headless. In another case, on September 23, 1973, thousands of frogs rained down on Brignoles, France, during a thunderstorm.

SEE ALSO: Fort, Charles

Ramtha

According to self-professed spirit channeler J.Z. Knight of Tacoma, Washington, Ramtha is a thirty-five-thousand-year-old warrior who Knight says speaks through her whenever she is in a trance. Knight began channeling Ramtha in 1977, and when she is supposedly possessed by his spirit, she walks with a swagger and speaks

in a husky voice. As channeled by Knight, Ramtha says he comes from the lost civilization of Atlantis by way of Lemuria, which was itself a highly advanced civilization that, according to Ramtha, sank into the Pacific Ocean thousands of years ago.

From 1977 to 1979, Ramtha supposedly taught Knight a variety of advanced scientific and theological concepts, as well as how to have out-of-body experiences and how to heal people with prayer and touch alone. Knight then decided to share Ramtha with the public, and she began holding Ramtha seminars—in which she goes into a trance and allows Ramtha to speak—before paying audiences, charging more than one thousand dollars per appearance. She also sells books and tapes of Ramtha's talks through an organization known as the Ramtha School of Enlightenment.

SEE ALSO: Atlantis; channeling; Lemuria; out-of-body experiences

Randi, James

Stage magician and escape artist James Randi is one of the world's leading skeptics and most active debunkers in regard to claims relating to the paranormal. He gained notoriety when he appeared on Johnny Carson's *Tonight Show* in 1972 to debunk the abilities of psychic Uri Geller. Geller's skills had just been declared genuine by scientists at the Stanford Research Institute, and Randi worked with *Tonight Show* producers—without telling Geller—to ensure that Geller could not use any sleight of hand in his performance. During a period of twenty-two minutes, Geller was unable to perform any of the psychic feats for which he was famous, such as bending spoons using only his thoughts.

Randi has debunked faith healers as well as psychics, and he has written numerous articles and books to counter claims related to the paranormal. Randi's books include *Flim-Flam!*, *The Faith Healers!*, *The Truth About Uri Geller*, and *An Encyclopedia of Claims, Frauds, and Hoaxes of the Occult and Supernatural*. His articles have appeared in such magazines as *Time*, *Scientific American*, *Technology Review*, and the *Skeptical Inquirer*. The latter is the publication of a skeptics' organization of which Randi was a founding fellow, the Committee for the Scientific Investigation of Claims of the Paranormal.

In 1996 Randi also established the James Randi Educational Foundation, a

group dedicated to promoting what it calls critical thinking, or skepticism; to investigating paranormal claims; and to supporting skeptics who have been publicly attacked by people making paranormal claims. Located in Fort Lauderdale, Florida, the foundation offers a prize of \$1 million to anyone who can demonstrate a psychic, supernatural, or paranormal ability under tightly controlled scientific conditions; the conditions for claiming this prize have never been met, however.

SEE ALSO: Committee for the Scientific Investigation of Claims of the Paranormal; Geller, Uri; skeptics

random-event generators

Used in parapsychological research, random-event generators (REGs) are devices that produce some form of output that can neither be predicted nor manipulated. REGs base their output on unpredictable subatomic processes. One REG used to test precognition, for example, flashes lights in a pattern determined by the decay of a radioactive isotope called strontium 90; the rate of decay is completely unpredictable, which means that the pattern of the lights is also completely unpredictable.

The most commonly used REGs for laboratory extrasensory perception studies, however, are ones that rely on the movement of energy-producing electrons, another unpredictable subatomic process. Such devices typically put out random electronic noises, with each noise accompanied by the display of a number assigned according to the intensity of the electrical current producing the noise. For this reason, REGs have also been called random-number generators. Since there is no known way to predict the order of the numbers displayed by a REG, someone

who can provide such a prediction with a success rate higher than chance would dictate is thought to have paranormal abilities.

In recent years, however, the focus of REG research has been to see whether human minds can intentionally or unintentionally influence REGs, turning a random pattern into a nonrandom one. For example, on January 23, 1997, many people around the world participated in a global meditation, known as the GaiaMind Project, whereby they all meditated from 17:30 to 17:35 Greenwich Mean Time (or 12:30 to 12:35 Eastern Standard Time) to honor Earth. Scientists working with REGs during this period tried to determine whether their devices were affected by the large “global consciousness” that was formed by this event, and some of them did indeed report that their devices produced numbers in a way that pure randomness would not. However, their results were not considered statistically significant by other researchers. A similar study, called the Global Consciousness Project, is currently attempting to determine whether traumatic events that distress large numbers of people, such as the 9/11 terrorist attacks on the World Trade Center in New York, coincide with recorded changes in the output of REGs. If so, this would suggest that a global consciousness exists, whereby the collective minds of many people create energy significant enough to influence the movement of electrons. In designing such studies, however, researchers must make sure that they are using REGs that produce truly random patterns no matter how long they are in use, because some REGs, over an extremely long period of time, produce a pattern that can be predicted with some effort; these are called pseudo-random generators.

SEE ALSO: extrasensory perception; parapsychology; precognition

reincarnation

Reincarnation is the soul's rebirth in a new body after the death of its previous one. Believers in reincarnation say that it occurs whether or not someone remembers having lived in other bodies, and indeed, most people do not recall a past life. However, throughout history there have been occasions when a child suddenly remembers details from a past life. For example, in 1926 three-year-old Jagdish Chandra of India told his father and several witnesses that he had once been a man named Jai Gopal, who had lived and died in a city 3,000 miles (4,827 km) away. Chandra provided many details about his former life that were later verified, and when he was taken to meet Gopal's relatives, he pointed the way to their house even though he had never been there. Similarly, in 1958 two-year-old Gnanatilleka of Sri Lanka described her life as a boy in a nearby village, and when she was taken to meet her former relatives, she was immediately able to identify them. By age seven, however, Gnanatilleka had forgotten her previous life.

Common Aspects The cases of Chandra and Gnanatilleka were investigated by Ian Stevenson, a parapsychologist with the Division of Personality Studies at the University of Virginia, whose research into reincarnation was and still is the most thorough in the field. (His Children's Past Lives Research Center continues to gather past-life accounts.) After studying dozens of reincarnation experiences that were recalled without the help of hypnosis, he was able to identify certain common aspects of the phenomenon. The two lives involved in the reincarnation experience

typically live no farther apart than 100 miles (161km) of one another and are of the same culture. Moreover, this culture is most often one in which a belief in reincarnation is prevalent, and this seems to affect how much information the experient can recall. For example, in approximately three-fourths of the cases reported in India, where a belief in reincarnation is widespread, a person recalling a past life can provide the name used in that life; in the United States, where relatively few people believe in reincarnation, only one-third of the experients can provide the previous name.

Regardless of culture, however, most experients claim to know how they died in their former life, and in most cases the death was violent. There is typically a space of time between this death and the experient's birthdate, ranging from weeks to years. Most children who claim to remember a former life are between the ages of two and four, and their past-life accounts are so detailed and convincing that Stevenson believes they could not have been coached to lie. Between the ages of five and eight, these children typically stop remembering details of their past life, though they might later exhibit a phobia related to how they claim to have died in their previous life. For example, someone who said she died by drowning might have a serious, lifelong fear of water.

False Memories Skeptics dismiss reincarnation accounts as being the result of experients' having gained knowledge of other people's lives through ordinary means, such as books or conversations, and then either intentionally or unintentionally incorporating this knowledge into a past-life story. For example, the experient might have intentionally created a past-life connection to a particular family

because he or she would benefit from being associated with that family, or the experient might have learned details about a particular family, forgotten these details, and months or years later incorporated them into what he or she believes is a genuine reincarnation memory. Indeed, false reincarnation memories can surface during hypnosis, which is why Stevenson's research only involved reincarnation memories recovered spontaneously. In most cases of false reincarnation memories, the recollections prove to be fantasies based on books the experient has read about life in other times. For example, one person who remembered six former lives was later shown to have been recounting information from a variety of historical novels.

Researchers into reincarnation, however, note that some cases involve information that could not be learned from books or conversations. For example, some experiencers have been able to recognize individuals that they have never seen before but would have known in a past life, and they might also exhibit skills and behavior that, it appears, could only have been acquired in their past life rather than their present one. Some people have therefore suggested that the experient has received information about his or her past life not from books or conversations but from the minds of the deceased person's relatives, via telepathy (the ability to read minds). However, the experient's knowledge seems limited to what a single deceased person would have known, whereas if extrasensory perception were really involved, the experient would probably have information from a variety of sources.

Spirit Possession Another suggestion, proposed by people who believe in ghosts, is that the experient has actually been "pos-

sessed," or taken over, by the spirit of a deceased person. However, this theory does not explain why the memories of a past life would gradually fade as the experient ages, or why a phobia related to the past-life death experience would linger. It also does not explain why the experient does not act and talk like the deceased person at all times. In fact, no one has yet come up with a satisfactory way to explain all types of reincarnation experiences. Consequently, even skeptics have suggested that more studies into the phenomenon are needed, if only to determine why so many people claim to have been reincarnated.

SEE ALSO: near-death experiences; out-of-body experiences; past-life memories

remote viewing

Remote viewing is a form of clairvoyance in which people appear to be able to describe places and objects that are too far away to be seen physically. The term *remote viewing* was first coined by psychic Ingo Swan, who could see objects a great distance away when, he said, his spirit left his body and traveled to their location. Other remote viewers say that they can receive information about faraway sights by connecting psychically with someone located at the site (in other words, by using telepathy as well as clairvoyance). In such cases, the remote viewer sits in a room and tries to sketch what the person at the site is seeing.

Stargate Project On occasion, regardless of the method used, remote viewers have been able to provide reliable though crude information about terrain, buildings, and other objects at the remote-viewing site. For example, in a privately funded study conducted by the Princeton Engineering Anomalies Research program, a remote

viewer identified a site as having very dark blue water beside an ancient, castlelike structure on a hill; in reality, the site held the ancient ruins of Urquardt Castle at Loch Ness in Scotland, on a hill beside a deep, blue lake. A classified government study known as Stargate provided similar successes.

In the later years of Stargate, which took place from the 1970s to 1995, photographs of sites were used to verify descriptions provided by remote viewers in order to determine whether the remote viewer could visualize the site without the possibility of telepathy being involved. In these tests, photographs of various sites unknown to the test subject were taken and each photo was placed in a sealed envelope, without the tester having seen it. The tester then selected an envelope at random, and the site named on the outside of the envelope was the one the remote viewer was asked to describe, both verbally and with a sketch. In similar tests, instead of using photographs, the site was chosen through geographical coordinates picked at random. After the remote viewer described what might be at this location, the testers would visit the site to confirm the description.

One of the participants in Stargate, Joseph McMoneagle, claims that in one of the tests he provided enough information on five out of six targets for a stranger to be able to recognize the locations from his description and drawings. However, he also admits that his success rate was uneven; in another series of tests, he failed in twenty-four out of twenty-four attempts to identify the targets. McMoneagle believes that failures like this were due to his inability to understand the visual cues he was receiving because sometimes he would receive the information as symbols rather

than as actual images and would misinterpret them. Moreover, sometimes one of his failures was later determined to be a success after researchers discovered that he was seeing a particular place as it had looked in the past rather than in the present. McMoneagle wrote about his experiences with Stargate in *Mind Trek: Exploring Consciousness, Time, and Space Through Remote Viewing* (1993, revised in 1997), as did another participant, David Morehouse, in *Psychic Warrior: Inside the CIA's Stargate Program* (1996).

Other Projects Most of the information about the U.S. government's remote-viewing projects, however, remains classified. There were once many such projects, conducted by California's Stanford Research Institute under such code names as the Stargate Project, Sun Streak, Grill Flame, and Center Lane. In fact, by some estimates, from the 1970s until 1995 the U.S. government spent \$70 million a year on classified remote-viewing projects, hoping that the ability could be used for espionage—that is, to describe sites that intelligence officials were unable to see even using advanced technology.

Today governments of other nations, particularly China, continue to engage in extensive tests of remote viewing for espionage purposes, while private institutions throughout the world engage in remote-viewing research as part of projects designed to prove the existence of extrasensory perception, or ESP. The U.S. government, however, ended such studies as a direct result of skeptics' attempts to discredit the idea that remote viewing was a genuine ability. In particular, during a 1995 analysis of the Stargate Project by the American Institutes for Research, skeptic Ray Hyman was so forceful in his insistence that the data regarding remote view-

ing had to be inaccurate—blaming this inaccuracy on flawed testing methods even though he could not identify what those flaws might be—that he convinced the government to end the project, despite the fact that statistics professor Jessica Utts of the University of California was able to demonstrate that Stargate’s successful results were indeed statistically significant and warranted further study.

Today skeptics continue to say that successful results in remote-viewing tests are due to flawed testing methods. Alternatively, they argue that the successful results have to be due to fraud, suggesting that the remote viewer was tipped off in advance regarding which site would be used for the experiment. However, no skeptic has been able to prove that a particular remote viewer has engaged in such a fraud.

SEE ALSO: Hyman, Ray; Princeton Engineering Anomalies Research program; Swan, Ingo

retrocognition

Whereas precognition is the psychic ability to see or know about an event before it has taken place, retrocognition is the ability to see images of a past event or to know the cause of an event after it has taken place, even though one was never present and had no opportunity to learn details from witnesses. For example, someone who hears about a missing person and suddenly knows (without thinking about the matter logically) that the person is dead can be said to be experiencing retrocognition. Cases where people see ghosts from the past at historical sites, such as phantom warriors on an ancient battlefield, are also said to be experiencing retrocognition. Some places are particularly noted for eliciting this experience. For ex-

ample, people visiting the palace of Versailles in France have occasionally seen ghostly figures, dressed in clothing from various periods in French history, walking through the gardens.

SEE ALSO: phantom armies; precognition

reverse speech

First promoted by an Australian named David John Oates, *reverse speech* refers to the idea that there are hidden, backward messages in speech. For example, when some people listen to the first part of the statement that astronaut Neil Armstrong made when landing on the moon, “That’s one small step for man,” while it is being played backward, they hear, “Man will space walk.” Oates argues that this apparent phenomenon is not a trick of sound perception but a natural part of the process by which the brain communicates. Specifically, he argues that the mind routinely produces two messages simultaneously, one backward and one forward; the forward message comes from the conscious mind in the left brain, and the backward message originates in the unconscious mind in the right brain. He further argues that babies’ babblings are actually backward speech from the unconscious mind. Oates has catalogued numerous examples of reverse speech, including Satanic messages in rock music. Not all people, however, hear these hidden messages—though some have suggested that in this way reverse speech is similar to clairaudience, a type of extrasensory perception whereby psychics hear voices that others cannot hear—and there is no scientific evidence to support Oates’s theories regarding how the brain communicates.

SEE ALSO: clairaudience

Rhine, J.B. (1895–1980)

With the help of his wife, Louisa E. Rhine, Joseph Banks Rhine was the first person to conduct serious scientific inquiries into the existence of extrasensory perception (ESP)—a term he was the first to use to refer to the ability to acquire information without the use of the known five senses (sight, hearing, touch, smell, and taste). Rhine received a doctorate in biology in 1925 from the University of Chicago, where he was a professor and researcher in plant physiology. In 1926 he and his wife, who was also his research assistant, began working at Harvard University, and in 1927 they went to Duke University in Durham, North Carolina, to work with Professor William McDougall, who was chairman of the Department of Psychology there. Under McDougall, the Rhines began developing ways to test for ESP. Rhine also oversaw the development of a pack of twenty-five cards, known as Zener cards, that could be used to test people for telepathy, clairvoyance, and precognition.

Zener Card Tests Each Zener card has one of five different symbols: a star, a circle, a square, a cross, or a set of wavy lines. In a Zener card test, each test subject has a one-in-five chance of guessing the symbol on any particular card drawn by the person administering the test. In Rhine's early tests, no subject demonstrated the ability to guess correctly at a rate beyond what the laws of probability would dictate. That is, test subjects guessed right one out of every five tries. But in 1931 a student at Duke University, A.J. Linzmayer, provided 404 correct answers out of 1,500 tries, when only 300 correct answers would have been expected. In an additional 2,000 tests, Linzmayer continued to have a success rate higher than one in five. Also in 1931, a

Rhine associate named J. Gaither Pratt discovered another student who he believed had psychic powers, Hubert Pearce. In one test, for example, Pearce averaged 9.9 “hits,” or correct guesses—nearly twice the rate predicted by chance. Rhine subsequently discovered five more students who displayed an equally high accuracy rate with his cards. When Rhine published his results in scholarly journals, he was attacked by other scientists. Skeptics accused Rhine of sloppy methodology or insisted that Pearce and other test subjects had cheated during their tests, even though there was no proof of this. These attacks continued even after scientists at other institutions were able to duplicate his results.

Nonetheless, Rhine persisted in his work, and by 1935 it was considered important enough to warrant the creation of the Duke University Parapsychology Laboratory (now a private organization, the Institute of Parapsychology). With more resources under his control, Rhine, by 1940, had been able to conduct thirty-three highly controlled experiments, involving more than 1 million trials. Twenty-seven of these experiments yielded statistically significant results, meaning that test subjects were able to provide correct guesses at rates far higher than mere chance would have dictated, and within five years after he published his results, other scientists had attempted to duplicate them in thirty-three independent experiments conducted at different laboratories. Of these experiments, twenty (61 percent), yielded statistically significant results.

Compiling Accounts Rhine's work also produced a large volume of anecdotal accounts related to ESP occurring in everyday life rather than in controlled

laboratory conditions. Specifically, as Rhine's work became known among the general public, people started writing him letters about their own ESP experiences. Rhine's wife, Louisa, took on the job of studying these letters to determine patterns and categories of psychic events, and eventually she determined that approximately 30 percent of those who wrote to her had a telepathic or clairvoyant experience in the form of a simple hunch (also called a premonition, whereby a person becomes aware that something significant is going to happen), approximately 10 percent received information via ESP that came as a vision when they were awake, and approximately 60 percent received such information in a dream. Louisa Rhine also embarked on her own study of ESP among children and the elderly.

Both Rhines produced numerous books and articles about their work related to ESP. Louisa's include *Hidden Channels of the Mind* (1961), *ESP in Life and Lab* (1969), *Mind over Matter* (1970), and *The Invisible Picture* (1981). J.B.'s writings include *Extra-Sensory Perception* (1934), *New Frontiers of the Mind* (1937), and *Parapsychology: Frontier Science of the Mind* (1957). J.B. Rhine also established the *Journal of Parapsychology* in 1937 as well as the Parapsychological Association. In 1962, with the help of various supporters, he created the Foundation for Research on the Nature of Man (FRNM) to ensure the continuation of his work. The FRNM also served as the parent organization for the Institute of Parapsychology and established Parapsychology Press, which publishes books related to parapsychology. In 1995, the FRNM was renamed the Rhine Research Center, and it continues to support research into various aspects of parapsychology. The *Journal of Parapsychology*

is also still being published.

SEE ALSO: extrasensory perception; parapsychology; Zener cards

Ring, Kenneth

A professor of psychology at the University of Connecticut, Kenneth Ring is one of the world's leading experts on near-death experiences. In fact, in the 1980s he became the first person to study the near-death experience using scientific methodology, though by this time Elisabeth Kübler-Ross and Raymond Moody had already done extensive work in compiling anecdotal accounts of near-death experiences. Ring published his work in such books as *Life at Death* (1980), *Heading Toward Omega* (1984), and *The Omega Project* (1992). He also cofounded the International Association for Near-Death Studies, which supports research into the near-death experience.

SEE ALSO: Kübler-Ross, Elisabeth; Moody, Raymond A.

ringing rocks

At various places in the world, certain rocks make an inexplicable ringing sound when hit with a hammer or mallet. Geologists who have studied these ringing rocks can come up with no explanation for the phenomenon, though others have suggested that the ringing might be due to fields of Earth energy at such sites. However, when the rocks are removed from their natural site, they still ring. In fact, they even ring after being broken. One area with an unusually large number of ringing rocks is southeastern Pennsylvania, and most of the research on the phenomenon has been conducted there.

SEE ALSO: Earth energy

Robertson Panel, the

Named for its leader, physicist H.P. Robertson, who worked for the Central Intelligence Agency (CIA) and the Defense Department, the Robertson Panel consisted of scientists and military personnel who were called together in 1953 by the U.S. government, supposedly to determine the true nature of unidentified flying objects (UFOs). However, the panel was actually created in order to end what the government perceived as mass hysteria over the idea that extraterrestrials might be visiting Earth. Within a month after a widely publicized 1947 sighting of UFOs near Mount Rainier, in Washington, nearly a thousand people had reported seeing UFOs that they believed were alien spacecraft, and by 1952 these reports had increased so dramatically in number that they were overwhelming government agencies. Consequently, U.S. officials wanted to put an end to them.

By this time the U.S. Air Force had already assembled a group of scientists to look into UFOs, but the CIA, concerned about possible leaks caused by sharing documents with other agencies, decided to create its own investigation. The Robertson Panel was the result; its first official meeting took place on January 14, 1953, and its last meeting took place just three days later. All of the panel members were known skeptics in regard to the possibility that UFOs were spacecraft, and during the four days that they examined evidence related to UFOs, they heard from only one person who supported the idea that extraterrestrials might be visiting Earth. After just twelve hours of discussion at the end of their hearings, the members of the panel concluded that most UFO sightings were due to the misidentification of ordinary phenomena like airplanes and

weather balloons, and the remainder were due to hallucinations, mass hysteria, or outright fabrications. In addition, the panel recommended that the U.S. Air Force aggressively work to dismiss or discredit these sightings, so that what its members called “UFO hysteria” would end.

As a direct result of this recommendation, the U.S. Air Force effectively ended its own investigation into UFOs, and air force personnel were ordered not to discuss any UFO case publicly unless they could convincingly argue that it had a logical, ordinary explanation. In addition, government operatives apparently began working to discredit ufologists and spread the idea that anyone who claimed to have seen a UFO must be mentally ill.

SEE ALSO: Arnold, Kenneth; Project Blue Book

Rogo, D. Scott (1950–1990)

D. Scott Rogo wrote extensively on paranormal subjects and also investigated paranormal phenomena as a visiting researcher for the Psychical Research Foundation in Durham, North Carolina, and the Division of Parapsychology and Psychophysics of Maimonides Medical Center in Brooklyn, New York. Many of his investigations were related to extrasensory perception (particularly psychic abilities demonstrated by ganzfeld testing), hauntings, and poltergeists, but he wrote about a wide variety of paranormal subjects, including near-death experiences, saints’ miracles, and the debunking techniques of skeptic James Randi. In 1985 he published a book examining reincarnation research, *The Search for Yesterday: A Critical Examination of the Evidence for Reincarnation* that is considered by many in the field to be one of the most definitive works on the subject. He

and *Our Psychic Potentials* (1984). Rogo's work was cut short when he was murdered in his home at the age of forty.

SEE ALSO: extrasensory perception; ganzfeld studies; near-death experiences; reincarnation

Roswell incident, the

Among people who believe that UFOs are alien spacecraft, the Roswell incident is considered to be proof not only that aliens exist but also that the government has been covering up the truth about them. These believers say that in 1947 a UFO crashed near Roswell, New Mexico, and that afterward the U.S. military hid the spacecraft and the bodies of its extraterrestrial occupants from the American public, then created an elaborate story to hide the truth of what had happened. Indeed, dozens of people involved in the Roswell incident also say that this was the case.

Debris Discovered The Roswell incident began on the night of July 2, 1947, when rancher Max Brazel heard a loud crash near his home during a thunderstorm. The next day, while visiting his fields, he discovered hundreds of small pieces of a strange metallic material. Some of these pieces were shaped like I-beams, the horizontal girders used in building construction. Therefore, his first assumption was that the debris came from a human-made object that had crashed on his property. However, when he studied one of the pieces he found it was extremely lightweight and thin yet could not be bent, cut, or burned. He had never seen any similar material, so he concluded that it must have come from some kind of experimental military aircraft. The fact that there was a military airfield nearby made this seem likely.

was also an expert on psychical research itself, and on the history of occultism. In addition to *The Search for Yesterday*, Rogo's books include *A Study of Some Unusual "Other-World" Experiences* (1970), *A Psychic Study of "The Music of the Spheres"* (1972), *Parapsychology: A Century of Inquiry* (1975), *Exploring Psychic Phenomena: Beyond Mind and Matter* (1976), *The Haunted Universe: A Psychic Look at Miracles, UFOs, and Mysteries of Nature* (1977), *Minds and Motion: The Riddle of Psychokinesis* (1978), *Leaving the Body: A Complete Guide to Astral Projection* (1983),

Brazel gathered up some of the pieces, and on July 6 he took them to the sheriff, who called officials at the airfield. The army immediately sent two intelligence agents to investigate the matter. One of them, Jesse A. Marcel, studied the debris and concluded that, given the amount of material, it had to have come from something very large. Years later, when he finally gave a full report of his experiences at Roswell, Marcel said that whatever the debris represented, it could not have been manufactured by the U.S. military. It was more lightweight, thin, and rigid than any metal he had ever seen, yet it could not be dented with a hammer, nor burned even when subjected to an intense flame over a long period of time. Marcel also reported that one of the pieces had strange, unidentifiable geometric marks inscribed on it. This fact, along with the other characteristics of the debris, convinced him that it had come from an alien spacecraft.

Securing the Crash Site At the time of the Roswell incident, however, Marcel was not allowed to tell anyone this because the army ordered everyone to keep quiet about the event. As part of this secrecy, army troops surrounded the crash site to keep other people away. Meanwhile, samples of the debris were sent first to an army installation at Fort Worth, Texas, then to the Intelligence Center at Wright-Patterson Air Force Base in Dayton, Ohio. The remaining debris was taken to the Roswell, New Mexico, airfield, where some people say it was put on air force planes and flown to various military bases across the United States. What happened to the debris after that, no one knows or will report.

The military was unable, though, to maintain secrecy about the crash site. Brazel and the sheriff told local newspapers about the incident, and soon rumors were

spreading about the strange nature of the debris. Consequently, reporters demanded that the military provide details about the crash, and government officials obliged by holding a press conference. This was conducted in a room where photographers were shown what supposedly was the debris. Pictures from this event clearly show the fragments of a weather balloon.

Witnesses who had seen the debris prior to the press conference, however, insist that what was in the photo was not what they saw. Marcel privately accused the military of substituting the weather-balloon debris for the crash-site debris, and Brazel publicly echoed this view. Brazel's opinion is particularly significant because he had seen many weather balloons. Indeed, prior to the time of the crash, several had landed on his property; he routinely turned them in to authorities for a five-dollar reward. Thus, his publicly voiced suspicions about a government cover-up of the true nature of the debris fueled others' suspicions.

Alien Bodies Another aspect of the Roswell incident also created rumors regarding the true nature of the crash. While Marcel was in Fort Worth, military searchers found a second area of debris—but apparently civil engineer Grady L. “Barney” Barnett and some student archaeologists, all of whom had been working in the area, came upon the wreckage first. Later they claimed it was not more weather-balloon debris but a crashed spaceship with four aliens lying on the ground beside it. The aliens were less than 5 feet (1.5m) tall, they said, with large heads and odd, leathery skin and they wore one-piece jumpsuits with no buttons, snaps, or zippers. Most witnesses said that the aliens were all dead, but some said that two were dead, one was dying, and one was seriously injured.

Other witnesses say that they saw all of the aliens after the aliens were taken to the Roswell air base hospital. Both a nurse and a pathologist claim to have personally examined the dead aliens, and several military officers contend they saw the pathologist's report, which included photographs of the aliens. A local mortician insists he got a phone call from someone asking how to preserve the aliens' bodies. One woman, Norma Gardner, says that she typed the autopsy reports and saw the alien bodies once they had been preserved in a chemical solution. Both Gardner and the base pathologist, Dr. Jesse Johnson, provided the same basic description of the aliens as the witnesses who claimed to have found the second crash site: The aliens were hairless, slightly less than 5 feet (1.5m) tall, and had large heads. In addition, according to Gardner and Johnson, the aliens had big eyes, slits instead of ears, tiny mouths with no lips, skinny bodies, long arms, and short legs, and their hands had only four fingers, two long and two short.

The nurse also stated that the bodies seemed to have been attacked by small predators before being recovered because certain areas appeared chewed, and they had clearly been out in the sun for quite some time. She added that the bodies reminded her of mummies because they were dry and fragile, but unlike mummies they gave off a strong odor that was almost intolerable to everyone who came in contact with them. Many other witnesses reported smelling this odor as well.

More Witness Reports Air Force pilots have also come forward to report that they eventually flew the bodies from Roswell to the Intelligence Center at Wright-Patterson Air Force Base in Dayton, Ohio, by way of Fort Worth. They and other witnesses

claim that the military ordered them not to talk about the aliens. Some witnesses even say that the government threatened them with violence if they revealed what they knew. Perhaps as a result of this secrecy, no one associated with the military spoke about the Roswell incident for many years.

Then Jesse Marcel learned that he was dying of cancer and decided to tell reporters everything he knew about the incident. Soon other witnesses came forward, and since Marcel's death in 1986, more than 350 people have talked about seeing either the aliens or their spaceship. One of these witnesses was Brigadier General Arthur E. Exon, who was stationed at Wright-Patterson at the time of the Roswell incident. Exon reported that although he never saw the bodies or the spaceship, he knew that they existed, knew the men who tested the strange debris, and heard details about the alien craft and its occupants. He also said that the military created a secret intelligence group to control access to all information and materials related to the Roswell incident, and that this group was very aggressive in its efforts to cover up what happened.

Fu-go Bombs Skeptics dismiss all claims related to the notion that the Roswell crash involved anything other than a weather balloon, saying these were tall tales made up long after the event. They also say that the reason Brazel and Marcel did not recognize the debris as being from a weather balloon is because it was from a type of balloon that the men knew nothing about. Specifically, skeptics theorize that the debris was a *fu-go*, a balloon used by the Japanese during World War II to carry bombs long distances. These skeptics say, therefore, that the strange writing was ac-

tually Japanese. Since the Roswell incident occurred just two years after the end of the war, experts believe there could have been some *fu-go* balloons, which were released in hopes that they would explode over the U.S. mainland, still afloat. The U.S. government, these experts say, would not have wanted the public to know that these incendiary devices were still in the air. People who disagree with this theory, however, point out that *fu-go* balloons are made of rice paper, which would have caught fire easily when Marcel tried to burn the debris. If indeed Marcel was correct about the strange characteristics of the debris, no one has yet suggested what they could have been made of that would account for their properties.

SEE ALSO: aliens, descriptions of; government cover-ups and conspiracy theories; UFOs

runes

Most commonly used for divination or marked on amulets in an effort to imbue them with supposedly magical powers, runes are characters of the earliest written alphabet of people in parts of Europe and Scandinavia. The word *rune* comes from the Old Norse word *run*, which means “secret”; this refers to the fact that runes were created for use by pagan priests, who kept their meaning secret. These priests used runes in making charms and magic spells, in both cases by marking the characters on certain objects, which is probably why runes have always been associated with magic.

In both ancient and modern times, runic characters have typically been marked on small stones, crystals, or sticks as a means of divination. Each of the characters has its own deep meaning. Guidebooks on runes offer detailed descriptions

of these deeper meanings, and a person using the runes for divination often consults such a book during the process.

Divination Process To begin the process of divination, a person selects a certain number of rune stones, usually one, three, or five, depending on the method of divination being employed—selecting them at random—and lays them out on a table. While selecting the stones, the person concentrates on a question related to whatever she or he wants to learn from the runes. For example, the person might silently ask the runes, “What will happen if I change jobs?”

In understanding the runes’ answer, the person must consider not only the deeper meaning of each runic character but also the order in which they were selected. In a divination process using three runes, for example, the first runic character usually relates to the current status of the person’s situation, the second to past influences on that situation, and the third to prospects for resolving the situation in the future. Therefore, a rune signifying prosperity will have a different meaning depending on whether it falls in the present, past, or future position. Sometimes, however, the runes do not provide an answer to a question. One rune, called *wyrd*, is blank; its name means that the answer is unknowable because it is “up to the gods.” In addition to the blank rune, there are twenty-four runic characters in all, each with a different meaning.

Marking Objects Throughout the centuries runes have also been marked on objects as a way to magically protect them or give them certain powers. For example, Vikings marked their weapons and homes with runic characters to impart strength. Among those who use rune stones today each ru-

nic character is believed to be connected to a specific state of being, such as joy, prosperity, strength, or protection, and will theoretically confer that state of being to whomever or whatever bears that runic character. For example, a necklace bearing the rune for protection is said to protect the health and well-being of the wearer. However, it is also said that the runes will not work without some effort on the user's part. In other words, a person cannot rely on the protection rune alone to ensure good health; he or she must also follow a healthy lifestyle.

Today some practitioners of witchcraft mark runes on objects like amulets, talismans, and ritual tools in order to "charge" these objects with certain types of power. Modern believers also combine characters in an artistic way, connecting or overlapping runes to create a new runic image called a *bindrune*. A *bindrune* is said to retain the properties of the individual characters from which it was created. Consequently, a *bindrune* made from the runic characters for prosperity and success would confer both qualities on the owner.

SEE ALSO: divination



Sabom, Michael

Cardiologist Michael Sabom is one of the leading authorities on near-death experiences (NDEs). He has spent more than twenty years collecting and analyzing patients' accounts of such experiences, and in 1994 he initiated the Atlanta Study, an in-depth examination of cardiac-death NDE cases that compared each subject's experience with what medical personnel observed about it. The Atlanta Study also compiled information about each subject's religious beliefs, level of education, and occupation.

Interestingly, when Sabom first became involved in NDE research in 1976, he did not believe it was a real phenomenon. He had been asked to act as the medical expert during a church-group discussion of Raymond Moody's popular book about NDE, *Life After Life*. In preparation for this event, Sabom talked to patients in his hospital who had, in a clinical sense, died and been brought back to life, and he discovered that many of their stories echoed those in Moody's book. Sabom's own research sought to find a reason for this, and after examining and rejecting several ordinary explanations for the phenomenon—such as the notion that the patients were dreaming or hallucinating—he decided that the mind separates from the body after death. Sabom wrote about his research in several works, including *Recollections of Death* and *Light and Death*.

SEE ALSO: near-death experiences

Sagan, Carl (1934–1996)

During the late 1980s and the 1990s, American astronomer Carl Sagan was an outspoken skeptic in regard to the existence of extraterrestrials, God, and an afterlife, though in earlier years he was a major supporter of the idea that life on other planets was a real—indeed likely—possibility. As a skeptic, he was heavily involved with an organization that takes a skeptical approach to the study of the paranormal, the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP). In 1987 he received CSICOP's In Praise of Reason Award, and in 1994 he received the group's Isaac Asimov Award for his scientific achievements.

Sagan obtained his doctorate in astronomy in 1960 from the University of Chicago and subsequently taught at the University of California–Berkeley, and at Harvard University. From 1962 to 1968 he worked as an astrophysicist at the Smithsonian Astrophysical Observatory. During this period, he used radar to study the surface contours of Mars and used observations to deduce that the temperature of Venus was 797 degrees Fahrenheit (425°C). In 1968 he became the director of the Laboratory of Planetary Studies at Cornell University, where he contributed to the efforts of the National Aeronautics and Space Administration (NASA) to send unmanned space missions to Mars and Venus. Ultimately Sagan was involved in the NASA space probes *Pioneer 10* and *Pioneer*

11; the *Voyager 1* and *Voyager 2* interstellar messages; the *Mariner*, *Voyager*, and *Viking* planetary exploration craft; and attempts to use sophisticated equipment on Earth to search the skies for transmissions and other signs of intelligent extraterrestrial life. At this point he was hopeful that humans would find evidence of life on other planets, but by the time of his death from a bone-marrow disease in 1996, he had abandoned this hope.

Sagan is also known for making astronomy and cosmology understandable for the general public, through his popular 1980 television series *Cosmos* and through books and articles written for nonscientists. His writings include *The Dragons of Eden: Speculations on the Evolution of Human Intelligence* (1977), which won the

Pulitzer Prize for Literature in 1978; *Broca's Brain: Reflections on the Romance of Science* (1979); and *Contact* (1985), a novel that was made into a motion picture of the same name. The latter, written before Sagan became a skeptic in regard to the existence of extraterrestrials, was a vehicle for his speculations into how humans might someday make contact with extraterrestrials.

SEE ALSO: Committee for the Scientific Investigation of Claims of the Paranormal; skeptics

Saint-Germain, Comte de (1690?–1784?)

During the eighteenth century, a mysterious French nobleman, the Comte de Saint-Germain, was rumored to be immortal

and some people believe he is still alive more than three hundred years after his supposed death. The story began in the 1750s, when the count, a friend of King Louis XV and the king's mistress, Madame de Pompadour, was spending a great deal of time at the French court. While there, he encountered the aged Countess von Georgy, who said she recognized him as being the same man she had met in Venice, Italy, fifty years earlier—yet the Comte de Saint-Germain did not look like he was a day older than the forty-five years of age he had appeared to be then.

Saint-Germain told the countess that he was indeed the same man, and he gave her details of his time in Venice that convinced her he was telling the truth. Consequently, rumors spread that he was at least one hundred years old. Sometimes Saint-Germain encouraged this belief, saying that he had lived for more than five hundred years. In fact, he told one person that he had been a friend of the Virgin Mary's mother. Other times, though, he scoffed at those who suggested he was ancient, saying that his youthful appearance was due to his lack of vices and his healthy diet, which consisted primarily of oatmeal.

Still, Saint-Germain's many skills and broad knowledge fueled suspicions that he was immortal. The count was an accomplished violinist, artist, and jeweler who had developed a technique for painting jewels. Widely traveled, he also knew several languages: French, German, Russian, Spanish, Portuguese, Dutch, English, Farsi, Arabic, Chinese, Sanskrit, Latin, and ancient Greek. He had a vast knowledge of science as well, took laboratory equipment with him on his travels, and claimed to be an alchemist capable of turning base metals such as iron and lead into gold and

enlarging pearls and diamonds through secret processes. He usually wore elaborate clothing with gems sewn into the fabric, and he often made a show of spontaneously giving away jewels, sometimes to near strangers. He also apparently went on secret diplomatic missions for the king.

In 1760 Saint-Germain was forced out of France by his political enemies, who made it seem as though he was guilty of treason. After nearly fifteen years in exile, part of which he apparently spent as an adviser to Catherine the Great of Russia, Saint-Germain returned to France and to the court of the new king, Louis XVI. By this time Saint-Germain was involved in the occult, perhaps as a member of a secret society, and people continued to remark on the fact that the count never seemed to age. In fact, not only the Countess von Georgy but others, including composer Jean-Philippe Rameau, insisted that they had met Saint-Germain years earlier and knew he could not be as young as he looked.

Mysterious Origins The count never revealed details of his early years or his origins. Indeed, his exact year of birth is a mystery. Historians disagree on where he came from. Some have suggested that he was the illegitimate son of a Transylvanian prince, others that he was the illegitimate son of a Bohemian nobleman, and others that he was the son of the former queen of Spain. Still others said that Saint-Germain was of humbler birth, the son of an Italian tax collector. All of these theories, however, are based on the notion that Saint-Germain was born sometime between 1690 and 1710, dates that would have made it impossible for him to have been the forty-five-year-old count that

people claimed they had met in Venice or elsewhere.

The circumstances and date of the Comte de Saint-Germain's death are also a mystery. In 1779 He apparently traveled to Germany, where he met Prince Charles of Hesse-Kassel and took up residence in the prince's castle at Eckernförde. There the two men worked together as alchemists and, according to rumors, dabbled in the occult. When Prince Charles reported that Saint-Germain had died in his castle on February 27, 1784, some of his friends doubted the story, particularly since the prince failed to display the sort of grief that people expected. As a consequence, rumors spread that Prince Charles had no reason to grieve because Saint-Germain was still alive.

Reports soon circulated from people who claimed to have seen Saint-Germain alive. Only a year after his supposed death, someone reported seeing the count with the hypnotist Anton Mesmer in Wilhelmsbad, Germany. In 1785 members of a chapter of the Freemasons claimed the count had been present at one of their meetings. In 1788 he was said to have been spotted in Venice, Italy; Vienna, Austria; and Paris, France. He was also supposedly sighted in France in 1793 and 1799. In the 1800s he was sighted several more times, not only in Paris and other parts of Europe but in the Far East, by people who had known him well. In 1896 a member of the Theosophical Society, Annie Besant, said that she had spoken with the count. In almost every instance in which someone who knew Saint-Germain claimed to have seen him after his "death," he was said to have looked to be around forty-five years of age. Some said that this was because the count was naturally immortal, but others said that he had created an

elixir—a by-product of alchemy—that could prevent aging, or at least the appearance of aging.

In modern times, occasionally someone has claimed to be the immortal Saint-Germain, but such a claim has never been confirmed. This was the case, for example, when Frenchman Richard Chanfray came forward in 1972 to say that he was the count and could turn base metals into gold. He went on French television to demonstrate this, and apparently he succeeded. However, skeptics say that Chanfray's alchemy was a clever illusion, and that the man's claim to be Saint-Germain was laughable.

SEE ALSO: occultism; Theosophical Society, the

Sanderson, Ivan T. **(1911–1973)**

Scottish explorer and biologist Ivan T. Sanderson was one of the founders of the discipline known as cryptozoology, a field he popularized through his many books, articles, and television appearances. He is also known for coming up with the name *globster* for the mysterious blobs of flesh that sometimes wash up on beaches (and which some people believe are the remains of sea monsters).

Sanderson's first books, such as *Animal Tales* (1946), *Living Mammals of the World* (1955), and *Monkey Kingdom* (1957), described the fairly conventional animals he saw during his explorations. In the 1940s, however, he started writing articles about mysterious beasts, including sea monsters and lake monsters, and in the 1950s and 1960s he regularly appeared on television to discuss such creatures as well. During this period he began to take a particular interest in the abominable snowman,

Sasquatch, and similar legendary humanoids, and in 1961 he wrote *Abominable Snowman: Legend Come to Life*, one of the most important books on the subject. Four years later he founded the Society for the Investigation of the Unexplained to support the search for mysterious creatures. He also continued to search for such creatures himself. After Sanderson died in 1973, others stepped forward to take up his work.

SEE ALSO: abominable snowman; globsters; Sasquatch

Sasquatch

The name *Sasquatch* is used in Canada to describe the creature known as bigfoot in the United States. Hundreds of people claim to have seen these hairy man-beasts in the forests of northern California, Oregon, Washington, and Idaho as well as in British Columbia and Alberta, Canada, though their existence has never been proved.

SEE ALSO: bigfoot

scrying

Scrying is a method of divination whereby the practitioner stares into a reflective object or container of liquid, both of which are called a speculum, until a vision appears. The most common speculums in modern times are black bowls filled with water; glass or crystal balls in colors such as dark blue, dark green, or deep lavender; mirrors whose backs have been painted black; and polished stones or gems. The visions a practitioner perceives are usually said to appear within the speculum's reflective surface, or within a mist that forms there, but sometimes the vision forms directly within the practitioner's mind.

These visions are typically employed to help the practitioner find the location of a lost object, give advice on difficult decisions, or foretell the future. The vision might be a realistic representation of the desired information, or it might be a symbolic one. For example, a woman scrying to find a lost key that accidentally fell beside a pine tree might see the exact location of the key, or she might instead see something that symbolizes its location, such as a triangle. People who believe in scrying warn that it takes time to develop the mental ability to see anything at all within a speculum, suggesting that unless a person is particularly gifted, the skill will not develop quickly if at all.

SEE ALSO: divination

séances

Séances are meetings that center around the work of a medium (a spirit communicator) as he or she attempts to contact spirits of the dead. The word is French for "sittings," and its use developed from the fact that two of the most famous and earliest mediums, the Fox sisters of the mid-nineteen century, called their private spirit-contacting sessions "sittings." Most séances have six to eight participants, who sit around a circular table holding hands. The room generally features extremely subdued lighting because spirits are said to avoid bright lights. During these sessions, the medium might contact several spirits, or only one, known as the control, who relays messages from others in the spirit world. In modern séances, the only sign that a spirit is participating in a séance might be the fact that the medium has begun speaking in an altered voice while apparently in a trance.

In earlier séances, the spirit's presence apparently often produced unusual effects, such as the levitation of the table, the sudden appearance of objects (also called apports), or the sound of a bell, musical instrument, or knocking coming from an unidentifiable source. During the nineteenth century several mediums were caught faking such effects, though others were never proved to be fakes despite careful, ongoing scrutiny. Nonetheless, skeptics say that darkness was established as the norm for séance rooms in order to conceal mediums' trickery. Some modern séances also center around the use of a Ouija board (a tool for relaying spirit messages) and/or automatic writing. In both cases the medium's hand seems to be under the control of an unseen power, but again, skeptics consider this to be trickery.

SEE ALSO: Fox sisters, the; mediums, physical and mental; Ouija board

Sedona, Arizona

Sedona, Arizona, is said to be the location of vortices that emanate a force called Earth energy. These vortices are said to energize the people who visit Sedona and/or to give them feelings of peace and happiness. The energy is also credited with increasing creativity and stimulating the unconscious so that sometimes people claim to have visions while near an energy vortex. Residents of Sedona say that one can find a vortex site by looking for Juniper trees that are unnaturally twisted. Many of these sites, including Bell Rock and Cathedral Rock, also have unusual rock formations. They were first identified as energy centers by trance medium Page

Bryant, who was also apparently the first person to use the word *vortex* in reference to them.

People who believe in Sedona's energy vortices have come up with various theories to explain them. For example, Raymond Mardyks, in his book *Star Temples in the Stones*, suggests that Sedona's rock formations have power because they are aligned with certain stars and constellations. He believes that other sites on Earth are similarly aligned, and that such sites can expand a person's level of consciousness. Others have suggested that the energy comes from the large amounts of iron and quartz in the area because these ores have been known, respectively, to store or act as conduits for certain types of energy. Still another theory is that Sedona's power is connected to the fact that it has long been a sacred site for Native Americans. In fact, according to local history, even before the first European settlers arrived in the region, members of various Indian tribes were visiting the Sedona area to meditate and perform rituals in what is now called Boynton Canyon.

SEE ALSO: Earth energy; vortices, energy

serpents, sea and sky

For centuries people have told stories about giant serpents that live in the sea or fly across the sky, the latter of which they typically call dragons. The first written stories of dragons appeared in medieval times. Some of these are clearly fictional tales, but others sound like they were intended to be true reports of dragon sightings. In one such account, from April 1388, several people supposedly saw a great serpent flying across the skies of England. Similar reports were made in England in December 1762, in Nebraska from 1857 through 1858, and in Texas and Kansas in

1873. These creatures supposedly looked like snakes rather than like the fire-breathing dragons of myth.

Early Accounts Sea serpents have also appeared in myths and legends since ancient times, but they are mentioned just as frequently, if not more, in natural histories and supposedly factual accounts of sailors' encounters with these creatures. Among the first such accounts was a 1555 report, in the zoological writings of cleric Olaus Magnus of Sweden, of Norwegian sailors seeing a sea serpent that was approximately 200 feet (61m) long and 20 feet (6.1m) around the belly at the widest point. This creature was said to live in caves near the sea and to venture out to attack both humans and animals venturing nearby. A similar account, from 1734, involved a 100-foot-long (30.5m) sea serpent sighted off the coast of Greenland. Zoologist Bishop Erik Pontopiddan, in his *Natural History of Norway* (1752–1753), subsequently wrote that there were also many large serpents in the North Sea.

Sea serpents have also been reported in the waters off the eastern United States, beginning with the first sailors who traveled to America from England. During the Revolutionary War, sailors from the American gunship *Protector* claimed that they shot at a sea serpent in 1779, and the following year Captain George Little of the frigate *Boston* claimed to have sighted a similar creature off the coast of Maine. From 1817 to 1819, a rash of sea serpent sightings were reported in the waters off of Boston, Massachusetts. Though many of the people reporting these sightings were respected citizens, they became the butt of jokes when a scientific society declared that all stories of giant serpents were actually exaggerated tales about an ordi-

nary variety of water snake. In 1892, in a book called *The Great Sea Serpent*, Antoon Cornelis Oudemans declared that these creatures were actually giant seals.

Witnesses, however, continued to insist that they had seen giant snakes, and such sightings continued to be reported. In the 1930s several people said they had seen a sea serpent off the Pacific coast of North America in various locations from Alaska down to Oregon, with most of the sightings occurring in Caddboro Bay of Vancouver Island. A reporter in Victoria, British Columbia, Archie Willis, named this creature the Caddborosaurus, but it is more commonly known as Caddy. Various descriptions as being anywhere from 15 to 45 or even 80 feet (4.6 to 13.7 or 24.4m) long, with a snakelike body, a head like a horse or camel, and humps that rise above the water when it swims, this creature is still occasionally reported today. Moreover, the credibility of some of the witnesses has led many cryptozoologists to believe that it is a real, yet-to-be-classified creature. Some have also noted that its description is similar to that of certain lake monsters, most notably Ogopogo of Lake Okanagan, British Columbia.

Classification How Caddy and similar creatures should be classified is a matter of debate. Some cryptozoologists, including Bernard Heuvelmans, have suggested that sea serpents are not actually serpents. In his 1968 book *In the Wake of the Sea-Serpents* Heuvelmans identifies nine different types of “sea serpents,” including prehistoric crocodiles, eels, and what he calls “super-otters,” based on his analysis of 358 reports of sea serpent sightings that he believed could not have involved a known animal.

Today most cryptozoologists believe that a sea serpent is some type of prehis-

toric whale, though some suggest it might instead be a squid given the way its movements in the water have been described. Also supporting the idea that a sea serpent is not a giant snake is a videotape of an unknown creature, supposedly a sea serpent nicknamed “Chessie,” seen moving across the waters of Chesapeake Bay on May 31, 1982. The head of this creature was shaped like a rounded football, and its back appeared to have humps; neither the head nor the body, which was about 35 feet (10.7m) long, appeared at all snake-like, nor did the creature resemble any known sea mammal.

SEE ALSO: Heuvelmans, Bernard; lake monsters; Ogopogo

SETI Institute, the

Headquartered in Mountain View, California, the SETI Institute supports a variety of scientific research projects related to searching the skies for transmissions and other signs of intelligent extraterrestrial life using sophisticated equipment. This includes a project known as the Search for Extraterrestrial Intelligence, which employs radio telescopes to try to pick up radio waves from space. The group sponsors education programs on UFOs and other subjects related to life in the universe as well as maintains an Internet site at www.seti.org.

SEE ALSO: Drake equation; UFOs

shamans

In certain cultures, particularly in the Arctic as well as in Siberia, central and Southeast Asia, and parts of North America, shamans are people believed to be able to communicate with the spirit world. The

word *shaman* comes from a word in the Tunguso-Manchurian dialect of central Asia, *saman*, which means “he who knows.” Shamans conduct a variety of rituals, often while in a trancelike state that might involve an out-of-body experience, and are typically charged with the task of conducting the souls of the dead to the spirit world. Shamans also use rituals, along with herbal medicines, to heal the sick, and they are therefore sometimes called medicine men. In conducting a cure, shamans supposedly must sometimes wrestle with evil spirits who have imprisoned the sick person’s soul, either after stealing that soul from the person’s body or after seeing the soul wander away on its own volition.

In most cultures in which they play a part, the position of shaman is either hereditary or designated by the spirits themselves. In Native American cultures, this designation typically comes as part of a vision quest. During this quest, a person wanting to become a shaman seeks out supernatural powers as part of a ritual intended to elicit a vision from the spirit world. The designated shaman might then go through an initiation ritual during which he visits the spirit world, after which he is put into training with an experienced shaman.

Shamanistic powers have also been sought by members of the New Age movement, which began in the United States in the 1970s. New Agers sometimes go on vision quests in an attempt to contact the spirit world in the exact manner of a prospective shaman, though afterward they might not adopt the ritualistic practices of a shaman. Their purpose is usually to gain spiritual enlightenment and perhaps also to gain the healing abilities of a shaman.

SEE ALSO: New Age; visions

Sheldrake, Rupert (1942–)

British biologist Rupert Sheldrake has written about conventional science as well as about telepathy and other topics of unconventional science; his works include *Dogs That Know When Their Owners Are Coming Home* (1999), which concerns extrasensory perception in animals. He is also known for theorizing that as a phenomenon continues to occur, it becomes more likely to occur. In other words, Sheldrake believes that the number of occurrences of any particular phenomenon increases over time. This theory has been used to explain evolution and the laws of nature as well as the fact that reports of UFO sightings, crop circles, and certain other paranormal phenomena have increased over time.

SEE ALSO: animal ESP; crop circles; telepathy; UFOs

Shroud of Turin

The Shroud of Turin is a piece of linen said to be the cloth that wrapped Jesus Christ’s body, as was the custom of the time, after he was crucified. The remarkable feature of this cloth is that a human image appears to have been transferred onto the shroud through some inexplicable process. However, scholars disagree on whether the cloth is genuine, with some saying it was fabricated during the Middle Ages, when many fake religious relics were made. Indeed, a radiocarbon-dating study conducted in 1998 to determine the age of the cloth suggested that the linen was woven sometime between 1260 and 1390. However, experts on medieval painting have said that the image on the cloth could not have been made during this time, and

other scholars have asserted that the radiocarbon-dating study was flawed.

SEE ALSO: faces appearing in objects

shunka warak'in

According to people who claim to have seen it, the *shunka warak'in*, or “carrying-off dogs” in the language of the Ioway Indians of the midwestern United States, is a black, dark gray, or dark brown beast similar in appearance to a wolf or hyena. In the past, sightings have been reported in Montana, Idaho, Iowa, Illinois, Nebraska, and Alberta, Canada, but in recent years, the only reported sightings of the *shunka warak'in* have been in the area of Yellowstone National Park. Many cryptozoologists think that this creature is the same animal as the *ringdocus*, a taxidermied specimen of which was mounted, displayed, and named by the owner of a small museum at Henry Lake, Idaho. This specimen was lost years ago, but cryptozoologists have studied a photograph of it, and some believe it is a primitive dog known

as the *Borophagus*, thought to have become extinct during the Pleistocene era.

SEE ALSO: beasts, mysterious

Sidgwick, Henry (1838–1900)

English philosopher Henry Sidgwick was the first president of the Society for Psychological Research (SPR), established in 1882. At that time he was a professor at Trinity College, Cambridge, where he taught moral philosophy from 1869 to 1900 and came into contact with other Cambridge scholars who shared his interest in psychic phenomena. Sidgwick founded the SPR with these men and others and led the group's early investigations of people claiming to be spiritual mediums. Sidgwick was also a member of the Metaphysical Society. His writings, however, focused on his views regarding religion, philosophy, and ethics. His works include *The Methods of Ethics* (1874), *Principles of Political Economy* (1883), and *Philosophy: Its Scope and Relations* (1902).

SEE ALSO: Society for Psychical Research

Sinclair, Mary Craig (1883–1961)

In the 1930s the psychic powers of novelist Mary Craig Sinclair came to the attention of the American public through the efforts of her husband, best-selling author and social activist Upton Sinclair. Though known as a skeptic, he became convinced that Mary had telepathic abilities, and he designed a series of tests, using controlled conditions, to prove it. The most common type of test required him and his wife to be alone in separate rooms, some distance apart. Upton would draw random pictures, and Mary would attempt to duplicate each drawing by connecting with Upton's mind. Over the course of three years, Mary had produced 290 drawings in this manner. Of these, 65 were very accurate; 155 were partially accurate, in that some parts of Mary's drawings duplicated elements of Upton's; and 70 were in no way accurate. Since this result is far better than chance would allow, Upton felt that this experiment was proof that Mary was telepathic. As additional confirmation, on one occasion he arranged for Mary to try to receive an image from her brother-in-law over a distance of 40 miles (64.4km). The man drew a fork, and Mary wrote down, "Saw a table fork." In 1930 Upton published a book about his experiments and his wife's talents, *Mental Radio*, which convinced many people that telepathy was a real phenomenon.

SEE ALSO: telepathy

Sitchin, Zecharia (1920s–)

Zecharia Sitchin is one of the leading proponents of the ancient astronaut theory,

an idea originally popularized by Erich von Däniken. This theory suggests that ancient cultures on Earth were influenced by extraterrestrial visitors. Sitchin argues that the ancient Sumerians were visited by extraterrestrials called the Anunnaki, since this is the name of deities mentioned in ancient Sumerian myths. In his book *The 12th Planet* (1978), Sitchin says that these extraterrestrials lived on a twelfth planet, Nibiru, that once existed in Earth's solar system but was destroyed by a nuclear disaster; when this event occurred, colonists from Nibiru were stranded on Earth. Sitchin has asserted that there were two classes of Nibiru colonists. One class was the Anunnaki, and the other was the Nephilim (a people mentioned in the Bible but not identified as having extraordinary powers or being from another world). Sitchin says these two groups warred with one another before learning to work together to add their own DNA to human DNA, thereby transforming a primitive form of humans, *Homo erectus*, into the current species, *Homo sapiens*. Sitchin's other books include *The Stairway to Heaven* (1980), *The Wars of Gods and Men* (1985), *The Lost Realms* (1990), *Genesis Revisited: Is Modern Science Catching Up with Ancient Knowledge?* (1991), *The Cosmic Code* (1998), and *The Lost Book of Enki: Memoirs and Prophecies of an Extraterrestrial God* (2002). He maintains an Internet site about his books and activities at www.sitchin.com.

SEE ALSO: ancient astronauts; Däniken, Erich von

Skeptical Inquirer

The *Skeptical Inquirer* is perhaps the best-known skeptics' magazine published today. Subtitled *The Magazine for Science and Reason*, it is published bimonthly by a

leading skeptics' organization, the Committee for the Scientific Investigation of Claims of the Paranormal, and contains articles that attempt to discredit various claims related to the paranormal. An index of article topics can be accessed through the magazine's Internet site at www.csicop.org/si/.

SEE ALSO: Committee for the Scientific Investigation of Claims of the Paranormal

skeptics

Skeptics are people who believe that all claims of knowledge or certainty can and should be challenged. In regard to the paranormal, modern skeptics generally take a "science over faith" position, suggesting that unless something has been proved by science it cannot be true. In fact, many such skeptics do not even accept the possibility that paranormal phenomena might be real, dismissing any scientific evidence to the contrary as flawed. Such was the case, for example, when noted skeptic Ray Hyman dismissed data gathered over several years in government-sponsored scientific experiments on remote viewing. Despite the argument of an expert statistician that the data showed statistically significant results, Hyman was so forceful in arguing the skeptic's position that he persuaded the U.S. government to stop funding these experiments.

Some skeptics are so zealous in their rejection of claims related to the paranormal that they launch personal attacks against believers. For example, Lee Nisbet, while the executive director of a skeptics' organization called the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), accused all people who believe in the paranormal of being mentally ill. Such attacks are distasteful not only to believers but to many skeptics

as well, who have criticized those who dismiss all paranormal claims so summarily. These voices of moderation have argued that doubt, not denial, should be the basis of skepticism, and that rather than engaging in activities intended to end scientific research into the paranormal, skeptics—as rational, scientifically minded people—should encourage it.

Attacks by skeptics on those who believe in the paranormal, however, are nothing new. They have taken place since at least the fifth century B.C. in the Western world, and even earlier elsewhere. Indeed, skeptics have attacked accepted assumptions related to all aspects of human thought. Sometimes skepticism has even taken a decidedly nonscientific stance. For example, when the concept of evolution was first introduced, many skeptics challenged the notion that science could provide humans with more information than religious faith could. However, early skeptics did not have as many venues for expressing themselves as they do today, where many have prominent roles in the media. In addition, skeptics share their views through the work of skeptics' organizations, which include not only CSICOP but the Skeptics Society and the James Randi Educational Foundation, established by prominent skeptic James Randi. There are also several magazines devoted to skepticism, including CSICOP's *Skeptical Inquirer*.

SEE ALSO: Committee for the Scientific Investigation of Claims of the Paranormal; debunkers; Hyman, Ray; Randi, James; remote viewing; *Skeptical Inquirer*

Skeptics Society, the

Headquartered in Altadena, California, the Skeptics Society investigates paranormal phenomena and publishes the quarterly

magazine *Skeptic*. Its board members include the noted media skeptic James Randi, who has actively worked to disprove a variety of claims related to the paranormal. The group's literature quotes the philosophy of seventeenth-century Dutch philosopher Baruch Spinoza: "I have made a ceaseless effort not to ridicule, not to bewail, not to scorn human actions, but to understand them." Despite the Skeptics Society's claims, however, believers in paranormal phenomena have accused the group of ridiculing their views.

SEE ALSO: Randi, James; skeptics

skunk ape

According to people who claim to have seen them, skunk apes are apelike creatures that smell incredibly bad. From eyewitness descriptions, there appear to be two types of skunk apes: One walks on all fours and looks much like a chimpanzee, while the other walks upright like a human and looks like a gorilla, or even somewhat human. The man-ape is roughly 7 to 10 feet (2.1 to 3.m) tall, weighs about 300 pounds (600kgs), and is covered in red, black, or dark brown hair. Both types of skunk ape have been reportedly seen primarily in the Florida Everglades. In 1997 Vince Doerr, the fire chief of Ochopee, Florida, spotted one of the upright skunk apes in a swamp near his home and snapped a photograph of it before it ran off. Later he decided that what he had seen was actually a person in a gorilla costume, pulling a prank on him, but others think that the photograph shows a genuine skunk ape.

SEE ALSO: man-beasts

sleep paralysis

Skeptics often cite sleep paralysis as the cause of out-of-body experiences and alien

abduction experiences. Sleep paralysis, in which the body becomes paralyzed at certain points in the sleep cycle, is a normal part of sleep. Some people, however, suffer from a disorder related to sleep paralysis that causes them to remain paralyzed for one or two minutes after fully awakening (though the person might experience this period of time as seeming much longer). In other words, the person is awake but unable to move. Moreover, people suffering from this disorder often experience certain types of hallucinations during their awake-but-paralyzed state. The most common of these hallucinations are related to the sense that someone is in the room; for example, the person might sense that someone is approaching, hear footsteps or muffled voices, or see shadows, figures, or even clearly see what appear to be people nearby. Less commonly, sleep-paralyzed people might feel someone grabbing them or moving them about, feel as though they are falling, or feel as though they are floating out of their bodies. Scientists do not yet know why sleep paralysis occurs.

SEE ALSO: alien abduction experiences; out-of-body experiences

Soal, S. George (1890?–1975)

From the 1930s until his death in 1975, S. George Soal was one of the leading psychic researchers in England. Originally a mathematician, he first became interested in the paranormal in 1919, when he began visiting mediums in an attempt to contact his brother, who had been killed in battle the year before. He eventually became an expert on the work of parapsychologist J.B. Rhine and started conducting experiments with extrasensory perception (ESP) similar to Rhine's, investigating both telepathy and precognition. In 1950 he gave

a speech to the Society for Psychical Research in which he argued it was time to stop attempting to prove, through research project after research project, that telepathy was a real phenomenon; instead, he suggested, psychical investigators should put their efforts into determining how ESP worked. In the 1960s and 1970s, Soal endured a flurry of criticism by those who did not believe in precognition and/or accused him of using flawed methodology in his ESP tests, though he also had many supporters.

SEE ALSO: extrasensory perception; precognition; Rhine, J.B.; telepathy

Society for Psychical Research

Founded in 1882 by a group of prominent British scholars that included philosophy professor Henry Sidgwick and physicist Sir William Barrett, the Society for Psychical Research (SPR) was the first organization devoted to the scientific investigation of paranormal phenomena. (An American version of the group was formed in 1884.) All of its original members, including Sir William Crookes, Sir Oliver Lodge, Frederic W.H. Myers, and Edmund Gurney, had such impeccable reputations that their participation in the SPR immediately gave its work great credibility. Moreover, whereas prior investigations into the paranormal had been conducted by hobbyists under highly unscientific conditions, SPR's research—which initially focused on investigating physical and mental mediums and others professing to have psychic powers as well as on ghosts and apparitions—was conducted using rigid methodology, and the group established a scholarly journal to share its procedures with the scientific community so that experiments could be repeated and results verified. This approach permanently influenced all subse-

quent psychical research.

Nonetheless, several frauds were perpetrated against the SPR in its early years. For example, in the mid-1800s some SPR investigators were fooled by the Fox sisters, who claimed they could communicate with one another telepathically, and declared their talents genuine. In 1888, however, one member of the SPR rectified this mistake by determining that the sisters were communicating by subtle signals, in code, rather than by telepathy. When the SPR publicized this fact, many people criticized the organization for not blindfolding the sisters when they were first tested so as to prevent such cheating.

But even had such a precaution been taken, another early fraud perpetrated against the SPR demonstrates that cheating is possible if those perpetrating the deception try hard enough. In 1882 journalist Douglas Blackburn and hypnotist George Albert Smith claimed to have a telepathic connection with one another. To prove their claim in front of SPR investigators, a seated Smith was blindfolded and his ears were plugged. He was then covered with two thick blankets so that he sat in complete darkness. His chair rested on a rug heavy enough to muffle floor vibrations. Across the room, Blackburn was given an unfamiliar, nonsensical sketch to study, which Smith would then draw while under his blankets, and based on these “telepathic” messages, Smith's representations were quite accurate. Consequently, the SPR pronounced the men's psychic connection authentic. Some twenty years later, however, Blackburn confessed that he had used sleight of hand to cheat (though Smith denied this). During the procedure, SPR investigators had allowed Blackburn to draw the sketch several times by way of studying it, and according to Blackburn,

he would slip one of these drawings inside a tube encasing his pencil, then wait for Smith to “accidentally” drop his own pencil. Blackburn would then pick up Smith’s pencil and, before handing it to his friend, would substitute it with the tube holding the sketch. Smith subsequently copied Blackburn’s sketch in his own hand, using a hidden illuminated slate that allowed him to see while under the blanket and peeking out from under his blindfold.

Because of this confession and several proven deceptions against the SPR, for many years the public distrusted the reports produced by the organization, despite the fact that the majority of its testing results seemed legitimate. Therefore, the SPR began to take greater precautions while conducting its investigations and insisted on repeating its tests several times with different examiners. As a result, the SPR now approaches its subjects much more methodically and skeptically than it did in its early years, and its results and conclusions are once again highly regarded by many in the scientific community. The group currently conducts field studies on a wide variety of paranormal phenomena, including ESP, near-death experiences, out-of-body experiences, and psychic healings. In addition, it maintains a library in London, England, that has one of the oldest and most comprehensive collections of literature on paranormal phenomena, and it hosts an Internet site at www.spr.ac.uk/.

SEE ALSO: Barrett, Sir William; Crookes, Sir William; Gurney, Edward; Lodge, Sir Oliver; Myers, Frederic W.H.; Sidgwick, Henry

Society for Scientific Exploration

Founded in 1982 by fourteen scientists and scholars, the Society for Scientific Exploration is dedicated to studying areas of sci-

ence that have not received much serious study in the past. Its subjects of focus include whether extraterrestrial life is possible, whether extraterrestrial life has ever visited Earth, whether dowsing (the ability to locate water and other substances through paranormal skills) is a real ability, whether the human mind can survive apart from the body, and whether Earth offers other sources of energy besides those already known. The group currently has approximately eight hundred members and associate members from forty-five countries, and it holds meetings both in the United States and in Europe, in addition to publishing a quarterly journal, the *Journal of Scientific Exploration*, and maintaining an Internet site at www.scientificexploration.org.

SEE ALSO: dowsing; earth energy; UFOs

Society for the Investigation of the Unexplained

Established in 1965 by cryptozoologist Ivan T. Sanderson, the Society for the Investigation of the Unexplained (SITU) is dedicated to compiling and studying reports and other material related to unexplained events, sightings, and experiences, particularly those ignored by conventional scientists. The organization also regularly publishes a magazine, *Pursuit*.

SEE ALSO: Sanderson, Ivan T.

spirit communicators

People who claim to communicate with spirits of the dead are sometimes called spirit communicators. They are more commonly known as mediums, however, or, as preferred by psychic James Van Praagh, survival evidence mediums.

SEE ALSO: mediums, physical and mental; Van Praagh, James



The “spirit” images of two women and a child appear on either side of a young girl in this 1905 photograph. LIBRARY OF CONGRESS

spirit obsession and possession

Spirit obsession is a psychic phenomenon whereby a spirit supposedly enters a person’s mind and gradually alters that person’s personality. Once the personality has been completely taken over by the spirit, the person is said to be possessed by the spirit. A classic example of spirit obsession is the 1905 case of silversmith Frederick Thompson. After the death of Thompson’s friend R. Swain Gifford, an artist, Thompson suddenly found himself abandoning his regular work to take up painting, and the images he produced were nearly identical to, though less artistically accomplished than, Gifford’s paintings. For instance, he sketched a landscape of the same stand of trees, from the same van-

tage point, as Gifford had represented in an oil painting shortly before his death.

SEE ALSO: demonic possession

spirit photography

Spirit photography was a commercially successful occupation from the 1860s to the 1890s. A person wanting a spirit photograph would go to a photography studio operated by a medium claiming to specialize in getting spirits to sit before the camera. The person would then have his or her picture taken, and upon development of the glass plate (the era’s equivalent of today’s flexible film), there would often be an image of a deceased loved one beside the image of the living subject. The first spirit photograph was apparently made in

Boston in 1862, when a professional photographer named Mumler displayed a self-portrait that had a ghostly image in the background. This image resembled Mumler's cousin, who had died twelve years earlier, and Mumler claimed that he knew how to take pictures of other people's dead relatives as well. He set up a thriving business in spirit photography but had to leave Boston when some of his background "spirit" images were recognized as Mumler's employees in various costumes. Mumler later resurfaced in New York, where he was eventually accused of fraud and put on trial. His case was dismissed when several of his former clients stepped forward to defend his work as legitimate. The witnesses remained certain that they had seen spirits of their loved ones.

Nonetheless, Mumler lived in a time when photographers were well aware of a technique called the double exposure, whereby the photographer takes one picture on top of another using the same photographic plate. Mumler could easily have taken a picture of a "spirit" prior to his client's sitting, then photographed his client on the same plate. Other so-called spirit photographers from the period used a similar method to put the figure of a famous deceased person in their pictures. They would cut out the face of Abraham Lincoln, or some other historical figure, for example, place it on a background, and photograph it as part of a double exposure.

Another way to create a false spirit photograph was to use a dummy. One spirit photographer named Bugar, who worked in both Paris and London during the 1870s, employed a dummy whose head could be replaced. With a variety of heads to choose from, he was able to closely approximate the appearance of the deceased,

based on details his clients unwittingly revealed about their loved ones. But just as with Mumler, when Bugar was arrested for fraud and put on trial in 1875, his clients refused to believe they had been tricked—even though Bugar confessed to the crime. They thought his confession had been coerced, and even when shown the dummy, they still denied that it could possibly have been used to make the images in the spirit photographs they had purchased. In the 1890s, however, with the advent of movies and the obvious special effects that cinematographers employed, people finally began to realize that what they saw in photographs did not necessarily reflect the truth.

SEE ALSO: photographic evidence of paranormal phenomena

spiritualism

The word *spiritualism* is used to refer to the belief that people can communicate with spirits of the dead; when capitalized, the term refers to religions or movements that are based on this view. During the mid-nineteenth century in the United States, Spiritualism became a widespread social movement, thanks largely to the widely publicized activities of two girls, the Fox sisters, who demonstrated in front of audiences their apparent ability to communicate with spirits. (Many years later the sisters confessed to being frauds, although they subsequently retracted their confessions.) Eventually the Spiritualism movement spread to England as well.

But even as it spread, Spiritualism had many critics, particularly after some people professing to be spirit communicators, or mediums, were proved to be frauds. Consequently, participants in the movement, known as Spiritualists, decided to band together, forming their own churches and

private communities where they could share their beliefs and practice mediumship without fear of criticism or ridicule. The most notable Spiritualist community is Lily Dale, created near Buffalo, New York, in 1879. Only Spiritualists can buy a home there, but every summer the community conducts workshops on spirit communication that visitors can attend.

The fact that this community still exists today, even though interest in spiritualism declined during the first half of the twentieth century, can be attributed to the New Age movement, which began in the United States in the 1970s. Many New Age adherents believe that individual human consciousness can survive apart from the physical body, even after death. Consequently, Spiritualists can be found in many New Age communities as well as in Spiritualist communities.

SEE ALSO: Fox sisters, the; Lily Dale; mediums, physical and mental; New Age

spontaneous human combustion

Spontaneous human combustion (SHC) is a phenomenon in which a human being supposedly bursts into flames with no warning and for no apparent reason. Most victims of SHC are older adults, while women slightly outnumber men, and far more victims are overweight than not. Cases of SHC share other characteristics as well. Often the fire is localized to the victim, so that furniture or other objects in the vicinity are not burned. In addition, the body is typically damaged more severely than is normally seen in cases in which people die from ordinary fires. In fact, in some cases the body is burned beyond recognition, suggesting a fire of extreme intensity.

Most of the time SHC occurs when the victim is alone, making it difficult to con-

firm that the fire was truly spontaneous. Nonetheless, there are some stories of SHC occurring in front of dozens of witnesses who claim there was no apparent source of ignition, such as a lighted candle or cigarette, nearby when the blaze began. According to these witnesses, SHC fires look and act differently from ordinary fires they have seen. Some have said that SHC victims burn with blue flames and that water seems to fuel rather than extinguish them. The latter quality has led some people to suggest that SHC fires are chemical in nature because certain chemical fires are worsened with the application of water. Because of the fire's unusual qualities, believers say that SHC must be caused by some unknown physical process, perhaps related to body chemistry, that produces enough heat within some people to ignite and burn them with great intensity.

Proposed Explanations As to why some people would spontaneously combust and not others, believers say that the answer lies in the fact that most victims are in a highly emotional state in the moments before bursting into flames, and many had been depressed or even suicidal for days before. This suggests, believers theorize, that a victim's emotional state creates energy that then causes the cells in his or her body to spark and ignite the body's fat. One such believer, Pennsylvania school bus driver Larry Arnold, has theorized that some people have a heightened sensitivity, at the cellular level, to sparks produced by emotional energy, and this makes them more susceptible to SHC. In support of this idea, believers have cited cases of spontaneous fires associated with poltergeist activity, a phenomenon that is also connected to people in highly emotional states. Alternatively, some believers say that the energy creating SHC might be pro-

duced not by emotional upset but by some kind of psychokinesis, whereby the mind creates the phenomenon either unintentionally or intentionally by visualizing the fire before it occurs.

Skeptics, however, say that all supposed cases of SHC have an ordinary explanation. Most of the time, they say, the cause is careless cigarette smoking, combined with combustible clothing and furniture. As an example, they cite a case reported in Arnold's 1995 book, *Ablaze!*, involving an ailing, infirm ninety-year-old Pennsylvania physician, John Irving Bentley, found burned to death in his bathroom in 1966. While Arnold and other believers argue that this is a clear-cut case of SHC, skeptics note that Bentley was a heavy smoker known for dropping ashes on his robe, carried boxes of wooden matches in his robe pockets, tried to extinguish the flames with water before burning to death alone in his bathroom, and died in a spot where an updraft coming from the basement would have fueled the fire.

Scientific Studies Scientists who have studied SHC, however, say that even with a lit cigarette and an updraft, it would be very difficult to generate enough heat to produce a result similar to those attributed to SHC. In fact, in order to incinerate bodies to ash, crematoriums use a temperature of at least 2,372 degrees Fahrenheit (1,300°C). But studies have shown that under certain conditions, a body's fat tissue and digestive system gases can cause it to burn so hot that even the bones will be affected. For example, several studies attempting to duplicate the results of supposed cases of SHC (using the bodies of pigs, which have a similar fat content to humans) found that to reduce the bones to ashes, the bodies needed an additional fuel source, such as a little gasoline, in addition to burning

fabric. As a result, some skeptics have suggested that victims might have been drinking alcohol before their deaths, and they might have spilled it on their skin, thereby supplying an additional fuel source for the fire.

The pig tests also indicated that bodies needed to be kept burning for five hours in order for the bones to be completely destroyed. Consequently, skeptics have suggested that such a long burning time, possibly with little fuel, might have been achieved in apparent cases of SHC because of something known as the wick effect. Because of this effect, liquefied fat will continue to burn even at low temperatures if a cloth wick has been placed in the fat, producing a combination of smoldering

and flaming that is eventually capable of turning bones to ash. In many deaths attributed to SHC, the victims died alone in places where such a wick existed. For example, in one 1854 case in England, a woman who burned to death over a span of approximately two hours was lying on a hemp mat that would have acted as a wick. It cannot be proved, however, that the wick effect caused her demise, just as it cannot be proved that she did not spontaneously combust.

SEE ALSO: Arnold, Larry; poltergeists; psychokinesis

Springheel Jack

Also called Spring Heeled Jack or Springald, Springheel Jack was the nickname for a mysterious sexual predator who terrorized London, England, from 1837 through 1838 and was seen again from 1843 through 1845, and in the 1860s, the 1870s, and in 1904 in other parts of England. His name came from the suggestion, by some who had seen him, that he must have had springs in his shoes because he escaped by making tremendous leaps that carried him great distances. Interestingly, a similar figure was later seen in parts of the United States, where it was sometimes connected to the sightings of UFOs.

In the original sightings, some of the victims insisted that he had not looked like an ordinary human being. Instead, they said, he had fiery red eyes, clawed fingers, and the ability to make blue and white flames come out of his mouth. Tall and thin, he wore a cloak (which, according to one witness, had an embroidered *W* on the back), and some said a helmet and a strange, tight undergarment seemingly made of white oilskin as well. In January 1838 a vigilante committee was established to catch the attacker, whom public officials

believed was a real person despite the odd descriptions, but he continued to elude police and more attacks occurred.

The last Springheel Jack assault on a woman appears to have taken place in February 1838. The victim, eighteen-year-old Jane Alsop, said that a cloaked figure had lured her outside of her home pretending to be a policeman, and only after he began tearing her dress did she realize, from his red eyes, claws, and strange clothing, that he was Springheel Jack. A week later a similar figure called at another home, but he ran away after the servant boy answering the door started screaming. Residents of a British slum claimed that Springheel Jack was also responsible for the murder of a thirteen-year-old prostitute in 1845, but authorities did not believe their stories of the fire-breathing man who threw her off a bridge.

Continuing Reports Even after his assaults stopped, however, Springheel Jack sightings continued in various parts of England, with most occurring between the 1850s and the 1880s. Some of them appear to be the product of mass hysteria or pranks, but others involve reliable witnesses who insisted they had seen Springheel Jack rather than a costumed imposter. For example, in August 1877 soldiers at the Aldershot Barracks at North Camp, England, claimed to have shot at Springheel Jack—wearing his customary cloak, helmet, and oilskin suit—as he bounded toward them from some distance away, with flames coming out of his mouth. When their bullets failed to strike the frightening being, the soldiers ran away. Later they would report that they heard metallic noises as Springheel Jack came at them.

The last Springheel Jack sighting in England occurred near Liverpool in 1904,

when people saw a man fitting his description on a rooftop. The man leaped to the ground, leaped over the witnesses, and bounded away. After this, no such figure appeared until 1938, when four children in Silver City, New Mexico, told of encountering a strange man who leapt over their heads. That same year, several people in the area of Cape Cod, Massachusetts, spoke of seeing a leaping, fiery-eyed figure who made blue flames come out of his mouth. No one connected these sightings with Springheel Jack until the late 1950s or early 1960s, when British ufologists began to suggest that Springheel Jack might have been an extraterrestrial. Since then, supporters of the theory that Springheel Jack was an alien have combed through UFO reports and discovered that some people have reported seeing high-leaping figures in areas where UFOs were previously or subsequently sighted. An alternate theory is that Springheel Jack is a being from another dimension or a demon summoned into the natural world via an occult ritual.

Skeptics do not dispute that the attacks happened, but they insist that the perpetrator was actually a real person: an Irish nobleman, Henry de La Poer Beresford, also known as the Marquis of Waterford, who was living in London at the time of the Springheel Jack attacks. Often referred to as “the Mad Marquis” during this period, Beresford was well known to be a woman-hater and to enjoy jumping out of the darkness to scare people. Moreover, around the time the attacks suddenly stopped, he got married and moved back to Ireland. However, Beresford could not have been the figure sighted in incidents after 1845, because that year he died after a fall from a horse.

SEE ALSO: occultism; UFOs

Stanford Research Institute

Founded as the Stanford Research Institute in 1946 by corporate sponsors connected with Stanford University in California, SRI International, as it is now known, is a large, private research institution that works on various projects on a contract basis. (Ever since 1977, when its name changed, it has been separate from Stanford University.) Today, most of its studies are unrelated to the paranormal; however, its most famous research projects were related to remote viewing, the psychic ability to view places and objects from great distances away. These projects took place from the early 1970s until 1995 in cooperation with the U.S. government, which wanted to find a way to use remote viewing for espionage purposes. SRI International maintains an Internet site about its current work at www.sri.com.

SEE ALSO: remote viewing

Starchild skull, the

In 1999 an oddly shaped skull was displayed at conferences attended by ufologists as proof that alien-human hybrids—that is, children that are crosses between extraterrestrials and humans—really exist. Dubbed the Starchild skull, it has a huge brain cavity, no front sinus cavities, and large but shallow eye sockets—all features that would be consistent with alien abductees’ descriptions of alien-human hybrids. Moreover, indigenous people living in the place where the skull was discovered, in the mountains of northern Mexico, have legends involving “Star People” who visit Earth and mate with women who then give birth to hybrid babies. Scientists who have examined the Starchild skull, however, say that it is the skull not of a hybrid but of a human being whose skull

was malformed because of one of two causes: either a condition called hydrocephaly, which causes the brain to swell with fluid and distort the skull, or cradle boarding, which was a practice among some indigenous peoples (including the one prevalent where the skull was found). Because cradle boarding involves tightly strapping a baby to a board for long periods of time, the baby's skull often becomes flattened at the back.

SEE ALSO: alien abduction experiences; aliens, descriptions of

stigmata

Defined as marks on a person's hands, feet, head, and torso, stigmata resemble the wounds that Christians say Jesus received during his crucifixion. In addition to the marks that correspond to wounds from nails hammered through Jesus' hands and feet, stigmata include marks on one's side—corresponding to the wound inflicted by a Roman soldier's spear—and marks on the forehead that symbolize the wounds from a crown of thorns placed on Jesus' head.

Cases of stigmata appearing have been known for centuries. One modern example is the case of Heather Woods, a forty-three-year-old British woman. In May 1992 Woods developed blisters on her hands and feet that began oozing blood and a red crescent-shaped mark on her right side. On two occasions, a red mark in the shape of a cross appeared on her forehead.

What remains a matter of some debate is the cause of stigmata. Most physicians view stigmata as a psychological phenomenon, pointing out that there is ample proof that the mind can cause physical changes in the body, not only internally but externally as well. For example, emo-

tional upset can cause blushing, and stress can cause the body to develop rashes and hives. Indeed, suggestions made under hypnosis have been shown to result in stigmata. In one case, a psychologist told a woman under hypnosis that she was wearing a crown of thorns, and within an hour she had spontaneously developed scratches along her brow. Some believers in extra-sensory perception, however, say that the mind is causing these changes through psychokinesis, the ability to psychically affect the physical world. If this theory is correct, the person with stigmata need not be the one creating the phenomenon; instead, someone close to the experient could be causing the wounds.

SEE ALSO: miracles

stone circles

Circles of large upright stones—commonly known as menhirs, which is Celtic for “long stones”—erected in prehistoric times, have been found in various parts of the world. The most famous stone circle is Stonehenge, located in England; other notable stone circles include the Ring of Brodgar, which is located in Scotland and has a diameter of 342 feet (104.2m); Swin-side Circle in northern England, which, according to legend, is frequently visited by the devil; and the Callanish Circle of the Outer Hebrides, which, according to legend, is visited by a good spirit every summer solstice. Archaeologists estimate that most stone circles were erected sometime between 3500 and 1000 B.C. However, scholars do not always know how the stones were erected at a particular site. For example, no one knows how the builders of Stonehenge were able to move the stones, some of which weighed more than 50 tons (45.4 metric tons), to the site since they came from as far away as 130 miles

(208km) and there were no wheeled vehicles in England at the time.

In addition, people disagree on why these sites were created. Many scholars think that their primary purpose was to serve as ancient celestial observatories since many of the stones seem to line up with various celestial bodies at certain times in the year, such as the summer solstice or the autumnal equinox. Others say that even if this is true, the sites' primary purpose was religious; the stones were arranged in accordance with the heavens to honor gods, and ancient worship rituals were held within the circles. Still others have suggested that instead of honoring gods, the stones were meant to honor extraterrestrials who once visited Earth. A few such people have even speculated that extraterrestrial colonists on Earth made the circles, orienting them to the heavens in an effort to point the way to their home planet.

Some people, however, believe that although the stones might be arranged with an eye toward the heavens, they were meant to mark places of significance on Earth. Specifically, such people say that at stone-circle sites, the Earth is "charged" with powerful energy forces, which the ancients used for magical purposes. Indeed, certain individuals have reported experiencing unusual feelings, such as increased energy and/or creativity, while visiting stone-circle sites, and some stone circles have been credited with the ability to improve people's health and increase their fertility. As a further indication of the stone circles' magical nature, some believers say, visitors to such sites occasionally hear mysterious sounds and voices. Indeed, legends related to these sites tell of the stones sometimes whispering to one another or moving on their own.

SEE ALSO: Earth energy; monuments, ancient; Stonehenge

Stonehenge

Located about 80 miles (129km) west of London, England, on the Salisbury Plain near the town of Wiltshire, Stonehenge is an ancient monument that some people believe has magical powers and/or marks a site where the Earth emanates mysterious healing energies. The monument once consisted of two concentric rings of upright stones, with additional stones at the center of and outside of these rings. The stones at the center are lined up to create two horseshoe-shaped groupings, one inside the other; the stones outside the circle are solitary rather than grouped. In addition, the stones in the outer horseshoe and in the outer circle are capped with horizontal stones, so that they appear to form a series of doorways. The outer circle of "doorways" is approximately 100 feet (30m) in diameter and 16 feet (4.9m) tall; archaeologists believe it once contained thirty upright stones and thirty doorway caps, but many of the stones are now broken or missing.

One of the enduring mysteries of Stonehenge is how the enormous stones, which are of either a bluestone known as dolerite or a sandstone known as sarsen, were moved to the site. The bluestone apparently came from a Welsh quarry about 130 miles (209km) away, the sarsen from a site 20 miles (32km) north of Stonehenge. In ancient times, these distances would have been significant since there were then no wheeled vehicles in England and some of the stones weighed more than 50 tons (45.4 metric tons). No one knows how the builders of Stonehenge managed to move stones of such weight.

Another mystery is who these builders actually were. Ancient peoples as far away as the Maya in Central America or the ancient Egyptians, or the Phoenicians, in addition to Druids, Greeks, or Romans, have been considered to have been the architects. Others have suggested that the builders were from the lost civilization of Atlantis or from another planet. During the twelfth century in England, the prevailing belief was that the uncle of King Arthur erected the stones during the fifth century, with the help of magic furnished by the wizard Merlin. This uncle, as well as King Arthur's father, were said to be buried within the stone circle, which was thought to be a monument to dead warriors.

There have been many other theories regarding why Stonehenge was constructed. Today most people believe that it

was used as an ancient temple, and that it might have been an astronomical calendar as well. The first to connect Stonehenge to the celestial sphere was British astronomer Sir J. Norman Lockyer in his 1906 book, *Stonehenge and Other British Stone Monuments Astronomically Considered*. His work was widely rejected, though, until the 1960s, when Boston astronomer Gerald S. Hawkins used a computer to show that the stones were placed in ways that would have allowed the ancients to predict lunar eclipses and other celestial events.

In the 1970s and 1980s, researchers of paranormal phenomena attempted to show that Stonehenge was also a site of unusual geomagnetic forces that have the power to heal. Their work seemed to show that the site had a fluctuating magnetic field, as well as other unusual energies, but

others have criticized their methodology and equipment. Other people have noted energy fields at Stonehenge using a process known as dowsing, which involves seeing whether a stick or piece of wire tingles or twitches when it is pointed at a particular object or plot of ground. Dowzers who have visited Stonehenge say that they have been jolted with Earth energy so powerful that, in some cases, it knocked them unconscious. Skeptics call this claim nonsense.

SEE ALSO: Atlantis; dowsing; Earth energy; stone circles

Strange Magazine

Founded by stage magician Mark Chorvinsky in 1987, *Strange Magazine* has published articles on every aspect of the paranormal, including extrasensory perception and parapsychology, ghosts, UFOs, mysterious beasts like bigfoot and the Loch Ness monsters, the grim reaper, time travel, urban legends, and hoaxes. However, certain topics are more heavily represented than others, particularly physical phenomena (as opposed to psychic phenomena) and hoaxes, which fascinate Chorvinsky because of his background as a magician. In creating the magazine, Chorvinsky was attempting to create an American version of England's *Fortean Times*, a magazine founded by Charles Fort, because he admired its approach to reporting on the paranormal. *Strange Magazine* now publishes its articles online as well as in hard copy, at www.strangemag.com.

SEE ALSO: Fort, Charles; *Fortean Times*

Strieber, Whitley (1945–)

In 1985 novelist Whitley Strieber claimed to have been abducted by aliens in a supposedly nonfiction book titled *Commun-*

ion, which quickly became a best seller and helped spread the notion that aliens were abducting humans. He then devoted himself to ufology, researching the claims of other abductees in collaboration with hypnotist, ufologist, and historian David M. Jacobs. Eventually Strieber decided that the aliens featured in abduction stories might not have come from another planet; instead, he theorizes that they are from some alternate reality or unknown realm on Earth or in the human mind.

SEE ALSO: Jacobs, David M.

superstitions

Superstitions are beliefs and practices that are not based on rational thought. In most cases these beliefs involve causal relationships. For example, a hockey player might believe that his victories hinge on wearing a particular shirt or pair of socks at every game. Other common superstitions involve ways that bad luck can be avoided or brought on. For example, someone who spills salt is told to throw some of it over his or her shoulder to avoid bad luck, while others are told not to walk under a ladder or break a mirror lest these actions bring bad luck. Skeptics not only dismiss such beliefs, but they argue that superstitions are responsible for people's belief in magic, witchcraft, and other paranormal phenomena whereby practitioners think that they can affect the physical world simply by performing certain rituals or saying certain words.

SEE ALSO: magic and spells; witchcraft

Swan, Ingo

Psychic Ingo Swan is sometimes called "the Father of Remote Viewing" because he coined the term for describing the ability to view faraway sites and objects psychi-

cally. Swan claimed to be able to view distant objects by having his spirit leave his body and travel to wherever the object was located. He first learned of the ability to leave his body, he said, at the age of two, when he had an out-of-body experience that enabled him to watch his own tonsillectomy surgery being performed. Later he became a psychic artist, painting patterns of light, or auras, that he psychically “saw” emanating from various objects. He also felt that he was able to communicate telepathically with animals and plants, sensing their needs.

Eventually Swan subjected himself to tests of his psychic ability at the American Society for Psychical Research. In 1972 this research facility devised an experiment specifically to test Swan’s remote-viewing skills. In this experiment, researchers placed a picture or object on a platform that was suspended high above Swan’s head, while he sat below and tried to sketch a picture of whatever the object was. During this process researchers used electrodes attached to Swan’s scalp to measure his brain’s electrical activity. Many of Swan’s sketches were remarkably accurate, and his brain activity showed a noticeable change during the times when he was supposedly having an out-of-body experience in order to view the concealed object or picture.

Based on these and other tests involving sketches created through remote viewing, Swan eventually developed a set of protocols, which he called Coordinate Remote Viewing, that could be used to evaluate other people’s remote-viewing abilities. Swan also participated in a research experiment conducted by Dr. Gertrude R. Schmeidler of the City University of New York, in which he demonstrated psychokinesis by changing various aspects of the

environment, such as the air temperature in a sealed bottle, psychically.

SEE ALSO: psychokinesis; remote viewing

Swedenborg, Emanuel (1688–1772)

A scientist, inventor, and philosopher, Emanuel Swedenborg became a noted mystic at the age of fifty-six, after he had a series of dreams and visions in which he later said he communicated with spirits and angels and saw both angelic worlds and demonic ones. In some of his communications with angels, the beings told him about scientific theories that would not be proved until many years later. For example, Swedenborg’s writings about nebulae, atoms, and molecules were all very advanced for their time. In 1744, however, he announced that the angels had told him to give up his work as a scientist and to concentrate on spiritual subjects. As a result, he wrote *The Worship and Love of God* (1745), and then started writing his own interpretation of the Bible.

After Swedenborg abandoned science for spirituality, his friends and former associates decided that he was suffering from a mental illness, though they never confronted him about it. Their opinion was strengthened by the fact that Swedenborg started living on bread, milk, and coffee and spent much of his time lying in bed. According to his servants, he also appeared to fall into trances, though when he was interacting with people he seemed completely normal. Consequently, some experts in the paranormal believe that he was actually connecting to another, perhaps spiritual, realm, which they believe can be accessed while in an altered mental state such as a trance.

SEE ALSO: mysticism



talking in tongues

Also called glossolalia, talking in tongues is unintelligible, seemingly meaningless speech, usually uttered while in an altered mental state. In some cases the phenomenon is accompanied by convulsions and/or a loss of consciousness, and in many cases the experient later claims to have no memory of the event. The experience can be triggered in various ways. Most often, however, it is connected with the religious fervor produced during gatherings of certain charismatic Protestant sects. The expectations of the participants in such gatherings seem to affect the phenomenon. For example, if the group expects a person to have convulsions while talking in tongues, then that is usually what will happen.

Charismatic Protestants, and some other ardent Christians as well, believe that the person talking in tongues is possessed by the Holy Spirit, and some say that they can translate the glossolalic's words as a message from God. Psychologists, however, have noted that these translations always conform to the beliefs of the religious community to which the translator belongs. For this reason, skeptics argue that the translator is making the message up, and they suggest that because the phenomenon seems to be shaped by the experient's surroundings, talking in tongues is not conveying any message from God. In other words, the experient's own mind is creating the phenomenon, not some outside force.

Taos hum

The Taos hum is a strange, low-pitched humming sound that some people claim to hear at various locations around the world. The name of the phenomenon comes from the fact that an unusually large number of instances of this strange humming have been reported in and around Taos, New Mexico. As with many paranormal phenomena, scientists investigating claims of Taos hum have been unable to detect it using microphones or other audio equipment. Consequently, some have suggested that the sound is in fact coming from within the person hearing it, due to some undiagnosed problem with the ear or the nervous system. Other scientists have theorized that the sound might be a by-product of a subtle geological event, such as shifts in the earth's crust, that only certain people are able to detect. Still others think that the sound comes from ordinary sources, such as distant airplanes and cars, that have become a barely detectable hum due to atmospheric conditions. Believers in Earth energy, however, say that the hum is due to powerful energies, beneficial to human health, that emanate from deep beneath the Earth's surface, while believers in conspiracy theories claim that the Taos hum—and perhaps similar hums heard elsewhere as well—is due to a secret government research facility hidden somewhere in or beneath the city.

SEE ALSO: Earth energy; government cover-ups and conspiracy theories

tarot cards

Typically used for divination, tarot cards consist of a deck of seventy-eight cards portraying various images and symbols that are believed to be connected to ancient magic. There are two types of tarot cards within one deck, the major arcana and the minor arcana, with twenty-two cards in the major arcana and fourteen cards of each of four suits in the minor arcana. (The word *arcana* comes from the Latin *arcanum*, meaning “hidden or secret knowledge.”) The suits of the minor arcana are the wands, cups, swords, and pentacles. Each suit represents one of the four elements used in magic as well as a set of traits related to that element. Wands, which symbolize fire, represent power and energy; cups, which symbolize water, represent emotions and good luck; swords, which symbolize air, represent external pressures and bad luck; and pentacles, which symbolize Earth, represent abundance and health.

Each of the twenty-two cards of the major arcana bears an image representing a person, object, or situation. They are the fool, the magician, the high priestess, the empress, the emperor, the high priest (or hierophant), the lovers, the chariot, strength, the hermit, the wheel of fortune, justice, the hanged man, death, temperance, the devil, the tower, the star, the moon, the sun, the last judgment, and the world. Some people perform divination, or tarot readings, using only the cards of the major arcana, but most practitioners use all of the cards in the deck.

Each image on each card has a meaning that the person performing the reading must interpret in relation to the life circumstances of the person for whom the reading is being performed. Each card has wide variations of meaning depending on

the tarot reader’s personal beliefs. For example, the death card might mean a physical death, a personal disaster, an ending of some circumstance, or a transition from one phase of life to the next. Some tarot readers keep their meanings constant from one reading to the next, but others change their meaning from reading to reading, depending on their intuition about what the card might be saying.

Another factor that has bearing on a card’s meaning is the order in which it has been pulled from the deck. Tarot cards are laid on a table face up in a prescribed pattern, and most tarot readers believe that a card’s position has particular significance. For example, one position in the layout usually signifies the past, another the present, and another the future. If the death card, for instance, appears in a layout position representing the past, it might mean that the person being read for has already gone through some sort of change or disaster, whereas if the death card appears in the layout position representing the future, it means that this unknown transitional event is yet to come.

There are several ways to lay out cards for divination, using various numbers of cards for different readings. There are also many different deck styles, and the artwork of the major arcana varies widely. The most popular deck style is the Rider-Waite, created in 1910 by English occultist Arthur Edward Waite and artist/occultist Pamela Colman Smith. This deck draws its images primarily from the kabbalah, a magical system believed to have been developed by the ancient Hebrews. This is why, some people now say, the major arcana comprises twenty-two cards. There are twenty-two letters in the Hebrew alphabet, and each has been associated with a different aspect of kabbalah magic.

Indeed, many people believe that tarot cards have always been connected to the kabbalah. According to this theory, in A.D. 1200 occultists from throughout the civilized world gathered in Morocco to create the cards as a way to pass on their magical teachings. To this end, they placed their most magical images and symbols on the cards.

SEE ALSO: divination; magic and spells

Tart, Charles (1937–)

Parapsychologist Charles Tart has worked extensively on research projects related to extrasensory perception, out-of-body experiences, and dreaming. He has also written extensively about hypnosis, which he considers to be an altered state. Tart suggests that altered states of consciousness are a way to access a higher consciousness and, perhaps, a spiritual realm as well. He has also argued that certain Eastern practices, such as yoga, are able to access altered states of consciousness. One of Tart's most important written works is the textbook *Altered States of Consciousness* (1969), a compilation of articles, some his own, that he edited.

SEE ALSO: altered states of consciousness; extrasensory perception, hypnosis; out-of-body experiences

telekinesis

Telekinesis is the movement of objects without any apparent cause. The word is primarily used in reference to objects that move during séances performed by spiritual mediums. In such cases, the spirits of the dead are said to be responsible for the movement. People who believe that the objects are actually being moved by the

mind of the medium, rather than by the unseen hand of a spirit, use the term *psychokinesis*—defined as the movement of objects apparently by the mind alone—for this phenomenon rather than *telekinesis*.

SEE ALSO: psychokinesis

telepathy

Also called mind reading, telepathy is said to occur when one person receives a thought or feeling from the mind of another person. For example, in 1955 a Wisconsin housewife named Joicey Hurth was washing dishes when suddenly she became certain that her daughter was about to be killed. She later learned that at the time she received the impression that her daughter was in danger, the girl had been hit by a car and seriously injured, though not killed. Hurth's experience is an example of one of the most common incidents of telepathy, in that it occurred when the apparent sender of the telepathic message was in crisis. Moreover, according to one study by Ian Stevenson, a professor of psychiatry at the University of Virginia, nearly 70 percent of telepathic incidents involve close family members, whereas approximately 28 percent of such incidents occur between friends or acquaintances and only 2 percent between strangers.

Spontaneous Versus Intentional Telepathy

In some cases like Hurth's, in which a telepathic message was received spontaneously, there are witnesses present to corroborate an account of the event. For example, in one case a woman reported to several people that she had felt an intense but brief chest pain, and an hour later she and her witnesses learned that the woman's chest pains coincided with her aunt suffering a massive heart attack. In studying this and other reports of spontaneous telepa-

thy, Dr. Louisa E. Rhine, wife and research associate of parapsychologist J.B. Rhine, determined that in approximately 30 percent of such cases, the person receiving the telepathic message or impression was in a normal waking state; 10 percent were having a vision at the time, and 60 percent were dreaming. In many of these dreams, the dreamer “saw” a loved one die or suffer from an accident and shortly after waking discovered that his or her dream had come true.

Spontaneous telepathy often is experienced only once. After the crisis passes, the telepathic ability of the person receiving the message seems to become dormant. Some people, however, seem able to engage in intentional telepathy—that is, to purposefully transmit or receive a mental message—and to do so repeatedly. These apparently gifted psychics have been studied extensively in laboratory tests. Among the earliest such studies was conducted in England in the late nineteenth century on Professor Gilbert Murray, an Oxford scholar. The Society for Psychical Research (SPR) tested Professor Murray by placing him in one room while someone in another room thought of something. Murray was then asked to describe this person’s thoughts. He was correct approximately 30 percent of the time, and even more often when the “sender” was his own daughter.

Careful Testing The SPR concluded that Murray was indeed telepathic, but skeptics of the time offered an alternative explanation. They believed that Murray was eavesdropping on the comments of the testers in the other room. When this theory was disproved by having the testers remain silent, skeptics suggested that Murray and his daughter simply knew each other so well that they could anticipate what the other might be thinking, or that Murray

and his daughter had planned their answers in advance. As a result of such criticisms—against these and similar test subjects—in 1915 an American SPR researcher and psychologist, John E. Coover, set out to conduct studies that were as careful and scientifically valid as possible. Using 97 “senders” and 105 “receivers,” he placed a receiver in one room and himself and a sender in another, then gave the sender a package of playing cards consisting of aces through tens of all four suits. The sender would then draw a card while Coover threw a die; depending on whether the resulting number was odd or even, the sender would either concentrate on the card, attempting to transmit its image mentally to the receiver, or set the card aside and draw another. Each sender/receiver pair made approximately one hundred attempts.

Out of the roughly 10,000 attempts made during the entire study, the number of correct guesses, according to Coover, was 250. He concluded that these results could be attributed to chance or luck. However, subsequent researchers who studied his data argued that there were actually 294 correct guesses because sometimes the receiver would correctly guess a card that the sender had selected but had then set aside. Taking these guesses as correct too, Coover’s successes were greater than expected by chance. However, his study had a flaw: Receivers actually had two chances to get a correct answer, by guessing either the playing card’s number or its suit. To address this problem, during the 1930s psychologist Karl Zener designed a set of cards specifically for telepathy tests; called Zener cards, they depict simple black figures instead of the suits and numbers of regular playing cards.

Zener cards have now been used for decades to test for psychic ability, with varying results. In many cases, however, the results have been disappointing. For example, during the Apollo 14 moon mission of 1971, one of the astronauts concentrated on a randomly selected card at certain prearranged times, attempting to transmit images mentally to four people on Earth. His success rate was less than what the laws of probability would predict. Low success rates are also typical the longer a telepathy test continues. In other words, researchers have discovered that the most correct guesses occur at the very beginning of a test, and as the subject becomes fatigued, the number of correct guesses drops dramatically. Thus, there appears to be a connection between energy level and telepathic ability.

Altered Mental States Other experiments have suggested that hypnosis heightens telepathic ability. For example, in one series of experiments, a person designated as the telepathic sender was left in a normal waking state while a person designated as the receiver was placed under hypnosis. The two people were in different rooms. The sender was then given a substance like salt or sugar to taste, and the receiver was asked to identify what the sender was tasting. Several of these tests yielded a number of correct answers greater than what chance alone would have predicted.

Similarly, some studies have attempted to determine whether someone in a dreaming state is more receptive to telepathic images. For example, in the 1970s researchers at the Maimonides Community Mental Health Center in Brooklyn, New York, had a sender attempt to transmit a specific image to a sleeper while they monitored the sleeper's eyelids for rapid eye movements, which indicate when

someone is dreaming. When awakened in the middle of a dream, people are far more likely to remember dream content, and the Maimonides test subjects were no exception. They were able to describe their dreams in detail, and these descriptions were then analyzed by a panel of judges who did not know which of several images had been used in each test. The judges matched dream descriptions to images, and for certain test subjects the success rate was high. In fact, one subject apparently dreamed of the transmitted image thirteen out of fifteen times.

Because of such results during dreaming and hypnotic states, parapsychologists hypothesize that the subconscious is more receptive to psychic connections than the conscious mind, which can be distracted by sensory input. To test this theory, researchers have developed another way to isolate the mind from the senses. Called ganzfeld tests (after the German word *ganzfeld*, which means "entire field" or "total environment"), these studies are conducted on test subjects whose senses have been deprived of stimulation. Specifically, the subject is placed in a soundproof room that is temperature and pressure controlled for maximum comfort. The subject also wears headphones that supply a crackling sound (known as white noise), which prevents the subject from hearing any one specific sound, and special eye covers and lightbulbs are used to allow the subject to see only a diffused light rather than a clear image. The person placed in this room is the receiver, and various tests are conducted with a sender trying to transmit thoughts, mental images, or feelings to that person. The average success rate in more than seven hundred such studies conducted at several different laboratories is 34 percent, whereas given the way the

studies are structured, probability would predict 25 percent. Some extrasensory perception (ESP) researchers consider these results impressive, while others dismiss the difference as being insignificant.

Receivers Versus Senders There has also been debate among researchers as to which partner in the telepathic exchange is more important. In most ESP tests, the abilities of the receiver are the focus of the experiment, with that person's guesses determining whether the test is a success or a failure. But some researchers wonder if the success rates might depend just as much on the ability of the sender. In fact, some parapsychologists have suggested that some researchers who are themselves gifted psychics may be unintentionally skewing the results of their experiments. In other words, the researcher, rather than the designated sender, is actually the person sending correct answers to test subjects, which could explain why some researchers' experiments yield higher success rates than others' do.

Lucky Guesses Skeptics agree that researchers can influence their test subjects—but not through psychic ability. Instead, skeptics say that testers get the results they want because they unintentionally influence the answers that their subjects give, through subtle body cues and hints. Accusations of such influence, whether unintentional or intentional, are common in the field of paranormal research, with skeptics typically attributing successful results to flawed methodology or outright fraud. Where such arguments are unconvincing, skeptics say that the successful results are simply flukes, even when it is difficult to argue that “lucky guesses” could be responsible for all of the correct answers in a particular test of telepathy. Still, even believers in telepathy admit that they

cannot be sure that telepathy is responsible for all of these correct answers, or for instances where someone suddenly “knows” that a distant loved one is in danger. What these believers say is clear, however, is that more research into the possibility and nature of telepathy is needed.

SEE ALSO: extrasensory perception; ganzfeld studies; Zener cards

teleportation

The word *teleportation* was first used by Charles Fort in 1931 to refer to people or things that are moved from one point to another, across a great distance, in an instant. In such cases a person might be in his hometown one minute and thousands of miles away the next. This phenomenon is usually reported as a spontaneous event, whereby the person who has been transported claims to have had no influence over what happened. Sometimes, however, a victim of apparent teleportation blames it on extraterrestrials, saying that the event was part of an alien abduction experience. Teleportation has also been associated with poltergeist experiences, whereby a violent spirit seems to be moving objects around.

SEE ALSO: alien abduction experiences; apport; Fort, Charles; materialization; poltergeists

Theosophical Society, the

Formed in 1875, the Theosophical Society is an organization whose members' beliefs are based in large part on elements of occultism, Buddhism, Brahmanism, and Zoroastrianism, incorporating a variety of concepts related to reincarnation, mysticism, and spiritualism. At the time of its inception, the group was dedicated to studying and explaining the nature of psychic mediums and to investigating ancient

mysteries, including the location of lost worlds and the reason behind the Egyptian pyramids. The driving force behind this work was mystic, occultist, and self-professed psychic Helena Petrovna Blavatsky, who founded the society with psychic investigator Henry Steel Olcott. Blavatsky promoted the group's teachings through such writings as *Isis Unveiled* (1877), *The Secret Doctrine* (1888), and *Key to Theosophy* (1889). In *The Secret Doctrine*, she claims that spirits of the Orient had told her that an advanced civilization exists within a hollow Earth, populated by beings from two lost worlds, Atlantis and Lemuria. According to Blavatsky, for centuries these beings have acted as benevolent caretakers of Earth and its people.

Blavatsky named her group the Theosophical Society because the word *theosophy* refers to philosophical systems that rely on mystical knowledge of the nature of God. The group continues in existence today, though various disputes have divided it into three factions. One is based in India, where Blavatsky moved her headquarters in the late 1880s. Another was established in the United States after Blavatsky's death in 1891 by William Quan Judge, who had helped Blavatsky and Olcott found the original society. The third, also in the United States, is the result of a 1909 dispute within Judge's version of the Theosophical Society.

SEE ALSO: alien abduction experiences; Atlantis; Blavatsky, Helena Petrovna; Lemuria

thoughtography

Also called psychic photography, thoughtography is the use of thoughts to make photographic images by mentally influencing photographic film. Some believers in extrasensory perception say that thought-

ography offers proof of the existence of psychokinesis, the ability of the mind to affect the physical world. In fact, because of the phenomenon's potential for proving psychokinesis, numerous tests have been conducted on apparent thoughtographers under tightly controlled conditions. For example, the film and the camera are kept away from the test subject, sometimes at great distances, to eliminate the possibility of tampering. In some tests, the film is also kept away from light, while in others the test subject tries to influence the photographic image as the camera's shutter is being snapped to let in light.

The first known scientific studies of thoughtographers took place in Japan in 1910 using sealed photographic plates. In these investigations, which were conducted by Professor Tomokichi Fukurai, some test subjects were able to reproduce basic images of people and structures as well as certain characters of Japanese writing. In recent studies, Japanese researchers have used devices inside special cameras to measure mysterious pulses of energy during the thoughtography process, which some people think is the energy produced by psychokinesis.

In the United States, thoughtographer Ted Serios, a Chicago bellhop, underwent extensive testing in the 1960s by psychoanalyst Julie Eisenbud of Denver, Colorado. To eliminate the possibility of the film being influenced during the developing process, Eisenbud used Polaroid film for her tests, which would require Serios to form a strong image in his mind, usually related to a previously agreed-upon scene, and then look into the lens of the camera as the shutter was clicked open. In some of these tests the film showed a blurred image from the intended scene; in others, the film would have odd distor-

tions, superimposed images, or other abnormalities. In still others, the film showed no abnormalities, seemingly unaffected by Serios.

Skeptics routinely accused Serios of cheating, but none could figure out how this could be accomplished given the tightly controlled testing conditions. Moreover, when Eisenbud challenged skeptics to duplicate Serios's unique effects on the film through any normal means, none was able to do so. Other thoughtographers, however, have been exposed as frauds. This was particularly true of the first thoughtographers, who were late-nineteenth-century mediums and spirit photographers. One such medium was David Duguid, who would hold a glass photo-

graphic plate (which was used in photography at the time instead of the flexible film of today), still in its original wrapping, and supposedly through spirit communication would mentally transfer an image of a spirit onto the plate. Though Duguid was never caught faking thoughtography, he was caught faking spirit paintings, which cast suspicion on his thoughtography as well. Skeptics argue that all thoughtographers are like Duguid—somehow faking their skills, though they have yet to be caught.

SEE ALSO: spirit photography

time and dimension travel

Some people who believe that it is possible to move either mentally or physically

back and forth through time, and perhaps through other dimensions of reality as well, say that the ability explains certain types of paranormal phenomena. For example, sightings that appear to be of aliens and their spacecraft might actually be of humans and technology from another time or another dimension on Earth, and precognition—visions of the future—might be the result of the mind's ability to travel through time. Along the same lines, some people theorize that sightings of mysterious creatures like bigfoot might be the result of the mind's ability to travel to another dimension or realm where these beings live.

Believers have not been able to prove that time or dimension travel can occur. However, serious scientists have developed theories to explain how such travel might be possible. For example, some physicists say that the laws of quantum physics, which deal with the behavior of matter at the subatomic level, suggest the existence of a particle known as a tachyon is a possibility. This particle, if it exists, would travel faster than the speed of light and therefore, based on ideas developed by physicist Albert Einstein, might also be able to travel backward in time. Similarly, some people believe that quantum mechanics allows for multiple time lines and multiple dimensions because it suggests that, although light allows us to see only one universe, there might be a series, or wave, of universes.

No theories have been developed to explain whether or how a body or mind might be able to cross into a parallel dimension or a different time period, if indeed such a possibility exists at all. However, believers in the paranormal have suggested that only certain people have the ability to time or dimension travel,

and this ability is an evolutionary development. In other words, because the ability provides a certain survival advantage, the number of people capable of time or dimension travel has increased with each generation. This would explain, they say, why reports of paranormal experiences, like sightings of aliens and reports of precognitive visions, have increased in modern times.

SEE ALSO: precognition; UFOs

***Titanic* premonition**

One of the most famous cases of apparent precognition involves the sinking of the ocean liner *Titanic*. In 1898 an author named Morgan Robertson wrote a novel about an ocean liner named *Titan* that, on its maiden voyage one April night, strikes an iceberg while steaming at twenty-five knots in the northern Atlantic Ocean, then sinks with three thousand passengers aboard—even though people had thought it was unsinkable. Fourteen years later, on April 14, 1912, the supposedly unsinkable ocean liner *Titanic*, on its maiden voyage, struck an iceberg while steaming at twenty-three knots in the northern Atlantic Ocean, and on the morning of April 15 it sank, resulting in the deaths of over fifteen hundred people.

Other parallels between the events depicted in the novel and the actual event exist. For example, Robertson described the *Titan* as being 800 feet (244m) in length, with a tonnage of 75,000, three propellers, and twenty-four lifeboats; the *Titanic* was 882.5 feet (269m) in length, with a tonnage of 66,000, three propellers, and twenty lifeboats. Both ships were said to be the largest and most luxurious of their kind. Skeptics say that such similarities were coincidental, but given their number and specificity, believers in extra-

trance

sensory perception say that Robertson's ideas for the novel had to have come from subconscious glimpses of the future.

SEE ALSO: precognition

trance

A trance is an altered mental state whereby the conscious mind is inactive and the subconscious mind can be more easily accessed. The most common type of trance is one induced through hypnosis. However, trances can also be self-induced, through various relaxation and mind-focusing techniques. Such is the case with trance mediums and channelers, whose bodies are supposedly used by spirits while they are in a trance, though some say that their trances are induced by the spirits with whom they communicate.

SEE ALSO: altered state of consciousness; channelers; hypnosis; mediums, physical and mental

true-believer syndrome

Identified by psychologists in the 1970s, true-believer syndrome is a condition whereby someone who believes that an event has a paranormal cause refuses to alter this view even after the event is proved to have an ordinary explanation. Many skeptics accuse all people who believe in the paranormal of having true-believer syndrome, but believers in the paranormal counter that these skeptics have the same problem examining evidence objectively.

SEE ALSO: skeptics



ufology

The term *ufology* was created in the 1950s as the name for the then-new field of studying unidentified flying objects (UFOs). The people who conduct such studies are called ufologists. Though they investigate UFO reports using scientific methodology, their work is typically not recognized by mainstream scientists. In fact, most scientists do not consider ufology to be an academic discipline.

In the early years of ufology, however, some mainstream scientists publicly stated that UFOs should be studied to determine whether alien intelligences might be visiting Earth. This was the case, for example, with astronomers Carl Sagan and J. Allen Hynek. (Interestingly, Sagan started out a believer in extraterrestrials and later became a skeptic, while Hynek started out a skeptic and later became a believer.) Hynek was also involved in U.S. government studies into whether UFOs were alien spacecraft.

The first publicly acknowledged government study on UFOs, Project Sign, took place in late 1947. This investigation concluded that there was enough evidence to suggest that UFOs were alien spacecraft, but the government dismissed this conclusion, unwilling to support the notion that extraterrestrials were visiting Earth. Consequently, Project Sign then became, in 1948, Project Grudge, and from 1952 to 1969, Project Blue Book, both government attempts to destroy the notion that UFOs were alien spacecraft. This was also the in-

tent of two related government-sponsored groups, the Robertson Panel of 1952 and the Condon Committee of 1966–1969. As a result of such efforts, the government discredited many ufologists, and in the minds of some Americans, ufology as well.

Nonetheless, today there are numerous organizations devoted to ufology. These include the Center for UFO Studies, the Mutual UFO Network, the Institute for UFO Research, the International Society for UFO Research, the International UFO Museum and Research Center, the SETI Institute, and the Ufology Society International. Many of these organizations support ongoing research projects related to ufology.

SEE ALSO: Center for UFO Studies; Hynek, J. Allen; Mutual UFO Network; Project Blue Book; Sagan, Carl; UFOs

UFOs

As their name implies, UFOs—or unidentified flying objects—are flying objects or lights seen in the sky that cannot be identified. Such objects, as astronomer J. Allen Hynek noted in describing UFOs in the 1950s (when the name *UFO* was first used during a government investigation into the phenomenon), attract the attention of observers because their appearance and/or movements do not suggest a logical explanation for their presence—and afterward, such an explanation is never found. The acronym was not originally meant to be synonymous with “alien

spacecraft”; however, people who have seen UFOs often say that they had to have been extraterrestrial spacecraft, and many ufologists—that is, experts in the study of UFOs—support this view. Others have suggested that UFOs come, not from outer space, but rather from another dimension or time in which humans exist, or that UFOs are experimental, top-secret U.S. government spacecraft. Meanwhile, skeptics say that sightings of UFOs are the result of hallucinations, illusions, or are ordinary objects, like aircraft, that have not been viewed closely and/or carefully enough to be identified for what they are.

Close Encounters of the First Kind There have been thousands of UFO sightings reported throughout history, and each year thousands more are reported. Of these,

roughly 90 percent are later found to have ordinary explanations and are therefore reclassified as IFOs—identified flying objects. (Most commonly, the person has sighted aircraft, birds, balls of light created by atmospheric phenomena, meteors, satellites, meteorological balloons, space debris, or celestial bodies, the latter of which, due to atmospheric conditions, can sometimes appear to move.) The remaining 10 percent never are explained. In 1999 there were approximately seventeen thousand such sightings, many of which occurred in UFO “hot spots,” such as Gulf Breeze, Florida, where UFOs are frequently reported. In about 65 percent of unexplained sightings, witnesses see nothing other than the object itself and do not interact with it or notice it having any impact on its envi-

ronment. Ufologists call this type of experience a close encounter of the first kind.

Those who believe in the existence of UFOs point out that some of these close encounters are reported by people whose credibility and powers of observation are beyond reproach. For example, the first modern sighting of a UFO was reported by a respected businessman and private pilot, Kenneth Arnold, in 1947. Immediately after a flight, he said that he had just seen nine mysterious objects “flying like a saucer would if you skipped it across the water”—a phrase that inspired the use of the term *flying saucers* to refer to UFOs. Similarly, one night in 1995, while flying at 39,000 feet (11,887m) over New Mexico, a commercial pilot with America West airlines saw a flash of lightning that illuminated the sky enough for him to notice a cigar-shaped object approximately 9,000 feet (2,743m) below him. He reported this object as being approximately 300 to 400 feet (122m) in length, with strobe lights blinking in sequence, counterclockwise, around its cylindrical body.

Adding to the credibility of this account is the fact that government officials seemed to confirm the existence of such an object. Specifically, upon seeing the UFO, the America West pilot immediately radioed the Albuquerque, New Mexico, Air Route Traffic Control Center to report it. The control center, which could not find the object on its radar screens, then contacted a nearby military installation and the North American Aerospace Defense Command (NORAD), both of which said that to their knowledge, it was not a military craft. NORAD also said that it had been tracking the unidentified object, moving at a speed of approximately 390 knots, for three or four minutes in the vicinity of the America West airplane. No

one has ever explained this particular incident.

Multiple Witnesses Skeptics dismiss all such events, typically attributing them to a series of misperceptions and errors. People sometimes have hallucinations, they say, particularly when tired, and radar equipment can malfunction. It is much harder, however, to ignore sightings that involve several people viewing the same UFO with their own eyes from different locations. This occurs in about 1 percent of cases. One such event took place on September 19, 1976, when residents of Tehran, Iran, reported seeing a UFO at 12:30 A.M. The Iranian Air Force sent an F-4 Phantom jet to investigate; the plane’s communication systems failed when it was within 25 miles (40km) of the UFO but started working again as soon as it left the area. A second F-4, remaining more than 25 miles (40km) from the object, subsequently saw the object both visually and on its radar; according to the pilot, the UFO was approximately the size of a Boeing 747 airplane but cylindrical and with bright flashing lights, and after a few moments it launched a smaller UFO from its hull. The pilot tried to fire an AIM-9 missile at the smaller UFO, but his equipment failed, whereupon the launched object passed him and landed on the ground. It too was brightly lit, but no one on the ground later reported seeing it, although a ground crew at Tehran’s Mehrabad Airport did report seeing a large cylindrical UFO pass overhead just as the jet airplane approached the landing strip there. Four hours later, many people in Morocco in North Africa—who knew nothing about the Iranian incident—reported seeing a cylindrically shaped UFO trailing sparks. The U.S. embassy in Morocco contacted the U.S. State Department to ask for an explana-

tion of the event, and the secretary of state at the time, Henry Kissinger, ordered an investigation. Officials conducting this inquiry ruled out the possibility that the object was a meteor or satellite and proposed no explanation. Nonetheless, skeptic Philip J. Klass says that a meteor shower was surely to blame, combined with faulty radar and radio equipment and pilot inexperience and confusion.

Close Encounters of the Second Kind Klass has said that unless he sees an undeniably extraterrestrial artifact, he will not believe that extraterrestrials or alien spacecraft exist. Finding such an artifact would make the incident a close encounter of the second kind. No such artifact has ever been found, though, and skeptics have dismissed as frauds all photographs and films that apparently show UFOs. Still, there are other types of apparent physical proof that a UFO has been in the area, such as scorched grass or broken tree branches, disrupted electrical systems in homes or cars, or skin burns, eye inflammation, and other physical difficulties that suggest the craft's presence might have affected witnesses' bodies. This type of evidence can be found in approximately 20 percent of UFO cases.

The most famous UFO incident involving physical evidence is the supposed crash of an alien spacecraft in Roswell, New Mexico, in 1947. Debris was found at the crash site, but the U.S. government declared it to be from a weather balloon, and no one has yet proved otherwise—because, some people say, the government substituted weather balloon pieces for the spacecraft wreckage in order to fool the American public.

There is, however, some unusual physical evidence connected to a UFO sighting that occurred at 9 P.M. on December 29,

1980. At that time fifty-one-year-old restaurant owner Betty Cash was driving down a deserted road toward Dayton, Texas, with her fifty-seven-year-old employee Vickie Landrum and Landrum's seven-year-old grandson Colby when Colby noticed a brightly lit object in the night sky. It was diamond shaped and periodically spewed fire from its underside, much as a rocket engine would, and as it came closer, the air inside the car grew hotter. Now everyone got out to stare at the object, which was beeping, seemed metallic, and had a line of blue lights around its middle from nose to tail. After a few moments the group became frightened and jumped back inside the car. Then the UFO abruptly flew away, and the women saw that it was being followed by at least twenty helicopters that they believed were U.S. military craft. Shortly thereafter all three witnesses developed headaches and nausea, and by the next morning Colby and his grandmother were vomiting and had what looked like sunburned skin. Cash, who had been outside of the car much longer than the others, not only had red skin but also large blisters wherever her skin had been uncovered, and her eyes were swollen shut. Like her companions, she could not stop vomiting, and all three experienced diarrhea as well. They went to visit physicians (Cash was admitted to the hospital), who discovered that the trio had suffered slight but permanent eye damage, had lost significant amounts of hair, and had shed their fingernails, which took a long time to grow back. Experts later determined that these probably were symptoms of radiation sickness. Cash and Landrum blamed the U.S. government for their injuries and sued the government for \$20 million, but in August 1986 a judge dismissed their case, pointing out that the

women's description of the helicopters did not match any known military vehicle—though a Dayton, Texas, police officer testified that military helicopters had indeed been seen flying in the area at the time the UFO incident supposedly occurred.

But although the case was dismissed, questions linger. Given physicians' records and photographs of the women's injuries, something clearly harmed them. Some ufologists have suggested that it was an experimental U.S. government spacecraft, perhaps based on extraterrestrial technology discovered at a UFO crash site. Skeptics have theorized that the trio's injuries were psychosomatic—that is, brought on by their own minds. Indeed, there is evidence that the human mind can create visible physical symptoms, though to what extent is unclear.

Close Encounters of the Third Kind Similarly, skeptics argue that instances in which people claim to see not just alien spacecraft but the aliens themselves—an experience known as a close encounter of the third kind—are products of imagination, fantasy, or hallucination. Fifteen percent of UFO reports involve a close encounter of the third kind, though the degree to which the aliens are seen varies. In some cases the observer claims to have caught only a glimpse of the alien, perhaps through the window of its spacecraft. In other cases, the observer claims to have communicated with the alien. However, in the majority of close encounters of the third kind the experimenter claims to have been abducted by the aliens. These experiences have generated controversy even among ufologists. Some say that it is not unreasonable to believe that if aliens are visiting Earth, they might want to abduct humans for the purposes of studying them. Others, however, believe that the abductees are having a psy-

chological rather than a physical experience, though they disagree on what kind of psychological experience this might be.

Skeptics take the harshest stance, arguing that abductees have a serious mental illness. In fact, a few skeptics take this idea one step further, saying that all people who believe in extraterrestrials—or even in the possibility of extraterrestrials—are mentally ill. This stance, however, ignores the many credible, respected witnesses, from all walks of life, who insist that their sighting of a UFO was real. Their credibility has led even some skeptics to say that more research into UFOs is needed. Nonetheless, government officials are largely unwilling to express support for this type of research, largely because skeptics have worked to create an atmosphere of ridicule for projects related to UFOs.

SEE ALSO: alien abduction experiences; close encounters; Project Blue Book; ufology

unicorns

Long portrayed in myths and legends, the unicorn is said by some people to be a single-horned animal that was not only a real animal in ancient times but still exists today. Believers usually describe it as looking like a white horse with a horn on its forehead and report that it is incredibly gentle and shy. Because of this shyness, they say, the unicorn is an elusive creature that lives in hard-to-search places.

Indeed, in the seventeenth century there were several discoveries of what appeared to be unicorn fossils in remote areas. One of the first was in 1663 in a limestone cave near Quedlinburg, Germany. The town was close to the Harz Mountains, where an old legend told of a woman who rode on a unicorn. Therefore, many people believed that the fossil discovery

was genuine, and they flocked to the cave, damaging the site before anyone could excavate the skeleton from the rock in which it rested. The fossil was damaged still further during the excavation process, but its skull, which featured a single horn 7.5 feet (2.3m) long, was intact.

Scholars theorize that this fossil represents an extinct species of stag or ox. But a few people insist that they have seen living unicorns in the area where the fossil was found, a forest so thick that an elusive animal could, theoretically, go undetected there. One such person is Austrian naturalist Antal Festetics, who claims to have captured its image on video while he was in the Harz Mountains in 1991 filming a documentary. He turned the tape over to experts at Göttingen University, where anyone can view it; despite Festetics' claims, skeptics consider the tape a fake.

Skeptics have offered a similar explanation for the fossils: Instead of being from an extinct species of animal, they were human-made—or, more specifically, they came from living creatures made to resemble unicorns by farmers. Throughout history, in certain cultures people have turned two-horned animals into unicorns in order to mark various animals as being for a particular purpose. For example, the ancient Romans made unicorns by manipulating the two horns of a young ram or bull on a daily basis so that the horns grew together, or by burning a young animal's scalp before the horns' emergence so that both horns would grow out of the center of the skull instead of on the sides. The resulting horn would not have looked healthy, which means that the living animal would not have been mistaken for a natural unicorn, but the horn of such an animal, once fossilized, would easily be mistaken for a natural one.

Believers in natural unicorns, however, say that there is ample evidence that these animals once existed in the wild. Unicorns are mentioned in the Bible and in the writings of ancient Greeks and Romans and medieval European scholars, though the creature is described differently in various texts. In the sixteenth century Lodovico de Varthema, also known as Lewis Vartoman, wrote in his book *Itinerario (Travel Route)* that he had seen two live unicorns in the Middle Eastern city of Mecca; he described them as being fierce beasts with the bodies of horses, the heads of stags, and the legs of goats. Other scholars, both medieval and ancient, also described unicorns as being fierce, which has led some people to believe they were actually talking about the rhinoceros.

Also in ancient and medieval times, some people had objects, such as drinking cups, made from horns that were said to be from unicorns. By the time of the Renaissance, European shopkeepers were selling such horns, called alicorns, for healing purposes, claiming that when ground up, their powder had the ability to cure a variety of illnesses or ward off poisoning. Then and now, some people have taken this as proof that the animals existed. However, most of these horns were made by boiling an elephant or walrus tusk for six hours in a special solution that softened it so it could be straightened out and then twisted to simulate what a supposedly real unicorn horn looked like. Those horns that were not manufactured in this way are believed to have come from a narwhal, an arctic sea mammal that has a single elongated tooth, or tusk, that often looks like it is coming from its forehead. Indeed, in 1638 Danish zoologist Ole Wurm traced the origin of several alicorns in the European marketplace to Scandinavian fisher-

men. Nonetheless, believers in unicorns say that at least some of the unicorn horns in the marketplace might have been genuine—and that even if they were all fake, that still leaves open the possibility that unicorns nonetheless exist.

SEE ALSO: beasts, mysterious

unidentified submarine objects

As their name implies, unidentified submarine objects (USOs) are objects seen beneath the sea that defy identification. In some cases a USO is suspected of being some kind of sea monster—an unknown beast inhabiting deep waters. In others, the USO is thought to be an experimental submarine of some sort because, according to witnesses, it emerged from the water to fly away. In several of these cases, the USOs do not appear to be solid objects but are balls of light. Consequently, some people have suggested that such USOs are either extraterrestrial spacecraft or proof that unknown civilizations with advanced technology, such as Atlantis, exist within the world's oceans.

SEE ALSO: Atlantis; UFOs

Urantia Book, The

Published in 1955 by Chicago, Illinois, psychiatrist William S. Sadler, *The Urantia Book* is a compilation of religious teachings that was supposedly dictated telepathically to humans by celestial beings between 1928 and 1935. The book is a

complex work with 196 articles, or “papers,” each supposedly authored by one of several celestial beings. According to the Urantia Book Fellowship, which was founded in 1955 to unite believers in the book, the papers were received by a group of Sadler-led volunteers called the Contact Commission, whose names Sadler concealed both during and after the project. Some skeptics, however, believe that *The Urantia Book* was actually authored by Wilfred Kellogg, who once created a similar—if not the exact same—book for a fringe group of Seventh-Day Adventists founded by Sadler; Kellogg said that he had received, or channelled, the information from celestial beings.

Skeptics suggest that *The Urantia Book* was simply the creation of people who incorporated many teachings from Seventh-Day Adventism—and, indeed, from other Christian ideas found in the New Testament as well—into their work. For example, Jesus is an important figure in the book; his life is recounted, and the book expresses the beliefs that he was a son of God, performed miracles, was crucified and arose from the dead, and will appear again on Earth. The main message of the book, however, is that a part of God exists in each individual as a link between that person and the divine, and that this link allows God to speak to people, providing they do not block out the voice and therefore the will of God.

SEE ALSO: channelling



Vallee, Jacques F. (1939–)

A ufologist, astronomer, and computer scientist, Jacques F. Vallee is one of the most respected UFO experts in the world and has written several books on the subject, including *Anatomy of a Phenomenon: Unidentified Objects in Space—a Scientific Appraisal* (1965), *Challenge to Science: The UFO Enigma* (1966), *Passport to Magonia: From Folklore to Flying Saucers* (1969), *Messengers of Deception: UFO Contacts and Cults* (1979), *Dimensions: A Casebook of Alien Contacts* (1988), *Confrontations: A Scientist's Search for Alien Contact* (1990), *Revelations: Alien Contact and Human Deception* (1991), and *Forbidden Science: Journals, 1957–1969* (1992). Vallee began his career as a ufologist in the 1950s, believing that UFOs were the spacecraft of extraterrestrials visiting Earth, but he eventually decided that there was no convincing evidence to support this theory. During the 1970s he explored various other possibilities, and he noted that stories of UFO and alien sightings were similar to stories of encounters with ghosts, angels, and mysterious creatures—all terrestrial rather than extraterrestrial entities. He further noted that aliens have traditionally been described as humanoid, whereas a true extraterrestrial would probably look nothing like a human being. Vallee therefore postulated, in what has been called the interdimensional hypothesis, that the beings responsible for UFO sightings and alien encounters are not from another planet

but from someplace connected to Earth, perhaps another dimension, realm, or time. As such, they might be only a consciousness, without any form other than what someone's mind creates upon viewing them.

SEE ALSO: UFOs

vampires

Vampires are said to be humans who once cheated death by drinking the blood of others and must therefore continue to drink the blood of the living in order to remain immortal. Consequently, they are believed to have become creatures with supernatural powers, such as amazing strength and the ability to hypnotize potential victims. In some fictionalized accounts of vampires, these creatures can also fly, sometimes after turning into a bat.

There has been no physical evidence that such creatures are real, and indeed most people believe that vampires are figments of the imagination whose characteristics are largely based on the vampire in the novel *Dracula* by Bram Stoker. Some, however, insist that vampires are real creatures, who hunt alone or in bands that roam the streets of large cities looking for lone victims who will not be missed. These creatures, believers say, die when exposed to sunlight, cannot enter churches, and have an aversion to religious symbols such as crosses and to holy water. In addition, they are said to be repelled by garlic. (Some say that these things can kill

a vampire, but others believe they only drive away a vampire.)

During the 1970s there were several cases in London of people insisting to police that they had encountered vampires in cemeteries, and one man was so afraid of a vampire attack that he protected himself with a necklace of garlic—and accidentally choked to death when one of the garlic cloves somehow became lodged in his throat. Similar reports are still made today.

Vampire lore goes back much further than the late nineteenth century, when Bram Stoker was writing, however. In ancient times, people sometimes reported seeing vampires. For example, the ancient Greeks spoke of there being numerous vampires on the island of Santorini (now Thera). Believers say that such early accounts are particularly credible because they predate vampire novels. Some scholars, however, argue that early stories about vampires—at least those that come from Western cultures—can be attributed to the fact that until modern times, people were sometimes accidentally placed in coffins before they had actually died, which resulted in documented cases of “dead” bodies rising from their coffins.

SEE ALSO: zombies

Van Praagh, James (1960–)

One of the best-known mediums in the United States today, James Van Praagh calls himself a “survival evidence medium” because he is able to detect evidence of people’s survival after death. Specifically, he brings messages from deceased loved ones to those who hire him to do so. He attributes his ability to communicate with the dead to clairsentience, whereby he feels

the emotions and personality traits (such as talkativeness) of the deceased, and to clairvoyance, whereby he sees images of the deceased. He also apparently has clair-audience because he claims to hear voices of the deceased.

Van Praagh has always believed in an afterlife, having been raised in a deeply religious home. In fact, as a boy he once thought he saw God’s light after praying to him. When Van Praagh was twenty-four and working in the legal department of Paramount Studios in Los Angeles, he visited a medium at the urging of a friend, and afterward he decided to explore mediumship. Within a short time he was giving his own psychic readings for a fee. Since then, he has appeared on numerous television talk shows, has hosted his own short-lived television show (2002), and has written several best-selling books on his work, including *Talking to Heaven* (1997), *Reaching to Heaven* (1999), and *Healing Grief* (2001). He also sells meditation tapes, and his life story was the basis of a television miniseries.

Skeptics, however, note that Van Praagh did not discover his talents as a medium until after he received a university degree in communications, suggesting that during this period he learned techniques that could trick listeners into thinking he is in contact with their dead relatives when in fact he is not. To prove this view, one skeptics’ organization, the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), analyzed Van Praagh’s appearance on a television talk show (*Larry King Live*, February 26, 1999), during which he conducted psychic readings for people who telephoned the show. According to CSICOP investigator Joe Nickell, Van Praagh used several standard techniques in order to manipulate mem-

bers of his audience into believing he was privy to facts that only they would know, including asking numerous questions in order to gain information and use it to shape the reading and the caller's perception of the reading, making logical guesses, giving multiple responses that increased the possibility of getting one thing right, shifting focus abruptly to cover up mistaken answers, and using general terms that the caller could easily perceive as specific references. This latter technique relies on a phenomenon known as the Forer effect, whereby people tend to recognize certain statements as being about them, when in fact the statements could apply to anyone. Van Praagh's supporters firmly deny that this is the case, saying that he often provides very specific information that could not have been discovered through even the most skillful questioning.

SEE ALSO: Committee for the Scientific Investigation of Claims of the Paranormal; Forer effect, the

visions

A vision is typically defined as a phenomenon that a person experiences as part of a dream, trance, or state of ecstasy, though some people also claim to have visions while in a waking state. Members of tribal cultures, as well as some adherents to New Age beliefs, often induce visions through practices intended to alter their mental state, such as fasting, isolation, and the in-

gestion of herbs. These practices are not believed to create the vision, however, but to allow it to be received by the mind from some supernatural place. But regardless of whether visions are induced or occur spontaneously, the people who have them typically say that the things they see are real. For example, mediums who have visions of spirits say that they really are seeing those spirits, as do people who see their loved ones in dreams. Skeptics, however, say that visions are optical or aural illusions or hallucinations.

SEE ALSO: hallucinations; illusions, optical

vortices, energy

Energy vortices are geographical areas, such as the rocky landscape in and around Sedona, Arizona, that are said to have unusual energy currents that stimulate people and encourage prophetic dreams, mystical visions, and intense creativity. People who believe in energy vortices have come up with various theories to explain them. Some say the vortices' powers come from the fact that they are geometrically aligned with certain stars and constellations, but others have suggested that their energy comes from the unusual geological formations often found in these areas. There is no scientific evidence, however, of such energy, and skeptics believe that visitors to such sites only believe that their well-being is enhanced while there.

SEE ALSO: Earth energy; Sedona, Arizona



Watchers, the

The name *the Watchers* is sometimes used to refer to extraterrestrials whose motive for visiting Earth is said to be saving the planet from destruction due to environmental damage, nuclear war, or other human-made disasters. The name arose from the alien abduction claims of Betty Andreasson Luca, as described in Raymond Fowler's book *The Watchers* (1990). Fowler reports that one of the extraterrestrials who abducted Luca told her that he and his peers were "caretakers" or "watchers" of Earth who have kept the planet safe from destruction ever since human beings were created. Luca further said that the aliens also wanted to protect humans, because without them the planet would not be in balance. Consequently, according to the aliens, humans were being abducted in order to test them for damage due to environmental pollution. Fowler speculates that this is the reason why alien abduction reports increased as Earth's environmental problems increased. Interestingly, one of the most common features of abduction stories is a warning from the aliens that humans need to stop destroying Earth's ecosystem.

SEE ALSO: alien abduction experiences; Fowler, Raymond

Watkins, Alfred (1855–1935)

At the age of sixty-six, British photographer and businessman Alfred Watkins de-

veloped the concept of ley lines, a grid of straight lines that crisscrossed the countryside in England along its border with Wales. Watkins chose the word *ley* for these lines because it means "a cleared strip of land" in ancient Saxon, in keeping with the appearance that they were made by humans rather than occurring naturally. Watkins believed that the lines had been carefully placed in order to connect ancient burial mounds, monoliths, and other sites that had significance for ancient pagans. Watkins promoted this idea in such works as *Early British Trackways* (1922) and *The Old Straight Track* (1925). When his views were published, contemporary archaeologists rejected them, arguing that ancient people did not have the sophistication or motivation to align such sites and that the appearance of alignment could be attributed to chance. Nonetheless, Watkins developed a large following, and in 1927 some of his followers created the Old Straight Track Club and a journal called the *Ley Hunter* dedicated to his ideas. Watkins participated in this group until his death in 1935.

SEE ALSO: ley lines

weeping images

Sometimes a statue, painting, or other representation of a human figure will appear to weep real tears, blood, or some other liquid. For example, in 1953 a plaster statue of the Virgin Mary in Syracuse, Italy, "cried" for more than a month, and in 1971 a painting of the Virgin Mary ap-

parently began weeping blood. (Other parts of the painting bled as well.) The owner of the painting, an attorney in Italy, called the police, who removed the painting from his home and put it in a box. The painting continued to bleed in the box. Experts subsequently declared that the blood was genuine and human. In another case, one in which a Virgin Mary statue seemed to shed tears, a subsequent examination of the liquid suggested that it consisted of human teardrops.

The Virgin Mary is the most common image associated with this phenomenon. Many Christians, particularly Roman Catholics, believe that such a phenomenon is a miracle sent from God, and in some cases the tears are thought to have healing

powers. The Catholic Church's leaders, however, often express skepticism when such a case of weeping comes to light. Indeed in the early years of the church, weeping icons were typically associated with paganism, or demonic influence. More recently, church officials have made a practice of largely ignoring claims of such phenomena.

Scientists attribute the apparent weeping to hoaxes or, in the case of statues, to an ordinary by-product of the fact that the statues exhibiting the phenomenon are usually fashioned from a porous material like plaster or ceramic, which can soak up liquids, which happened before they were coated in a thin glaze. When this glaze is scratched, scientists say, liquid can leak or ooze out through the scratch. In fact, the scientist who developed this theory, Italian chemist Luigi Garlaschelli, discovered that one type of Virgin Mary statue common in Europe would easily weep when scratched near the eyes because of the way the area behind the eyes was shaped.

In other cases of weeping, skeptics have suggested that the cause is people who are seeking personal fame or towns that want to encourage tourism since incidents of "miracle weeping" usually draw media attention and large crowds. This was what happened in 1996, for example, after a twelfth-century painting of Jesus on a church pillar in the Palestinian village of Bethlehem began to weep tears of blood. According to witnesses, the tears were profuse and smelled like perfume. As crowds flocked to the church to see the miracle, some local religious leaders proclaimed it a message from God to stop the fighting between Israelis and Palestinians in the area. Other religious leaders accused leaders of the church's membership of creating the "miracle" in order to bring attention

and money to their church, although this was not proven.

Some instances of weeping or bleeding images, however, seem very hard to fake. For example, in 1968 a three-hundred-year-old wooden cross in Pôrto Alegre, Brazil, began exuding a red substance that many believed was blood. Numerous people witnessed this, and according to scientists of the time, the tears and blood were real. Similarly, in 1920 in Ireland, thousands of people visited the home of Thomas Dwan, where a sixteen-year-old named James Walsh was staying. Any religious pictures and statues that Walsh owned or that he had been near experienced periods of bleeding, and an indentation in the floor of his room was always full of water no matter how much was removed, yet it never overflowed. No one could find any hidden devices that might account for these phenomena.

Parapsychologists who have studied the Welsh case, however, have suggested that the phenomenon was due to a poltergeist—a mischievous spirit—rather than to a religious miracle. They base this theory on other strange events that were happening around Walsh at the time. In particular, furniture and objects would move great distances, seemingly on their own, whenever Walsh was present, a common feature of poltergeist activity. The mysterious appearance of water is also a common feature of hauntings, poltergeist or otherwise.

SEE ALSO: miracles

werewolves

Werewolves are said to be the product of a human's involuntary, usually temporary, transformation into a wolf. These beasts have been described in various ways, from

looking like an ordinary though unusually ferocious wolf to looking half-wolf, half-human. For example, in 1972 several people in Ohio saw a “werewolf” that they described as having an upright, hair-covered human body and the head of a wolf, complete with fangs; and in 1991 people in and near Delavan, Wisconsin, saw a creature on four legs that resembled a dog or wolf but had the musculature and arm and leg structure of a man. These sightings took place at night, when werewolves are believed to roam.

Werewolves were first mentioned directly in literature at least as early as the eleventh century A.D., but the concept of the werewolf has existed for much longer. Man-into-wolf transformations appear in ancient mythology, particularly Greek, and in ancient Germany, people believed that the spirits of wolves could enter human beings. At the time, this was considered a positive experience that enhanced the human's abilities as a hunter and warrior. By medieval times, however, most of Europe associated the idea with demonic possession.

Still, medieval scholars did not automatically accept the notion that man-into-wolf transformations were possible. In fact, there were great debates on the subject, until witch hunters managed to convince much of the public that what they called lycanthropy, the process of turning into a wolf, was the product of magic and that witches were capable of performing lycanthropy at will. After this, anyone suspected of being a werewolf was considered a servant of the devil just as witches were, and such a person was quickly put to death.

In at least one case, however, a suspected werewolf was allowed to live. In 1692 in Livonia, near the Baltic Sea, a man named Thiess, on trial for being a were-

wolf, insisted that he and all other werewolves deserved praise rather than prosecution because they did battle with witches and hated the devil. He described ferocious fights in which the agents of Satan were overcome by bands of werewolves from throughout Europe. Thiess's unique defense brought him only ten lashes—an extremely light sentence, given that he could have faced imprisonment or execution.

Today some people accept the notion that large groups of werewolves roam about at night, largely unseen by ordinary humans. But these believers disagree on whether the werewolves' transformation is an involuntary process or the product of intentional magic. Those believers who think that they personally can change into werewolves are said by medical profession-

als to be suffering from a serious mental illness that they refer to by the witch hunter's term, *lycanthropy*. Some doctors also suggest that half-man, half-wolf sightings might be of people afflicted with a condition called porphyria. This illness causes a person's skin to turn brown and become oddly textured; in addition, the sufferer becomes so sensitive to light that he or she can only comfortably venture outside at night.

SEE ALSO: demons and the devil; lycanthropy; witchcraft

Winchester House

Located in San Jose, California, Winchester House is one of a few supposedly haunted houses to be turned into a major tourist attraction, largely because it has

unique architectural features. For example, it features secret passages to hidden rooms, windows backed by solid walls, and staircases that go nowhere. It is also rumored to be haunted by the ghost of its original owner, Sarah Winchester.

Winchester began construction on the 160-room mansion in 1884 and continued adding rooms until her death in 1922. Her compulsive building was based on her belief in spirits. As the daughter-in-law of the man who invented the Winchester rifle, she became convinced that her construction projects would in some way appease the ghosts of those killed by the rifle her father-in-law had invented and that if she did not appease them she would die. For most of her life she tried to contact the spirits at séances that she held at Winchester House, and she incorporated the number thirteen into her building projects because she thought that this number was naturally appealing to ghosts. Some of her stairways, for example, have thirteen steps, and her chandeliers have thirteen lights. There are thirteen bathrooms in the house, and one room has thirteen windows.

In the years since Winchester's death, visitors to the mansion have reported hearing mysterious footsteps and slamming doors. A tour guide reported hearing his name whispered in a room where no one else was present, and a caretaker heard breathing behind him when he was alone. Other people have felt cold spots in an otherwise warm room and have smelled soup cooking in a kitchen devoid of pots. Others who work at Winchester House have reported finding locked doors inexplicably unlocked and lights spontaneously turned on and off. One employee, the director of food and merchandizing, came to work to find his desk, chair, and the surrounding floor soaked with water, even

though the room's ceiling and walls were dry.

SEE ALSO: haunted houses and other structures

witchcraft

Witchcraft is the practice of magic by witches. There are two types of witchcraft. The first involves divination, the use of herbs and potions for healing, and folk magic with simple spells and without elaborate rituals. The second is the practice of advanced, or "high," magic, involving complicated spells and elaborate rituals, combined with the worship of ancient deities, primarily goddesses rather than gods. In either case, most witches believe that witchcraft requires certain psychic powers attuned to the forces of the universe. Spells and rituals that are part of witchcraft typically require the witch to recite magic words while performing certain actions, perhaps with tools like wands that are believed to be magic or to enhance magic by connecting with the aforementioned powers and forces.

SEE ALSO: divination; magic and spells

Worth, Patience

Patience Worth was the spirit of a seventeenth-century Quaker from England who supposedly communicated with a relatively uneducated St. Louis, Missouri, housewife named Pearl Curran in the early twentieth century. Curran reported that she first began receiving messages from Worth via a Ouija board, but she later received these messages purely in her mind. Once this mental connection was established, according to Curran, Worth began dictating poems, plays, and entire novels, sometimes switching back and forth between works. One of these works, *Telka*,

was in an early medieval English dialect that most people believe Curran could not have known. Curran was open about the source of her writings, many of which were published to great profit and acclaim. Because of this notoriety, skeptics accused Curran of making up Patience Worth in order to gain fame and make money. In 1924, however, an investigator with the Society for Psychical Research, Walter F. Prince, concluded that the messages were coming from Curran's subconscious, though he was unwilling to say whether the messages originated in her subconscious or were passing through it from some place of spirits.

SEE ALSO: automatic writing, art, and music; Ouija board; xenoglossy

wraith

The word *wraith* is sometimes used inter-

changeably with the word *ghost* or *apparition*. However, a wraith is actually a special kind of apparition in that it is the exact likeness of a living person, usually seen shortly before the person's death. In most cases, the wraith is also a crisis apparition, which is an apparition that occurs when a living person is sick, seriously injured, or otherwise in crisis. An example of a crisis apparition is the 1918 case of eighteen-year-old British pilot David McConnell, who appeared to friends, looking as he normally did, at the same time he was experiencing a fatal plane crash miles away. In this case, the apparition only exchanged small talk before leaving the room, but in other cases the wraith might deliver a warning or other message. More commonly, however, it says nothing.

SEE ALSO: apparitions



xenoglossy

Xenoglossy is the speaking or writing in a language with which the speaker or writer is supposedly unfamiliar. For example, in the 1920s a woman named Pearl Curran (also known as Patience Worth) dictated a novel, *Telka*, that was in an early medieval English dialect that most people believe Curran could not have known. There have also been several instances of someone who only speaks English suddenly being able to speak French. Xenoglossy involving speech often occurs as a monologue, but sometimes it is part of a conversation with others who are present, in which case it is called responsive xenoglossy. One of the best-documented instances of responsive xenoglossy involved “T.E.,” a thirty-seven-year-old housewife who asked researchers not to reveal her identity. Studied by Ian Stevenson from 1958 through 1959, she would apparently speak, while under hypnosis, with the voice and mind of a seventeenth-century Swedish farmer named Jensen Jacoby. There was no apparent evidence that T.E. had learned Swedish prior to her xenoglossy, yet as Jacoby she was able to converse with other Swedish speakers in their language. In addition, when she was shown various objects from the seventeenth century, T.E./Jacoby identified them using the correct Swedish words. During his investigation, Stevenson specifically ruled out the possibility that

T.E. was exhibiting cryptomnesia, whereby a person under hypnosis suddenly recalls skills that he or she has forgotten ever possessing. He concluded that T.E. had either been possessed by the spirit of Jacoby or had been him in a previous life.

Indeed, xenoglossy has occurred during sessions in which hypnosis is used specifically to uncover memories that might suggest reincarnation. For example, an American who claimed to have lived a past life in fifteenth-century France was, while under hypnosis, inexplicably able to speak a French dialect seemingly from that period. Xenoglossy has also been documented in cases of suspected demonic possession. For example, while supposedly possessed by a demon in the early twentieth century, Anna Ecklund was able to speak and understand numerous languages to which she had never been exposed.

In most cases, xenoglossy involves a recognized language. In others, however, the language is unrecognizable, and the speaker subsequently claims it is from some unusual place, such as another planet or a “lost world” like Atlantis. When this occurs, the speaker is often a psychic who claims to be channeling the spirit of someone from one of these places.

SEE ALSO: automatic writing, art, and music; demonic possession; talking in tongues; Worth, Patience



yeren

Also called the wildman or Chinese wildman, the *yeren* is an apelike creature that has been reported in China since ancient times. It is also mentioned in Chinese folklore. The precise descriptions of the *yeren* vary. Some people say that the creature walks on two legs and looks somewhat like a 6-foot-tall (1.8m) man covered in thick but short brown hair (similar to a yeti), but others say it is a four-legged ape-man with long red hair. A similar Chinese ape-man, the *xing-xing*, is described in much the same way, though it is said to be a bit smaller than a human. Cryptozoologists suspect that both creatures might be an undiscovered species of ape related to the orangutan, perhaps existing since prehistoric times.

SEE ALSO: yeti

yeti

Yeti is another name for the man-beast of the Himalayas typically called the abominable snowman. As described by people who claim to have seen it, it is nearly iden-

tical to Sasquatch or bigfoot of North America and the *yowie* of Australia. Consequently, some cryptozoologists argue that all of these man-beasts are the same species of creature, living in different parts of the world.

SEE ALSO: abominable snowman; bigfoot; *yowie*

yowie

The *yowie* is an Australian ape-man that was mentioned only in Aboriginal folklore until the 1800s, when European colonists began claiming they had actually seen it. Since then, there have been numerous sightings reported. According to witnesses, the creature stands on two legs to a height of approximately 6 feet (1.8m) and has a gorilla-like body covered in reddish brown hair, a face that appears human except for a pair of fangs, long arms, and unusually big feet, much like bigfoot, a similar ape-man in North America. Prior to the 1970s the *yowie* was usually called the *yahoo*; the reason for this name change is unclear.

SEE ALSO: bigfoot



Zener cards

Designed by Dr. Karl Zener during the 1930s for psychologist J.B. Rhine, Zener cards are used to test the extrasensory perception (ESP) ability known as telepathy. Each card has one of five symbols on one side: a circle, a square, a star, a “plus sign,” and three wavy lines grouped tightly together. At the beginning of the test, the twenty-five cards in the pack are shuffled, and the tester picks up the top card and concentrates on its symbol while keeping this image hidden from the test subject. The subject is then asked to identify the image that the tester is seeing. According to ESP researchers, if the subject is indeed telepathic—that is, able to “receive” an image transmitted by a “sender”—he or she will give the right answer significantly more often than 20 percent of the time (more than one in five times), the success rate dictated by the laws of probability. Some people are indeed able to do this, but skeptics attribute higher success rates to cheating (and indeed, some of the first Zener cards were inadvertently made thin enough to see through) or to the subject’s ability—conscious or unconscious—to pick up unintentional clues given by the tester.

SEE ALSO: extrasensory perception, Rhine, J.B.; telepathy

zombies

Zombies are mindless but still living creatures, formerly human beings, said to be victims of vodun magic—that is, magic of

the vodun religion (also called voodoo, voodooon, or vodoun)—which combines elements of African paganism with Christianity. Practitioners of vodun, who worship hundreds of uniquely vodun gods and goddesses derived from those of West African religions, believe that vodun priests (usually called witch doctors) use magic both to help and to harm people, as well as to predict the future, and are able to cast a spell on someone that will turn him or her into a slave who does only the priest’s bidding.

Researchers who have studied these zombies have found that they are not the victims of magic but of a toxin that can cause brain damage. In other words, the vodun priest has somehow introduced a poison into the victim's system, thereby causing brain damage. In popular movies, however, zombies are dead people whose

bodies have been reanimated by some mysterious force or disease, though their minds and souls are no longer inside. This view of zombies, which was created by Hollywood, is now the prevailing one among most Americans.

SEE ALSO: magic and spells; vampires

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