

The Anatomy of a Haunting

By MICHAEL JAWER

We now know that microorganisms can leave behind an electromagnetic trace, so why not people? Here's the new science of ghosts.

In 1973 and 1974, something odd was evidently taking place on board Eastern Airlines L-1011 jets. Passengers and crew on those planes saw, heard and even spoke to solid looking apparitions of two crew members, Captain Bob Loft and Second Officer Don Repo, who had perished following the crash of Eastern Airlines Flight 401 into the Florida Everglades on December 29, 1972.



The apparitions were readily identifiable as

Officers Loft and Repo. They “appeared and disappeared in front of pilots, flight engineers, or flight attendants completely unexpectedly, and usually in flight,” according to a meticulously researched (and quite popular) book that came out a few years later, *The Ghost of Flight 401*. Passengers who did not know either of the men identified them without hesitation from photographs.

If the accounts are taken to be truthful, they beg for some kind of explanation, so let’s first look at some groundbreaking new research. About a year and a half ago, Luc Antoine Montagnier, a French virologist and Nobel laureate for work identifying the HIV virus, found that some supposedly sterile solutions, which were carefully filtered to remove pathogenic bacteria, turned out to have bacteria colonies after two or three weeks of incubation. The holes in the filters were much too small to allow any of the bacteria to get through, yet somehow the bacteria reappeared. Montagnier then diluted some newly filtered solutions in water and found something odd — extremely highly dilutions of the “sterile” solution carried electromagnetic traces of the bacteria. These electromagnetic traces contain genetic information that Montagnier is now using to detect minute traces of disease, but this work raise larger implications. If bacteria leave behind measurable energetic traces that contain significant information, shouldn’t people be capable of the same thing?

The next question is how energetic traces of some people might become sometimes be amplified to be detectable as apparitions. To supply that framework, I’m going to nominate a subject — emotion. Throughout my examination of purported anomalies, I’ve been struck by the number of times intense emotion appears to play a pivotal role. This is far from a lone observation: researchers into the paranormal have long noted the conspicuous presence of emotion in accounts given by the people involved. Let’s consider, then, what may have been going on in the case of Flight 401.

A Case of Instant Disaster

At the time of the crash, Loft and one other crewman, First Officer Bert Stockstill, were at the cockpit controls. They believed they were flying the plane at an altitude of 2,000 feet as they diverted west from the Miami airport because the landing gear in the nose of the plane had apparently not locked into position.



Repo, who was also the chief engineer for the flight, and another technical expert, Angelo Donadeo, had crawled down into a compartment beneath the cockpit floor to see whether the landing gear was in fact down.

Unbeknownst to all four men was that the autopilot had been disengaged and the plane was falling at the rate of 500 feet every twenty seconds. There was no warning light in the cabin, and the one chime that did sound to report trouble was at such a low volume that none of the crew noticed it. The dark, still waters of the Everglades enveloped the plane with a terrifying suddenness when Flight 401 hit that night at 11:42 p.m.

The crash claimed 99 lives. Incredibly, there were 77 survivors — among them Donadeo. Of the other crew members in the cockpit, Loft and Repo were found badly injured. Loft was apparently in shock but struggled, as if trying to get out of the plane. He was lucid enough to tell rescuers “I am going to die.” His struggle ended within an hour of being found. Donadeo and Repo were in the watery

compartment underneath the cockpit, calling out that they did not want to drown. Repo, one rescuer noted, “seemed to be angry.” He was flown to a hospital but died there 30 hours later.

Consider that Loft and Repo did not perish instantly but were conscious of their condition. Despite the shock, they struggled. Repo, in particular, evidenced anger and a determination to fight. Biologically, anger can mobilize a considerable reserve of energy in the fight for survival. Both men realized they were badly hurt and almost certainly experienced a combination of pain, fear, and anguish over what had happened to them, their plane, and their passengers.

Each man, furthermore, had a notable stake in his profession. Loft was an experienced pilot, fiftieth in seniority among Eastern’s 4,000 pilots. His colleagues described him as “conscientious, a perfectionist.” Repo had risen from aircraft mechanic to flight engineer, and had a great affinity for the L-1011 aircraft. It’s likely that both of them harbored a sense of responsibility for the fate of the plane and the well-being of the passengers and crew. Their injuries, however, *prevented them from doing anything about it*. This dilemma — not being able to act on a concern or preoccupation amidst a threat to physical safety that summons tremendous fear or anger — can be considered a “flashpoint” for the creation of apparitions.

The Brain on Panic

Some basic neurobiology will help illustrate what I am talking about. When a threat (either real or perceived) is first faced, the brain’s chief actor is the amygdala. The amygdala, an almond-shaped cluster in the brain’s emotional center (amygdala is the Greek word for “almond”), specializes in processing elemental feelings. Picture this structure as a sentinel, constantly scanning for threats to life or limb. If you suddenly feel a bug crawling up your leg, or hear a siren wailing in the distance, your amygdala will instantly activate your body’s fight-or-flight hormones and prepare your sympathetic nervous system (heart and lungs, muscles, and gut) for possible action. This alarm takes only thousandths of a second, so quick that the neocortex (the “thinking brain”) has nary a chance to judge if the presumed threat is real, assess potential courses of action, and make a rational decision. The evolutionary value of this quickness must lie in the need for a split-second response if early humans were to survive an emergency, such as a predator poised for the kill.

It’s important to note that, before a fight-or-flight decision is made, the individual freezes for a very brief interval: while revving the engines, so to speak. A temporary immobility is wired into us — indeed, into all mammals — before the sympathetic nervous system kicks into gear. While human beings may not pause as long as, say, a deer in the headlights, the principle is the same. This transient “freeze” is also governed by the amygdala. In that small span of time lie some truly fascinating implications.

So, picture this: your amygdala has just sounded the alarm. Before your neocortex knows what’s happening, you startle, you freeze. Your entire body — your nervous system and everything else — is poised for further action. Especially if the threat is perceived as life or death, the stakes are raised to the highest possible level. The energy summoned up will be considerable. As an analogy, imagine that you are making love with your partner; you are on the verge of climax when suddenly, some outside force stops you. Now, multiply that feeling of withholding by a hundred, and you’ll get a sense for the amount of energy aroused by a life-threatening experience.

Now, think of Don Repo in the wheel well of that plane...or, for that matter, over the 30 hours he remained alive. He was

essentially in a struggle for survival but unable to either fight or flee. A vast amount of biological energy had been marshaled with no productive way to engage it. That energy, I propose, gives added impetus to what the brain does *next* after a threat has been identified.

The Power of the Unexpressed

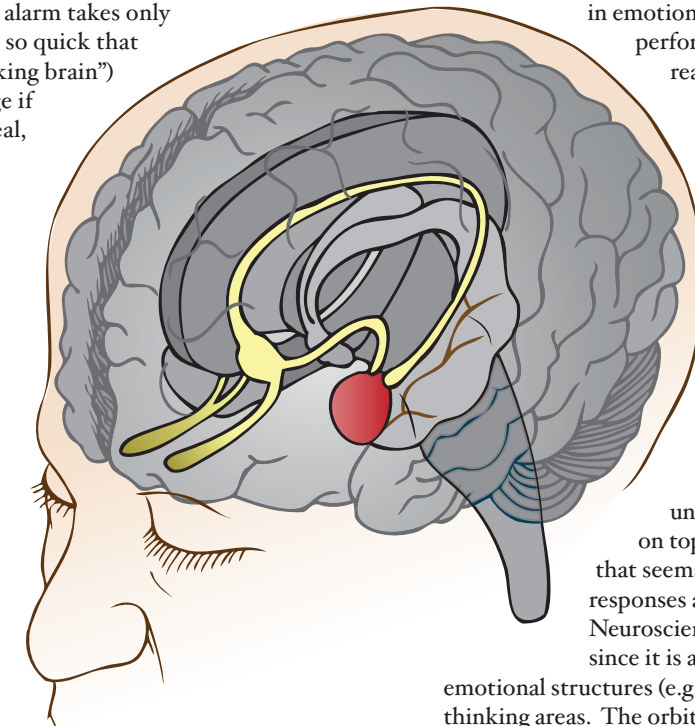
In everyday situations when no danger is imminent, a series of circuits in the neocortex (in the prefrontal lobes just behind the forehead) effectively governs our behavior. This prefrontal area modulates the amygdala, allowing for discernment in emotional reaction. The neocortex essentially performs a risk/benefit analysis of possible reactions and chooses among them. Sometimes the prefrontal area will override an alarm generated by the amygdala in order to reappraise the situation, thus providing a measure of self-regulation.

The prefrontal cortex is the neural sector where most or all of the circuits involved in a felt reaction come together. Think of it as a highway cloverleaf, with different branches connecting one to another. Especially influential in this convergence is an area called the *orbitofrontal cortex*. Forming the underside of the prefrontal cortex, sitting on top of the eye sockets, this is the locale that seems most critical for assessing emotional responses and making mid-course corrections. Neuroscientists are greatly interested in it, since it is a juncture between the more primitive emotional structures (e.g., the amygdala) and the newer, thinking areas. The orbitofrontal cortex thus balances our impulse to express elemental feelings (shout, cry, lash out) with our conscious awareness of and control over them.

Again, picture Repo — or Loft, for that matter — in a state of distress. Each must be aware that he is critically injured. Each has instantaneously summoned a torrent of bodily energy. And, as we noted earlier, each feels a significant responsibility to the plane, its passengers, and fellow crew. To the extent that his mind is able, each man will likely cogitate over what to do — what can be done, what *should have* been done — to mitigate the emergency. But neither man can actually do a thing. Their concerns, therefore, are effectively held in abeyance. This neural situation is mirrored in the rest of the body, where energy is marshaled with no real outlet for its urgency.

Interestingly, in 2008 I came across an article in *The New York Times* indicating that major preoccupations need not be the only issues seized upon by the endangered mind. Half-understood compulsions, worries or guilt are likewise grist for the mill. The article I read related that a nurse, age fifty, was flying in a plane

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that suddenly lost one of its engines.

Over the next turbulent moments of uncertainty, she recounted, "All I could think about was my garage. How I hadn't cleaned it, and how messy it would be when someone came in and saw it. It's crazy what you think about."

Strangely, such issues are not only dredged up but ruminated on with all the energy that the distressed person has at his/her disposal. Unfortunately, though, in some situations the energy *cannot* be disposed: no meaningful action can be taken and no feelings expressed. The unresolved concerns, I suggest, in tandem with the individual's latent energy, can, in these extraordinary situations, be displaced into the environment itself, taking something of that person – his or her memories, desires, feelings, preoccupations – into the surroundings. The apparition or "presence" that results is a partial representation of the person who was alive, a projection of what he or she was concerned with, what he she cared about, what he or she liked or disliked.

The folklore surrounding ghosts suggests that a deceased person had unfinished business and so returned to a certain place not knowing he or she was dead. This makes it sound as though, through sheer force of will, an individual can haunt a given location. My explanation differs, focusing as it does on the biological and neurological struggles paralleling one another within the person faced with a mortal threat. As such, it is potentially something that science can investigate. Perhaps *energetic, emotional* processes in the body and brain will be shown to underlie these truly bizarre reports that have baffled and troubled people in every age and in every society.

Michael Jawer is an emotion researcher and expert on the condition known as "sick building syndrome." His recent book, coauthored with Marc Micozzi, MD, Ph.D., is *The Spiritual Anatomy of Emotion: How Feelings Link the Brain, the Body, and the Sixth Sense* (Park Street Press). More information is available at www.emotiongateway.com.

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