

EdgeScience



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Current Research and Insights

A New Primate Species in Sumatra

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The Magenta Phenomena:
A Medium in Brazil

Courting Disaster?
The Need for Earthquake
Advisories in California

**A Lost Civilization
Underfoot**

The Uses and Misuses of
Quantum Jargon

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Why EdgeScience? Because, contrary to public perception, scientific knowledge is still full of unknowns. What remains to be discovered—what we don't know—very likely dwarfs what we do know. And what we think we know may not be entirely correct or fully understood. Anomalies, which researchers tend to sweep under the rug, should be actively pursued as clues to potential breakthroughs and new directions in science.

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ASSOCIATE EDITORS: Dick Blasband, Dominique Surel
BOOK REVIEW EDITOR: P.D. Moncreif
CONTRIBUTORS: Marsha Adams, Adam Davies, Brenda Dunne, Robert Jahn, Stephen Jett, Stanley Krippner, David Nabhan, Andrew Paquette
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The Society for Scientific Exploration (SSE) is a professional organization of scientists and scholars who study unusual and unexplained phenomena. The primary goal of the Society is to provide a professional forum for presentations, criticism, and debate concerning topics which are for various reasons ignored or studied inadequately within mainstream science. A secondary goal is to promote improved understanding of those factors that unnecessarily limit the scope of scientific inquiry, such as sociological constraints, restrictive world views, hidden theoretical assumptions, and the temptation to convert prevailing theory into prevailing dogma. Topics under investigation cover a wide spectrum. At one end are apparent anomalies in well established disciplines. At the other, we find paradoxical phenomena that belong to no established discipline and therefore may offer the greatest potential for scientific advance and the expansion of human knowledge. The SSE was founded in 1982 and has approximately 800 members in 45 countries worldwide. The Society also publishes the peer-reviewed *Journal of Scientific Exploration*, and holds annual meetings in the U.S. and biennial meetings in Europe. Associate and student memberships are available to the public. To join the Society, or for more information, visit the website at scientificexploration.org.

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Cover art by Alan Marks. Drawing based on a description given Marks by British journalist Debbie Martyr, who claimed to have seen orang-pendek during a 15-year project, funded by Fauna and Flora International, to document the primate's existence.

By Andrew Paquette

Dreams Are Memories

Dreams are memories. They are not simply “a series of thoughts, images, or emotions occurring during sleep,” as Merriam Webster’s dictionary describes them. Those things may be involved, but that is just another way to describe how the various elements of a dream are remembered. What happened to you today? Was it a collection of thoughts, images, and emotions? No. What happened to you today were a series of events that you participated in, either passively or actively. Your memory of your day, however, can be described using the dictionary definition for “dream,” apart from one thing: you weren’t asleep.

Why is there a special word for memories that originate from sleep, when there is no special word for memories related to waking activity? Because it is not generally accepted in western cultures that anything real happens during sleep, therefore, they are not “memories,” because there is nothing real to recall. Instead, the images themselves are the dream, like abstract paintings made by an artist without a model. This is like saying that the videotaped footage of a birthday party is the same as the party itself, except it denies the birthday party ever happened and accepts only the footage. From what is this footage supposedly created? According to Freud, repressed desires, combined with memories from our waking lives, are enough to fraudulently manufacture even the most vivid, magnificently detailed dream. More modern theories state that dreams are the by-product of chemical activity in the brain. It is wrong, but in academic circles, it is *de rigueur* to accept some permutation of this theory. Both of these ideas are dependent upon a wholly mechanical view of life, all of which is soulless, the random by-product of purely physical forces.

To prove this wrong, one needs only one “dream,” one memory retained after sleep that is demonstrably connected to something real but outside one’s own experience. There are reports of many such dreams throughout history. They are mostly isolated incidents, occurring on only a handful of widely spaced occasions in any given person’s life. Regardless of incidence, if any one of these are what they purport to be, then everything we’ve been told about dreams is wrong. In my own life, I have had hundreds of dreams that convincingly correspond with things that could not possibly be connected with anything I could be expected to know or imagine. These are dreams of future events, such as the 9/11 disaster, the Boxing Day tsunami, the Gulf War (both of them), of people at distant locations, friends, family, and strangers, people at the moment of death or severe distress, dreams of future *Time* magazine covers, and many more things. They are so numerous that to somehow retain a belief that dreams are literally some kind of accidental by-product of brain activity or repressed desire would make no sense. How does random brain activity or a repressed desire create a dream of a future plane crash?

Over the last twenty years, I have made an effort to record, analyze, and understand my dreams. This avocation of

mine was inspired by the social friction I encountered every time my knowledge of what dreams truly are came into conflict with daily life. This happened far more often than one might think, because so many beliefs are dependent on other core beliefs. If a person does not believe in the existence of a soul then their perspective on all things related to death will be affected by it. Beyond that, it can have a pronounced effect on other life decisions, such as divorce, money, and career. It can affect one’s taste in poetry, music, film, and books. It touches so many aspects of one’s life, that a difference of opinion may be noticed in myriad ways. I found myself constantly confronted with contrary attitudes on this subject, as well as great curiosity. It is for this reason that I have decided to put down on paper a description of my experiences, and an explanation of what they mean.

My records are extensive, and the wealth of information they contain has proven enough to suggest some very intriguing possibilities. At the very least, certain dreams completely destroy commonly held skeptical arguments against precognition, telepathy, and out-of-body-experiences. That is the small stuff, however. Our sleep memories are more than the occasional intersection of the supernatural with our physical environment. They are a continuum of shared experience, something we all participate in at some level, whether to a weak degree or strong. They are memories of our other life, lived in another place, and with each other. Our memories may be fragmentary and riddled with mistakes, but if you make the effort you will see that they are not just images, they are recollections. If you know this, you can begin to work on improving your memory, and then you too will see that a “dream” is not a dream, it is something much, much, more.

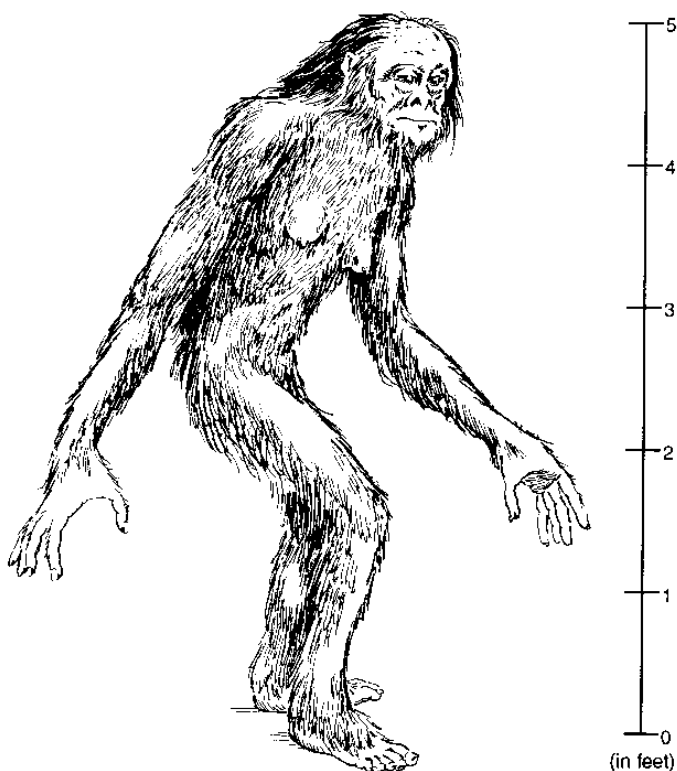
ANDREW PAQUETTE started his career in New York City as an editorial artist. He went on to become a comic book artist, animator, and art director in the video games industry, and has worked in Hollywood as an effects artist in such popular films as *Space Jam* and *Spider Man*. He currently teaches computer graphics. For a very brief time, he showed his paintings of the American southwest at the Taos Gallery in Scottsdale, Arizona. Paquette first noticed his psychic experiences while building his career in New York. Over time, they established themselves as a regular part of life. This column is excerpted from his book on the subject, *Dreamer: 20 Years of Psychic Dreams and How They Changed My Life*, published by O Books in March 2011.



Adam Davies

A New Primate Species in Sumatra

The orang-pendek, which means “short person” in Indonesian, is said to live in the dense mountain jungles of Sumatra. Stories about these creatures can be traced as far back as Marco Polo, who wrote about them in his diaries. Even then, these “little people” were regarded as elusive. But the orang-kubu, the indigenous “forest people” of Sumatra, have always regarded the orang-pendek as a separate tribe of real people.



An artist's sketch of the orang-pendek by Harry Trumbore.

Eyewitnesses normally describe this ground-dwelling, bipedal primate as being short, no more than five feet tall. It varies in color from a dark orange to a chocolate brown. Its “human like” face is said to startle and even upset witnesses, such is the intensity of the experience.

I have been fascinated with the legends surrounding the orang-pendek since I first travelled to Indonesia in 1998; I have been back five times in the last dozen years. What I am fully aware of though is that no matter how interesting or suggestive the legends and eyewitness accounts may be, what really matters is evidence, specifically scientific evidence that can be independently verified and corroborated. This is what I have sought to achieve and have done so with some success.

In 2001, I led an Anglo-Indonesian expedition to Kerinci Sablat National Park in Western Sumatra to look for evidence of the orang-pendek. I chose this area to concentrate my efforts because of the concentration of recent eyewitness reports.

Our team not only spoke to eyewitnesses, but we also found footprints, which we made casts of, as well as hair samples.

The Footprints

David Chivers, a primatologist at Cambridge University, has examined the cast of the footprints we brought back and has no doubt that they are from an unknown primate. “These footprints were very exciting, very unusual because they were of mixed character from all the different apes and humans,” said Chivers. “They have toes that are shorter, more like humans, the heel is like nothing in that it is curved. We call it banana foot.”



A team member making a cast of a found footprint.

Photo by Andrew Sanderson

Jeff Meldrum, a biological anthropologist at the University of Idaho, has also examined the cast of the footprint and come to a similar conclusion: “The cast, if accurate, seems most likely to represent a primate appendage of some kind—flat footed, five digit, divergent medial digit—features not combined in other common wildlife tracks. If the cast represents a primate footprint, the very short heel, indicated by the position of the presumed hallux (medial toe), bears some

resemblance to that of an orangutan foot, which boasts a remarkably short calcaneal process. However, this feature is combined with short thick digits in the cast in question, unlike the remarkable long lateral digits and shortened hallux of the living orangutan foot. It seems an unusual combination of traits in a terrestrial biped, which the orang pendek is reported to be. Alternately, the cast might be that of a handprint, in which case the proximal position of the medial digit, the thumb, would be more appropriate.”

Hair Identification

Hans Brunner of Deakin University near Melbourne analysed the hair samples we brought back from the 2001 expedition. Bruner is a renowned zoologist and animal forensic expert who published the world’s first book on hair identification. His work was instrumental in analyzing the hair samples in the famous Lindy Chamberlain dingo baby case of the 1980s. For us, he spent months studying Sumatra’s native species and conducting the hair analysis, and eventually came to the conclusion that we are indeed dealing with an unknown primate.”

When I went to see him in Australia, he postulated that the closest creature to the orang-pendek would probably be the orangutan (orang-utang). But he also said that the hair samples showed unique structural differences that made them very different from orangutan hair. I also sent a hair sample to anthropologist Todd Disotell at New York University for DNA analysis. Unfortunately, due to the degradation of the samples and possible contamination, no DNA could be extracted from the 2001 hair sample we brought back from Sumatra.

In 2009, while leading another team to Kerinci Seblat National Park, I came across a trail of what appeared to be orang-pendek footprints. We followed them and eventually found hairs where it had apparently brushed up against a tree. We sent these samples to Lars Thomas who graduated from

the University of Copenhagen as a marine biologist specializing in otoliths, the calcium crystals you find in the inner ears of bony fishes. He was fascinated by the fact that you could deduct an incredible amount of information about an animal just from looking at otoliths. This rather forensic approach led him to the study of hairs and similar small “bits and pieces,” and he is currently working as a freelance consultant for various museums, scientific institutions and societies, and local and national authorities.

In November 2010, Thomas drafted his conclusions, which I quote here in part: “A small part of the hair sample was subjected to a DNA-analysis, but due to the small amount of DNA extracted and the rather poor condition of it, no firm conclusion could be reached. The DNA did show some similarities to primate DNA, possibly orangutan, but no definite results could be obtained. Following this I subjected the remaining hairs to a structural analysis to see if this could bring any information to light that might reveal the identity of the owner of the hairs. I checked all of the remaining 6 hairs and they were all consistent with hairs from large primates or humans. They all had the rather large medulla with a lot of pigmentation typical of large primates, and the intermittent holes in the centre of the hairs, making them look somewhat like hollowed out tree trunks. I compared the hair samples with reference samples of 3 different species of gibbon, orangutan, chimpanzee and bonobo, gorilla and some 15 samples of human hairs in various colours, mainly red or reddish. I was never able to ascertain their identity with total certainty, although I could eliminate some. The hairs were not modern human, and they were not from siamangs or other gibbons. They have a very deep rusty-red colour, very similar to the colour of orangutan hairs, but varied in other structural details. So based on these results alone I concluded that the hairs were from something closely related to orangutans or from a form of orangutan I had not seen before.”



Chimpanzee



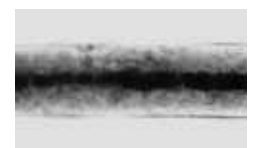
Ebony Leaf Langurs



Gorilla



Human



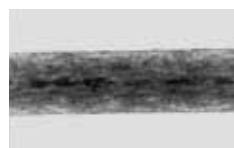
Orangutan



Pigtailed Macaque



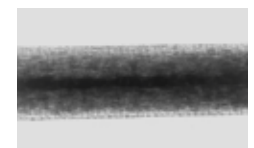
Red Leaf Monkey



Rhinoceros



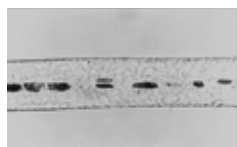
Siamang



Sun Bear



Tapir



White-cheeked Gibbon



Unknown



Unknown



Unknown

DNA Analysis

In the autumn of 2010, Tom Gilbert conducted an independent DNA test of the remaining hairs from the 2009 expedition. Gilbert, who was trained in genetics and evolutionary biology at Oxford University, is an associate professor at the Centre for GeoGenetics, which is part of the Natural History Museum of Denmark. Gilbert was able to extract a good amount of DNA from the hair sample, enabling him to conclude that these hairs were either human, or very closely related to humans. It's worth noting, by the way, that Gilbert has categorically denied that there might have been contamination of ape DNA with human DNA or vice-versa.

There can be very little doubt at this point that the creature we call orang-pendek exists. The question is: What is it? I once thought that if you were to strip away the mythology surrounding the creature, what you would be left with is essentially a bipedal orangutan, possibly a successful genetic mutation that had survived and bred in isolation from others of its kind. (There are no orangutans for hundreds of miles from the area where the hair samples were found.) I have also considered the idea that the orang-pendek is a completely new species of primate, distinct and unique.

Conclusions

But a serious consideration of the scientific evidence for the orang-pendek points in two directions at once. The structural analysis of the hair suggests either an orangutan, or something very closely related to an orangutan. The DNA analysis, on the other hand, points to a human or something very closely related to humans. But why can't it be both? Could the orang-pendek be an example of bipedal evolution from the orangutan, a relative rather than a direct ancestor, and more advanced than any we are aware of in recent human history? They display only the most primitive tool use, on a par with the chimpanzee, but they certainly have no ability to make fire. Yet all of the witnesses I have interviewed have been startled by two key features: their bipedal locomotion, and their "human like" face, had they been fortunate enough to see it.

Could the orang-pendek be a hominid with ape-structured hair? Zoologist Karl Shuker has no problem with that notion and cites a precedent, documented 20 years ago, of a creature whose DNA corresponds most closely to one taxon, though its hair structure is more similar to a different taxon. He's referring to the King Cheetah. Genetically, the animal is known to be nothing more than a genetic variety of the normal spotted cheetah *Acinonyx jubatus*, but hair samples analyzed by the Institute of Medical Research in Johannesburg revealed that the cuticular scale pattern of King Cheetah guard hair compare much more closely with that of leopards than with that of spotted cheetahs. "Cheetahs and leopards not only belong to separate feline genera but also are only very distantly related," wrote Shuker on his blog, ShukerNature, on Nov. 24, 2010. "Suddenly, an unknown hominid whose hair structure is more similar to that of apes is not so unlikely after all, is it?"

Whatever the orang-pendek turns out to be, however, it is imperative that action be taken immediately to protect its habitat, as time is running out for this undoubtedly very rare creature. I have seen with my own eyes thousands of acres of virgin rain forest being pulled down to make palm oil plantations or farms for the ever-increasing population. I have witnessed the corrupt indulgence in illegal logging, despite the best and concerted efforts of the rangers who try to protect the area. Leaving it alone just isn't an option. Unless we do something about it now, I have no doubt that both the orang-pendek, and its habitat, will likely to be snuffed out of existence within my lifetime.

I will be returning to Sumatra in September to continue my research.

ADAM DAVIES has a degree in history and a post-graduate degree in law, and is a member of MENSA. He has led expeditions in search of mystery animals not only in Sumatra, but also in the Congo, Norway, Scotland, Mongolia, and India. He has been described as an "explorer," "adventurer," and "cryptozoologist," but when not on expedition, he is a Civil Servant living in Manchester in the United Kingdom. His recounts his efforts to bring back evidence of often legendary beasts—usually crossing some of the most inhospitable and unexplored parts of the world in the process—in a book entitled *Extreme Expeditions: Travel Adventures Stalking the World's Mystery Animals*.



In 2009, Adam Davies (left) was privileged to have an audience with the King (right) of Suku Anak Dalam in Sumatra. The King told Davies how he and his son-in-law had once been chased by an orang-pendek, while they were out hunting.

Stanley Krippner

The Magenta Phenomena: A Medium in Brazil

My first meeting with Amyr Amiden dates back to February 17, 1993, when a Brazilian psychologist, Margarida de Carvalho, and I led 20 members of the Institute of Noetic Sciences on a tour through Brazil. This trip included four days in Brasilia where we spent an afternoon at the Foundation of the City of Peace, which was established, along with its affiliated International Holistic University, by Pierre Weil, a French psychologist who had fallen in love with Brazil.

An Unusual Lunch

Weil had persuaded Amiden to join our group for lunch. De Carvalho and I had heard that Amiden could supposedly produce physical objects, called *apports*, through mediumistic abilities, though the group members were not aware of his purported talents.

One member of the group later wrote about the lunchtime events that ensued: “I was sitting in the lunch room about four feet behind Amyr at the City of Peace. I heard Dr. Weil say, ‘Here it goes again.’ His statement was in response to hearing something drop and bounce inside the room. Shortly thereafter, Stanley Krippner...walked over and retrieved a small polished black stone encased in mud from the floor. I watched with interest as they discussed it...Dr. Krippner asked Amyr if he felt that the phenomena happened through the work of some spiritual force or entity operating in him. Dr. Krippner mentioned the name ‘Christ’ in this dialogue. Instantly, Amyr began to bleed from his palms and the backs of his hands. A dark red mark also appeared on his forehead. This phenomenon, called *stigmata*, allegedly indicates that individuals so heavily identify with Christ that they express the marks of the

crucifixion.... Interestingly, Amyr is a Muslim although he was ecumenical in presenting his beliefs.”

I recalled that beet salad had been served at lunch, and speculated whether the red fluid that appeared on Amiden’s body could have been beet juice; however, I was reluctant to ask permission to inspect the fluid. After asking Amiden’s permission, I invited the group to file past Amiden to observe the phenomenon.

Amiden told us he was born on July 5, 1941, and was of Syrian and Iranian descent. He worked as a government workers’ union secretary, but at the time was on leave for health reasons, so was helping in his brother’s import business. On weekends he also worked at a leper colony. At that time, he lived in Brasilia, was divorced, and had a 15-year-old son who, he said, was also a sensitive.

Lecture Room

After lunch we moved on to the lecture room where Weil gave a brief description of the origin and aims of the City of Peace, and then the meeting was thrown open to questions to Amyr. One member of our group recalled that “Apparently, his father and grandfather were ‘sensitive.’...All his siblings were ‘sensitive,’ but only he and his grandfather manifested ‘apports’—the anomalous appearance of objects with no easily discernible source. Amyr claims he ‘astral travels’ and can travel at will and return with information which can be checked later. He says there have been reports of his bilocation, but he has no control or awareness when this occurs. He has healing abilities and has healed a few lepers in the early stages of their illness but not in later stages. Lights are often seen in his presence when apports occur.”

Once our group was seated in a circle, Weil passed around an ornate cup that had been resting on a table in the lecture room; he described it as a communion chalice. A group member recalled that “water was in the cup when I held it in the circle.” One member noted that Weil “showed us a chalice that Amyr held shortly before we arrived. What appeared to be blood covered a cross on one side of the chalice. Dr. Weil explained that when Amyr picked up the chalice, the blood exuded from the cross. I picked it up for a closer inspection and, after looking closely at the marks inside and out, I passed it around to the rest of our group. When it returned, created within it were several communion wafers that had



not been there when it left my hands. To the best of my knowledge, the chalice was in the hands, or within plain sight, of our group the entire time.”

That evening, Amiden accepted our invitation to join us for dinner at our hotel, during which, as one participant recorded, “He produced more stones on the floor, on laps, etc.”

The Next Day

One group member saw Amiden the following day, recalling, “He seemed weary and exhausted. He said every month for about ten days he develops great thirst and needs to drink much water, tea, or coffee. He loses weight, and his saliva tastes acidic. During this time, phenomena occur, and he has greater healing power.” Another participant noted that Amiden had told her that he “renews” himself by praying, taking frequent baths, drinking large amounts of water, and by surrounding himself with the color green.

According to my notes, “Every month something like this happens...Before the phenomena occur the saliva tastes acidic.... He drinks much water, strong tea and coffee, loses weight, and takes many baths and showers.... The signs that phenomena would happen started a week ago Wednesday and lasted for 10 days. Blood will come in spots on his legs, then will disappear. He does considerable healing during this time.”



Exceptional Human Experiences

These experiences seemed to have a profound impact on some members of the group, so in November 1994, I sent out a questionnaire based on Rhea White’s concept of “exceptional human experience” and the potential they offer for shifts and changes in one’s worldviews and activities. The questionnaire asked: (1) “Would you consider the encounter with Amyr Amiden an ‘exceptional human experience?’” (2) “If so, what portion of the encounter was the most ‘exceptional?’”

(3) “Now that a year and one half has passed since you had the encounter with Amyr Amiden, have you noticed any after-effects?”

Ten members of the group responded to the questionnaire. They all answered affirmatively to the first question. The aspects that were felt to be the most exceptional included the “falling stones,” “the blood on the goblet,” “the stigmata,” “the numerous apports,” “the objects being materialized,” and “access into the process and content of a dimension of mind that most of us are unable to penetrate.” One respondent added, “This was the most significant experience of my life.”

Six individuals listed life-changing aftereffects:

“For a while, the stone I found felt as if it had a special energy.”

“The time with Amyr was so out of my ordinary experience that my mind is still uncomfortable about it; I’ve only told a few selected friends about this experience.”

“Many of his materializations could be accomplished by a skilled magician, but the crystal dropping at my feet when no one was near me convinced me that this was for ‘real.’”

“The experience with Amyr...reshaped my core thinking, cracked a boundary, opening to me an awareness of...the enormous potentialities of expanded consciousness and how limited is our use of our own minds.”

“I returned from Brazil ‘different’...with an understanding of things I didn’t have before, especially about the dynamics of energy in human interaction and healing.”

“This experience had profound implications for the nature of reality; my nuts-and-bolts world had fallen apart.”

For the four other members of the group, the aftereffects simply reinforced a previous worldview:

“The experience has not altered my thinking because I have had many contacts with mediums and sensitives in the last few decades.”

“It did not change my thinking or feeling because that had happened many years ago with my earlier experiences.”

“It reinforced knowledge that we on planet Earth are part of a much larger universe.”

“The apparent materializations of various objects... were powerful and well-implanted in my memory.”



Return to Brasilia

The original meeting with Amiden was so provocative that in March 1994, I returned to Brasilia to study the anomalous phenomena occurring in his presence, events over which he claimed to have little conscious control. Our team of researchers included my psychologist colleague Margarida de Carvalho; Ruth Kelson, a physician; Harbans Lal Arora, a physicist; Roberto Crema, a psychologist; I; and a very skeptical student I brought along, who was convinced that Amiden was creating his effects by sleight of hand, although he could come up with no plausible scenario. Kelson, Lal Arora, and Crema were colleagues of Weil. We spent several hours a day with Amiden, who joined us after his occupational duties had been completed.

The settings for our work varied, but most of them were in Weil's office where we sat in comfortable chairs around a table. Amiden drove to the Foundation, was met in the lobby by one or more team members, and escorted to the office so that there could be no occasion on which Amiden entered the room prior to the session. Several sessions were held in the campus Meditation House; I investigated this site each morning to be sure it contained no unusual objects that could later be labeled "materializations." When the restaurant was the setting, Amiden entered and left with other group members. From the time that he arrived at the Foundation to the time that he departed, Amiden was in the presence of one or more member of the team.

When one or more team members felt that an unusual event had, indeed occurred, Kelson and I took field notes. Periodically, three members of the team rated each of these events on a 5-point Anomaly Observation Scale I had constructed. It ranged from 1 (no apparent anomaly) and 2 (slight degree), to 3 (moderate degree) and 4 (high degree), to 5 (extraordinary degree of apparent anomaly). The mean of each set of ratings was used for comparative purposes; the research

design stated that an event would have to have a mean rating of 2.1 or higher to be considered an "apparent anomaly," a non-ordinal number selected to divide events which were felt to be easily understandable from those that were ambiguous or difficult to explain.

For example, one member of our team observed four black marks on Weil's bedroom door; this event was given a mean rating of 1.0 because Weil recalled that a poster had been taped on his door a week earlier. While our group was seated in Weil's office, a religious medallion appeared to drop on to the floor from the ceiling; this event received a mean rating of 5.0, as did the similar appearance of another medallion a few minutes later. A mean rating of 3.7 was given to a series of static-like blips heard when a radio was tuned between two bands, blips that answered questions given in both Portuguese and English (one blip="yes," two blips="no").

Over a time span of eight days, a total of 20 sessions was held with Amiden. Using a 5-point evaluation scale, 91 events were judged to have been apparently anomalous, while 6 events failed to meet the predetermined criteria. The mean score of all 97 events was 4.18.

One of the anomalous events was the appearance of stigmata that were observed over two consecutive days. The field notes I made stated that "red, blood-like liquid is seen on the front and back of Amiden's right and left hands." Kelson's notes were similar; her personal examination of Amiden's hands convinced her that the fluid was, indeed, blood. I noted a beatific smile emerge on Amiden's face when he thrust forward his hands to exhibit the markings.

One day, Weil took a metal chalice from his bookcase and began to tell us how small drops of blood and a communion wafer had appeared in the chalice under anomalous conditions some months prior to our meeting. Amiden asked a member of our group to allow the silver-colored chalice to balance itself upon the palm of his hand while he himself placed both of his hands near the top of the object. This took about 15 seconds after which time Weil asked one of us to place the object on the table. Amiden asked us all to place our hands around the chalice without touching the metal. Amiden placed his own hands near to our hands. We continued to hold our hands near the chalice for about 15 to 20 seconds after which time Amiden suggested that we remove them.

Then Amiden placed his hands near the chalice, but without touching it. Weil picked up the chalice and observed that an oil-like liquid substance with a distinct perfume smell had appeared in the chalice. The chalice was then passed around so that we all could see and smell the oil.

We also had the opportunity to inspect a large photograph of Gandhi that Weil had brought from his bookcase. Weil reported that when Amiden had first seen it, he remarked that the man in the picture had been killed. This statement is not remarkable, given the widespread knowledge of Gandhi's

assassination. However, the subsequent event was quite remarkable. Weil then observed the appearance of two blotches of a blood-like substance on the picture. He pointed these out to us and they were easily discernible.

Data Analysis

The Spearman rank order correlation method was used to investigate associations between variables.* Kelson had taken 21 pulse readings of Amiden that were *followed* by apparently anomalous phenomena. The means from the Anomalies Rating Scale for each of these events were correlated with the corresponding pulse readings but yielded non-significant results ($\rho=-0.11$, $p=0.62$, 19df). When the means from the Anomalies Rating Scale for *antecedent* anomalous events were correlated with the corresponding 22 pulse readings, the results were also not significant ($\rho=0.14$, $p=0.53$, 20df). Kelson considered Amiden's pulse to be rapid and symptomatic of tachycardia.

There were 12 systolic blood pressure readings followed by apparently anomalous events ($\rho=0.07$, $p=0.83$, 10df) and 13 systolic blood pressure readings with antecedent anomalous events ($\rho=0.03$, $p=0.92$, 11df). Amiden's blood pressure was considered to be slightly elevated from a medical point of view and symptomatic of hypertension.

There were 12 diastolic blood pressure readings with subsequent anomalous events ($\rho=-0.14$, $p=0.66$, 10df) and 13 diastolic blood pressure readings with antecedent anomalous events ($\rho=0.71$, $p=0.01$, 2-tailed, 11df). In other words, the higher the diastolic blood pressure after the event, the higher the mean rating tended to be for the event on the 5-point Anomaly Observation Scale. This effect was statistically significant.

My student monitored the geomagnetic readings from a magnetometer we obtained on loan for three days from the University of Brasilia. We had placed the device in an open field where there was a minimum of electrical interference and took magnetometer readings every two minutes. There were 15 geomagnetic readings followed by anomalous events ($\rho=0.35$, $p=0.30$, 13df) and 17 geomagnetic readings preceded by anomalous events ($\rho=0.64$, $p=0.01$, 2-tailed, 15df). The significant correlation between mean ratings on the Anomaly Observation Scale and the 17 geomagnetic readings suggests that atmospheric electricity and geomagnetic activity are favorable to ostensible anomalous events such as "macro-PK."

When the mean ratings (on the Anomaly Observation Scale) of each daily session were compared with daily geomagnetic activity for the Southern Hemisphere, the results were statistically significant ($\rho=0.93$, $p=0.02$, 3df). When the same procedure was used to compare daily mean ratings with daily geomagnetic activity for South America, the results were in the same direction but did not attain significance ($\rho=0.83$, $p=0.09$, 3df).

The objects that appeared anomalously included polished stones, coins, religious medallions, onyx jewelry, small gemstones, and a pair of linked metal rings. On one occasion, a magenta stripe appeared on a faxed document; in a few minutes, a drop of water seemed to congeal into a diamond before our eyes. This event led to our naming the collective events "The Magenta Phenomena." Various laboratory tests were subsequently conducted with several items; for example, some of the stones were identified as agate, amethyst, a low-grade emerald, and a diamond.



Amiden holding purported apports, with Stanley Krippner looking on.

Aftermath

The results of our investigation were so provocative that plans were made for a more formal investigation utilizing sophisticated psychophysiological monitoring equipment and the assistance of a Brazilian magician trained in sleight-of-hand effects, which we realized was a crucial missing element from our completed sessions with Amiden. One reason the magician was needed was the fact that the gemstones that appeared are fairly common in Brazil; another reason is that Amiden was in the export-import trade and would have had access to most of the other artifacts that appeared. Unfortunately, Amiden's health necessitated cancellation of these plans upon the insistence of his physician, who had observed the increase in Amiden's cardiovascular and gastrointestinal problems following our March 1994 visit.

The Parapsychological Association has a long-standing resolution that a magician be present when macro-PK is be-

* This non-parametric statistic was used since it was deemed unlikely that the data, especially the ratings on the Anomalies Rating Scale, were normally distributed. Presentation of the results of this data analysis uses ρ to indicate the correlation, p to indicate the probability level (two-tailed for all correlations), and df to indicate degrees of freedom for each analysis.

ing investigated, a position that Amiden never was able to fathom as it seemed to cast doubt upon his personal integrity. However, I assured him that I had no personal doubt as to his character and veracity. I congratulated him for his cooperation, knowing that he had participated in these sessions while putting his health at considerable risk. However, the data from these sessions is compromised by the absence of a skilled magician, the lack of a videotaped record, and the inability to conduct a follow-up session that would have determined if these phenomena were repeatable.

Amiden is now retired and devotes himself to healing sick people. He is very angry with me for the conservative and cautious way I described our sessions and now refuses to see me or answer my letters. He told me that he did not want me to write about him again. Shortly after an article of mine about his stigmata was published, my apartment was broken into and all the religious medallions and other "apports" I had brought back from Brazil were stolen. Fortunately, the linked rings are still in the possession of Harbans Lal Arora in a physics laboratory at a Brazilian University. If I were a superstitious person, I would link Amiden's warning with the theft of my apports.

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STANLEY KRIPPNER is professor of psychology at Saybrook University in San Francisco. He is an original pioneer of humanistic and transpersonal psychology, and is internationally recognized for his decades of research into consciousness studies and the study of shamanism. He has published over 1000 articles, papers, and books, and he was the 2002 recipient of the American Psychological Association's Award for Distinguished Contributions to the International Advancement of Psychology. His books include *Personal Mythology*, *Extraordinary Dreams*, and *Haunted by Combat*. He is co-editor of *Varieties of Anomalous Experience*, *Mysterious Minds*, and *Debating Psychic Experience*.

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David Nabhan

Courting Disaster?

The Need for Earthquake Advisories in California

Twenty-three large earthquakes (6.0 or greater) have struck in Southern California in the six decades between Long Beach (1933) and Northridge (1994), and seven of them have occurred in exactly the same way. Those sizeable temblors struck either at dawn or at dusk, exactly during new or full moon phases, and moreover, during those phases that were near-syzygy events—when Earth, Sun, and Moon were perfectly aligned to focus the lunar and solar tides into a tight vector of forces upon the Earth and its plate boundaries below. To ascribe this to random chance is to be willing to accept stunningly astronomical probabilities. But if not chance, then it suggests there may be solid ground on which to predict nearly a third of California’s major earthquakes; a modest start, yes, but one that I feel is necessary.

Earthquake Prediction Is Impossible

Unfortunately, even a decade deep into the 21st Century, it seems that earthquake prediction is an unspeakable topic for most mainstream seismologists and the United States Geological Survey. When asked if the USGS or any other agency could predict earthquakes, Mike Blanpied, Associate Coordinator of the USGS Earthquake Hazards Program, replied: “There’s currently no organization or government or scientist capable of successfully predicting the time and occurrence of

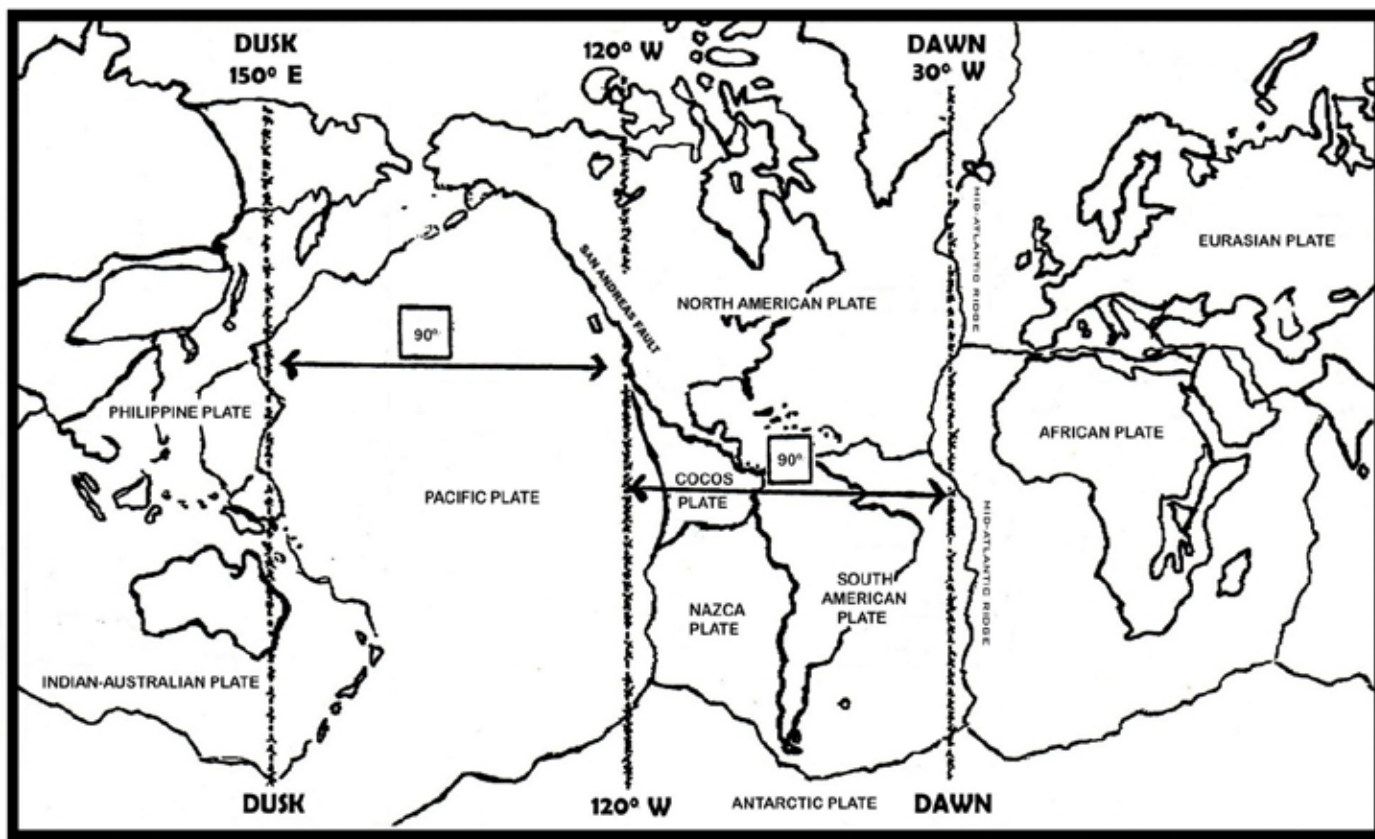
earthquake.” If that’s not clear enough, the USGS’s Karen Felzer has stated flat out that “Earthquake ‘prediction’ is impossible.”

The case against the predictability of earthquakes, from the point of view of United States Geological Survey and other seismologists, is built upon the fact that fractures and failure in bedrock deep beneath the Earth are notoriously intractable. The very inaccessibility of the fault zone itself to direct measurement, along with a myriad of other ground-based physical conditions, imposes severe limits to predictability. It may be supreme irony, though, that for all the tautological pronouncements about the difficulties involved in forecasting quakes, part of the problem might be that scientists have been looking in the wrong place for the answers, looking *down* into the Earth, when they might have looked *up*.

This could explain, at least in part, seismology’s unchanged century-long mantra of “impossible” with regard to earthquake prediction. Those few voices with the temerity to suggest differently—like Jim Berkland, Dr. Tony Fraser-Smith, Marsha Adams, and others—have been marginalized or ignored. The conservatism is easy to explain though. Scientists who have spent their entire lives getting to sought-after positions are understandably reluctant to breezily risk their reputations on anything that isn’t rock-solid, dead-certain, or infallibly proven. And it’s far less likely that broadcasting

Date	Epicenter	Mag.	Sun’s Position	Moon’s Position	Degree Syzygy
3/11/33	Long Beach	6.3	Dusk 5:54 pm	Full	< 1°
3/25/37	Terwilliger Valley *	6.0	Dawn 8:45 am	Full	<1°
7/21/52	Gorman	7.7	Dawn 4:51 am	New	<2½°
2/10/71	Sylmar	6.5	Dawn 6:00am	Full	< 1°
6/28/91	Sierra Madre **	5.9	Dawn 7:43 am	Full	<2½°
6/28/92	Landers	7.3	Dawn 4:57 am	New	<1½°
6/28/92	Big Bear	6.2	Dawn 7:55 am	New	<½°

*This quake occurred 50 minutes outside the parameters of the rest of the data. **Slightly below the 6.0 magnitude.



seismic warnings—“elevated probability” windows, or any other kind—would garner their support. There are plenty of political, economic, and societal pressures that cause the authorities to fear being wrong more than what could happen if they’re right—and keep quiet.

Of course, it doesn’t help matters that USGS’s one public attempt at earthquake prediction failed. In the early 1980s the USGS noticed that there was a stretch of the San Andreas fault running through a small town called Parkfield in Central California where earthquakes of about magnitude 6 occurred every 20 to 25 years, the last one being in 1966. Based on that pattern, the USGS and the state of California predicted that there would be another one in Parkfield in the mid-1980s. But the predicted earthquake didn’t occur there until... 2004. That seems to have spelled the end of the USGS’s efforts in earthquake prediction. But the USGS, which has been right about so many important things since it was founded in 1879, is simply wrong to have given up on earthquake prediction.

Tidal Forces as Earthquake Triggers

It’s difficult to dismiss the possibility that lunar and solar gravitational tides, acting in tandem and exerting maximum pressure on the San Andreas and Cascadia Fault Zones on the US West coast, have had a hand in triggering an astonishing large fraction of killer quakes. I am by no means the first person to make such a suggestion. If one cares to rummage through the dustpan of history, dozens of studies can be found, written by some of the most respected seismologists in history, and

pointing an unabashed scientific finger straight at the tides. These peer-reviewed studies, published in esteemed journals, go back 170 years, and continue unabated in every decade from the middle of the 19th century to the present. Richard Edmonds said as much as early as 1845 (“On the Remarkable Lunar Periodicities in Earthquakes”); so did Alexis Perrey (“Frequency of Earthquakes Relative to the Phase of the Moon”) in 1876 in the *American Journal of Science*.

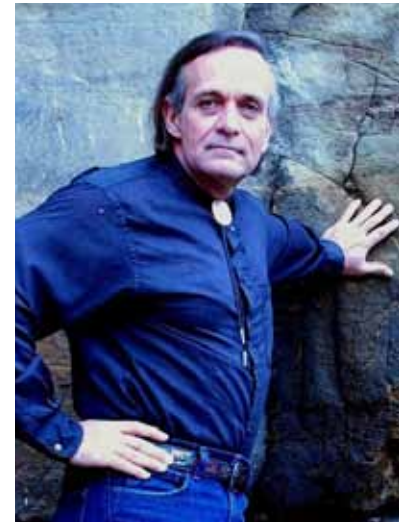
More recently, in 2002, *Science* published a study led by UCLA’s Elizabeth Cochran, in conjunction with a consortium of Japanese scientists, which concluded, after studying 2,000 earthquakes, that “tidal forces speed up or slow down the timing of earthquakes on faults that are about to rupture because of other forces.” And in 2006, a team of Italian and American seismologists led by Carlo Doglioni at Rome’s La Sapienza University, published their findings that the tidal force of the Moon was literally dragging the entire North American continental plate westward.

A Possible Mechanism

Could lunar and solar tides be a “trigger” for earthquakes along the San Andreas and Cascadia Fault Zones in California and the Pacific Northwest? If so, what could be the mechanism? During dawn and dusk, at new and/or full moon phases (and especially those phases that transpire during near-syzygy and/or perigee) the Earth rotates into positions where the far plate boundaries in the Atlantic and Pacific Oceans would bulge with greatest intensity. Simultaneously, tidal pressures would

For those who might ask what good could come of knowing in advance in any case, there are good answers. Police, fire, and EMS, for starters, might consider refraining from crew changes at these times to avoid the confusion that might be caused in an emergency. Tens of millions along the fault line would be offered repeated occasions to address all the little yet important things (checking supplies, reviewing family plans, forming a neighborhood group). At the very least, people would have the option of dealing as best they could with the particular safety shortcomings of their domicile, such as temporarily moving heavy objects from nearer to the ceiling to nearer to the floor, in a way that would minimize injury should the worst happen—along with filling prescriptions, topping off the fuel tank in their car, etc. There's every chance that the greatest benefits, should everything written turn out to be viable, would involve contingencies that can't even be imagined now. But one thing is surely certain. The greatest weapon in any enemy's arsenal is that of...surprise. Depriving the San Andreas of that weapon, would be advantage enough.

DAVID NABHAN spent the greater part of his life living in Southern California. He graduated from Mesa College and San Diego State University in the 1970s, was a certificated bilingual public school teacher for 19 years for the Los Angeles Unified School District, and was the district's earthquake preparedness coordinator at his school site in South Central Los Angeles for 15 of those years. He has been calling for the creation of an earthquake warning system for the U.S. west coast for the last two decades. Nabhan is the author of *Forecasting the Catastrophe: An Analysis of When and Where the Next Great Earthquake on the West Coast Will Strike*, published in 2010. Nabhan is now retired from teaching and has relocated to the Northeast.

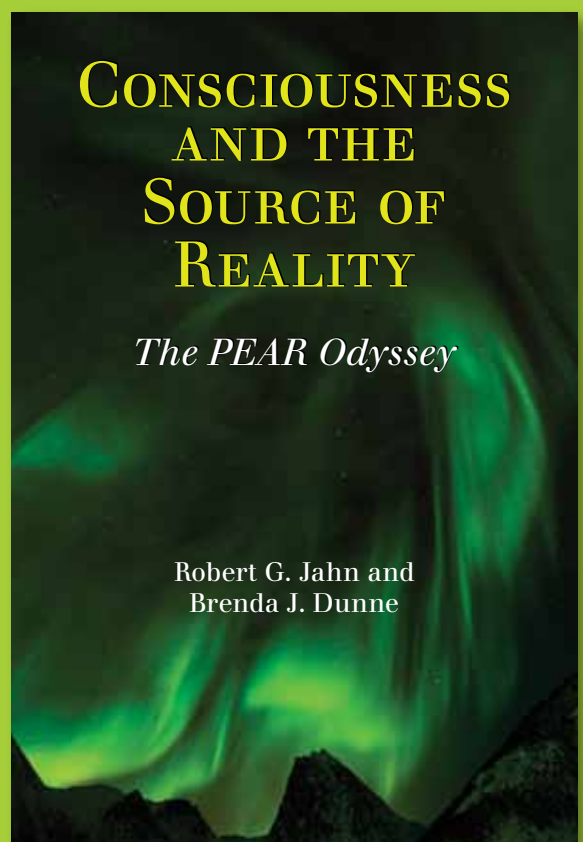


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NEWS NOTEBOOK

Homeopathy Redux

When Luc Montagnier speaks, mainstream science listens. And no wonder: Montagnier is the French virologist and winner of 20 major scientific awards, including a Nobel Prize in Physiology or Medicine in 2008, which he shared with Françoise Barré-Sinoussi for the discovery of human immunodeficiency virus (HIV). But a year later Montagnier stunned his colleagues when he published two controversial research studies on electromagnetic waves that, he claims, emanate from the highly diluted DNA of various pathogens. These signals, says Montagnier, can reveal the bacterial or viral origins of conditions such as autism, Multiple Sclerosis, Parkinson's Disease, and Alzheimer's disease. "If the results are correct," theoretical chemist Jeff Reimers of the University of Sydney, Australia, told *New Scientist* in January 2011, "these would be the most significant experiments performed in the past 90 years, demanding re-evaluation of the whole conceptual framework of modern chemistry."

The findings lend support to the high dilution concept on which homeopathy is based. In an interview published in the journal *Science* in December of 2010, Montagnier stated: "High dilutions of something are not nothing. They are water structures which mimic the original molecules." In his experiments Montagnier found that he could not go further than a 10^{-18} dilution before losing the signal. Although not a single molecule of DNA was left at this dilution, he still managed to obtain a signal.

The detected electromagnetic waves, claims Montagnier, serve as a biomarker by which one can test for the presence of the microorganisms even when they are undetectable by classical bio-medical techniques. The hope is that the treatment with antibiotics will kill the pathogens, which Montagnier be-

lieves come from the gut, end up in the plasma, and eventually cause damage to the brain. A study could then be conducted to see if, following the antibiotic treatment, the DNA signal disappears and the patients with these conditions improve. If so, the findings could then possibly be used not just for diagnosis but for treatment, with electromagnetic waves of certain frequencies being used to kill the organisms directly.

But Montagnier will not be able to pursue his controversial work in France, or elsewhere in Europe for that matter. In the *Science* interview, Montagnier revealed that because of French retirement laws (Montagnier is 78) he is no longer allowed to work at a public institution, and that his efforts to apply for funding of this research elsewhere in Europe had been turned down due to the "fear around this topic."

Indeed, the findings by Luc Montagnier evoke the work and controversy of another French researcher, an immunologist named Jacques Benveniste. In a paper published in *Nature* in 1988, Benveniste claimed that extremely highly diluted IgE antibodies had an effect on certain cells, a finding that supported the claims of homeopathy. After a week-long investigation that involved the illusionist James Randi, *Nature* ended up calling the paper a "delusion." Benveniste died in 2004. Montagnier feels the Benveniste affair had spooked many researchers who are now reluctant to publish their own work in support of Benveniste and who might otherwise be interested in Montagnier's own findings.

To escape the "intellectual terror" of people who don't understand the subject and regard it as pseudoscience rather than as real phenomena worthy of further study, Montagnier intends to continue his research in China, where he has accepted a leadership post at a new research institute at Jiaotong University in Shanghai.

The Not-So-Wrong Way

For decades aircraft pilots and ground observers have reporting seeing something they called "rocket lightning" or "wrong-way lightning," but to no avail, as scientists denied the possibility of luminous electrical phenomena above the upper deck of thunderclouds. Then in 1989, University of Minnesota researchers waiting to record a rocket launch had their video camera pointed at a distant thunderstorm when they incidentally captured just such an event in two frames of the film. Since then the phenomena have become officially known as "Transient Luminous Events," or TLE. Decades of geophysical silence and denial have now turned into a flood of papers and images on the zoo of TLE creatures that go by such names as sprites, jets, and trolls.

Amateur astronomer Timo Kantola took these remarkable black and white images of TLE over Piekisjärvi Finland on October 9, 2009. See page 19 for a color reconstruction of the event.

Photo © Stars and Space / Timo Kantola, Ismo Luukkonen

Kajosalama 9.10. klo 3.53



Keijusalamat 9.10. klo 5.47



Book Review by Stephen Jett

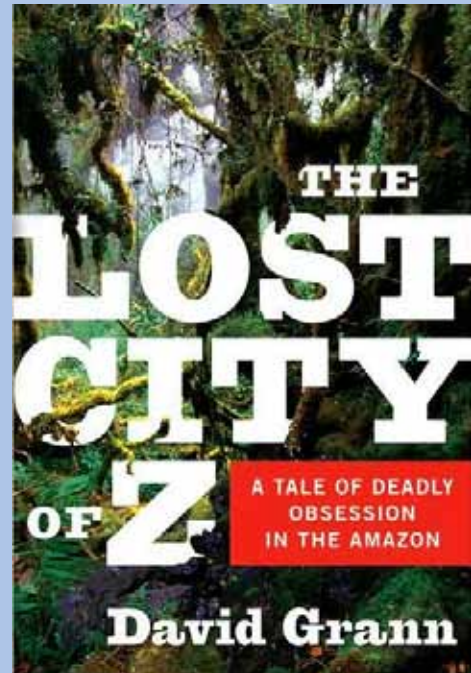
A Lost Civilization Underfoot

Col. Percy Fawcett (1867–ca. 1925) was the quintessential English amateur explorer of the first half of the twentieth century, a man of incredible personal toughness and persistence—and an impossibly exigent taskmaster, brooking no weakness from his subordinates in the field. He became fascinated by Spanish-colonial chronicles of the search for El Dorado in Northwest South America and was further stimulated by the American politician Hiram Bingham III’s (1875–1956) 1912 rediscovery of the Incan “lost city” of Machu Picchu in Peru’s eastern Andes (Heaney, 2010). Having himself seen a manuscript in Brazil’s National Library that spoke of a ruined city of stone near high mountains in the interior of the country, viewed in 1753, Fawcett was inspired to search for this reported mysterious abandoned settlement. He dubbed the supposed site “Z,” and his quest to find Z occupied most of his middle years, ultimately leading to the loss of three lives: his own and those of one of his sons and the son’s best friend.



Fawcett’s fascination with forgotten treasure had been first sparked by an experience as a young military man in Ceylon (Sri Lanka). There, a local man presented him with a treasure map that led him to seek a purported cache of uncut gems and gold hidden in a cave in the interior. Fawcett found the cave but nothing of interest in it; nevertheless, his fire had been ignited.

Fawcett served as a Lieutenant Colonel in combat during World War I, and after experiencing that conflict’s horrors he



The Lost City of Z: A Tale of Deadly Obsession in the Amazon by David Grann, Doubleday, 2009.

took up Spiritualism. Two Spiritualist mediums assured him that Z existed and that the lost city was full of jewels. It may be noted at this point that Fawcett was a friend of H. Rider Haggard (1856–1925), the enormously popular author of fantastic adventure novels such as *She* (1887), which involved discovery of the lost African Kingdom of Kôr. Haggard’s more famous novel, *King Solomon’s Mines* (1885), involved the search for, and discovery of, the ancient Jewish monarch’s fabled mines with their heaps of gemstones.

Fawcett clearly suffered from narcissistic personality disorder, with paranoid and delusional tendencies. Over time, his early efforts as a simple field surveyor and scientist along the Bolivian border were replaced by obsessive treks into Brazil’s notoriously resistant Matto Grosso jungles. As his brutally difficult expeditions turned up no Z, and as he aged, Fawcett’s initial vision of modest scientific investigation evolved into one focused on imagined treasures and then into one in which he perceived his elusive Z as being an Atlantean cradle of civilization and one of Theosophist Madame Helena Blavatsky’s “White Lodges” where one could attain transcendence. (Beginning in the late twentieth century, Fawcett’s handful of

occult writings have aroused a number of cultic and individual seekers of this alleged magical portal.)

The *New Yorker* staff writer David Grann became intrigued by the Fawcett story, which had been a journalistic big deal at the time of the explorer's vanishing in back-country Brazil in 1925. A number of others had endeavored to ascertain what had ultimately happened to the Englishman during his final expedition, but all had failed. Grann decided to take up the task once again. He took into account the fact that Fawcett had deliberately falsified coordinates of his routes in order to prevent potential "claim-jumping."

In the 1950s, Fawcett's son Brian had flown over the area of his father's disappearance and had spotted a "stone city" on a ridge; but the "city" turned out to be merely naturally eroded sandstone formations. On Grann's expedition decades later, that writer traveled northward from the Brazilian frontier settlement of Cuibá and then eastward into the upper Rio Xingú drainage, making local inquiries and following his reconstruction of the Fawcett route. At one point, he arrived at a plateau reminiscent of the mountain mentioned in the report of 1753. Atop, his guide showed Grann natural rock columns and a natural arch; these could have inspired the eighteenth-century tale of a ruined city.

The Kalapalo Indians of the region came to admit that they had killed Fawcett, his son, and the companion. But later they denied this, alleging instead that the party of Englishmen had gone on eastward from Kalapalo territory, toward the Rio das Mortes ("River of the Dead Ones"), a tributary of the upper Rio Araguaia. It was in these neighboring lands, occupied by hostile natives, that the killing had been perpetrated, now said the Kalapalo. At any rate, it seems clear that the Fawcett party was indeed murdered by Indians in this general part of Brazil, presumably without their ever having found Z or any other abandoned city.

Was there such a city out there? If one is thinking of a Machu Picchu-like community featuring monuments and dwellings in stone masonry, the answer is almost certainly no. However, large sites of human settlement involving extensive earthworks have, for decades, been coming to be recognized in regions of South America



Fazenda Colorado site in the Amazon. Photo by Martti Parssinen, Instituto Iberoamericano de Finlandia

that earlier had been perceived as always having been sparsely populated by relatively primitive peoples. Such earthworks—ridged fields, canals, causeways, and mounds—were mostly in low-lying plains subject to periodic flooding and were difficult to detect on the forested ground. They were first recognized from the air, in the Mojos of eastern Bolivia, more than 40 years ago (e.g., Denevan, 1966, Mann, 2005:3-12). Remarkably, such works have also been discovered in the upper Xingú drainage (Grann, pp. 310-14, Heckenberger, 2005, Mann, 2008), particularly surprising in view of the fact that in post-1500 times that region has been a refugium for some of the most primitive tribes of the Amazon Basin. More recently still, vast areas of the upper Purús drainage of Brazil near the Bolivian border have been recognized as displaying huge, precisely geometrical, human-made, ditch-and-embankment “geoglyphs” as well as arrow-straight roads (Pärssinen, Schann, & Ranzi, 2009). These all are regions in or near which Fawcett explored; but, ironically, he (like everyone else at the time) never recognized that he was traveling past striking manifestations of an advanced ancient culture.*

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STEPHEN C. JETT is Professor Emeritus of Geography and of Textiles and Clothing, University of California, Davis. His major research areas include Navajo history, material culture, sacred places, and place-names; his books on the subject include *Navajo Wildlands* and *Navajo Architecture: Forms, History, Distributions* (with Virginia E. Spencer). He has also published widely on his second major research interest, pre-Columbian transoceanic influences between the Old World and the Americas, and he founded and edits *Pre-Columbiana: A Journal of Long-Distance Contacts*.

*These rainforest societies seem to have depended on raised fields in the flood-prone flats and, atop the bluffs, on the recently archaeologically recognized *terra preta do índio*, a dark, partially artificial soil that had resulted from past peoples' augmenting the natural low-nutrient lateritic soil with nutrient-absorbing charcoal and other organic materials.

BACKSCATTER, continued from page 20

re-fry of sexy quantum concepts and language, we need rather to develop a fresh lexicon of scientific conceptualization that can capture and advance the deeper essence of our most precious and powerful capacities for information acquisition, processing, and utilization. Most notably, we need to extend the sweep of scientific methodology to embrace the subjective as well as the objective dimensions of human experience. This caution by no means needs to exclude the use of aptly selected metaphors, but it does enjoin us to recognize them as such and to realize that even they cannot convey the deeper ontological aspects of reality. Rather, like all other theoretical tools, they are attempting merely to share useful representations of how human consciousness perceives reality, and indeed in some sense, participates in its very creation and organization. This is no playground for naïve or sloppy language or thought; it is very sacred scientific terrain.

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ROBERT G. JAHN and **BRENDA J. DUNNE** of the International Consciousness Research Laboratories in Princeton, N.J., are the authors of the new book *Consciousness and the Source of Reality: The PEAR Odyssey* (ICRL Press, 2011).

NEWS NOTEBOOK, continued from page 16



Color reconstruction of Oct. 2009 TLE event by the Finnish astronomical journal *Tähdet ja avaruus*, showing bright red sprites inside an elf, two forms of lightning now known to occur between the tops of electrical storms and the ionosphere.

The Uses and Misuses of Quantum Jargon

Many people involved in frontier areas of scientific study display a tendency to invoke the nomenclature of quantum mechanics to bolster their scholarly credibility with both the public and mainstream academia. While such strategies can be effective for clarification of subtle concepts, and may be useful ways of emphasizing the need for alternative perspectives of reality, carried to excess they can easily become counterproductive and should be deployed cautiously. First of all, there is an understandable, if not totally legitimate, recalcitrance of the “exact science” communities to surrender their proprietary quantum conceptualizations and classifications to what they regard as less precise and rigorous sectors, especially when such appropriations are blatantly shallow, if not totally incorrect. In our ongoing struggle for development of a broader conceptual framework capable of accommodating the subjective dimensions of reality, such naïve representations tend to be more offensive than persuasive. But beyond this, they also tend to obscure the important fact that quantum mechanics, like any theoretical structure, is itself an essentially metaphorical technique for formalizing and communicating objective representations of subjective observations and interpretations of experimental data. As Albert Einstein so aptly put it:

Concepts which have proved to be useful in ordering things easily acquire such an authority over us that we forget their human origin and accept them as invariable.¹... The system of concepts is a creation of man together with the rules of syntax, which constitute the structure of the conceptual systems.... All concepts, even those which are closest to experience, are from the point of view of logic freely chosen conventions...²

Early in the course of our Princeton Engineering Anomalies Research program, we too were struck by certain common features appearing both in our empirical observations of consciousness-correlated anomalous physical phenomena and in various theoretical aspects of quantum science, that lent themselves to useful metaphorical associations. Subsequently we attempted to verbalize these analogies in a sequence of such metaphorical propositions as “consciousness atoms,” “consciousness molecules,” and “consciousness resonant bonds,” along with “consciousness uncertainty, complementarity, exclusion, and indistinguishability principles” that we had unabashedly

appropriated from their Bohr/Schrödinger/Heisenberg physical counterparts. Wave/particle complementarities likewise were invoked to help conceptualize certain wave-like features of consciousness experience and behavior that had appeared in our empirical observations. Unfortunately, many readers misconstrued these metaphorical representations as literal descriptions of the activity of consciousness being derived from physical quantum processes, rather than as a set of “concepts which have proved to be useful in ordering things.”

Over prior and ensuing years, scholars of various other backgrounds and insights also have proposed quantum mechanical treatments of consciousness mechanics, using an assortment of mathematical formalisms and figurative illustrations that have reflected their personal theoretical backgrounds and skills. In fact, many of the patriarchs of early quantum theory themselves had, individually and collectively, pondered the relevance to mind/matter issues, but largely deferred any attempts at resolution thereof pending the acquisition of more comprehensive and reliable empirical data.^{3,4}

More recently, however, the popularity of quantum analogies for modeling all manner of anomalous phenomena has been penetrating much further into the communities currently addressing the assessment, comprehension, and utilization of a much broader range of consciousness-related topics. Not only does this trend further alienate quantum physicists, but it adds the unfortunate effect of promulgating implicit assumptions that limit the effects under study to strictly physical interpretations, thereby precluding options for more profound ways of thinking. In our view, this proliferation of quantum logic and jargon is now becoming intellectually and pragmatically unproductive, and should be utilized more astutely lest it deteriorate into simplistic mantras and slogans that obfuscate attempts to develop more seaworthy models of the fundamental processes underlying the consciousness dynamics in play.

Fascinating as our consciousness-correlated anomalies may be in their own right, their higher intellectual value lies in the hints they provide regarding the broader experiences of consciousness, *per se*, and of the inadequacies and outright errors that persist in our prevailing attempts to construct incisive models thereof. Titillating coffee table conversations invoking “quantum leaps” or “collapsing wave functions” do not greatly advance our comprehension of the full sweep of the capabilities of the human mind. To pursue that epistemological challenge, rather than resorting to some metaphorical