



FRAUDS, MYTHS, AND MYSTERIES

*Science and Pseudoscience
in Archaeology*

KENNETH L. FEDER



FRAUDS, MYTHS, AND MYSTERIES:

Science and Pseudoscience
in Archaeology

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FRAUDS, MYTHS, AND MYSTERIES



Preface

"Say, what do you think about the guy who says that spacemen helped the Egyptians build the Pyramids?"

"Were Adam and Eve Australopithecus?"

"I heard that the Vikings were here before the Indians."

"The Maya were heavy into crystals — they had the power!"

All of us who teach archaeology hear comments such as these from our students, who often bring with them into the classroom notions of ancient astronauts, Noah's ark, psychic archaeology, pyramid power, lost continents, harmonically converging ancestors, and more.

Wishing to understand the extent of the problem, I initiated a student questionnaire survey at my institution in 1983 (Feder 1984, 1985/6). What I found, and what has been replicated in a subsequent study involving nearly one thousand students from Connecticut, Texas, and California (Feder 1987; Harrold and Eve 1987), was that a high proportion of undergraduate students are uninformed, or, worse, misinformed about human antiquity. Consistently high percentages of students in the sample believed, for instance, that Atlantis was the home of a great civilization (about 30 percent), that the Shroud of Turin was genuine (about 30 percent), that Europeans settled in America before the Vikings (about 40 percent), and that extraterrestrial aliens constructed ancient monuments like the pyramids (about 15 percent) (Hudson 1987).

Also distressing, but, perhaps not surprising, was the conclusion I was able to draw from my 1983 study that merely having completed a course in introductory archaeology had little statistical impact on student belief levels

in unsubstantiated claims relating to the human past. In fact, only when specific topics had been addressed within a general, scientific framework in various courses were students significantly less likely to accept unverified, unsupported propositions about the human past.

It is my strong feeling that we, as a discipline, need to respond to this problem. After all, if our students understand archaeological dating methods but still feel that ancient astronauts built the pyramids, we cannot claim reasonably to be producing an archaeologically literate citizenry.

My intent in writing this book is not simply to debunk individual claims. Such a book might be useful, but of short-lived value. The aim here is to put the analysis of such claims firmly within the perspective of the scientific method as it relates to archaeology. I devote an entire chapter to scientific epistemology. Further, each chapter that deals with a specific archaeological topic includes a "Current Perspectives" section in which I present a scientific approach to the chapter issue. The book is meant to serve both as a supplemental text for introductory courses in archaeology and as a stand-alone text for those courses that focus on popular topics in archaeology or on science versus pseudoscience in archaeology (of which, according to my survey of the discipline [Feder 1984], there is a gratifyingly growing number).

There is an ebb and flow to the particular kinds of nonsense that are all too often associated with archaeology. Von Däniken's books, for example, are no longer on the best-seller list although a compendium of three of his books has recently been published (von Däniken 1989). And it has been more than ten years since *America B.C.* by Barry Fell was selected by the American Booksellers Association to be presented to the White House library as one of the 250 best books of 1973-77. But while the fortunes of these writers may be waning, many of the ideas they promulgated and the movements they spawned are still with us. For example, archaeological pseudoscience in the guise of "New Age" proclamations about the ancient Maya, Egyptians, and others is alive and well.

Our discipline exists, by and large, as a result of public interest in the human past. As a result, archaeology is threatened by misperceptions and misunderstandings of how we work, what we know about the human past, and why we study it. I hope that in writing this book, I have helped students understand how archaeology works, what we know about the past, and why the veritable past is as exciting and intriguing as the fantasies concocted by the purveyors of pseudoscience.

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I would also like to thank colleagues who, though not contributing directly to this book, have inspired me by their dedication to the science of archaeology and their commitment to respond to the pseudoscience that afflicts our discipline: John R. Cole, Marshall McKusick, and Dean Snow deserve special mention. I should also thank those colleagues in other disciplines who I do not know but who, by their dedication to communicating the excitement of genuine science to a public too enamored of nonsense, have served to inspire me. Among these I would like to mention Roy Chapman Andrews, Isaac Asimov, Stephen Jay Gould, and Carl Sagan.

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Finally, I cannot end this acknowledgment section without thanking my wife Melissa and son Joshua. To them I apologize for disappearing into my office for days at a time. I also thank them for their patience with my single-mindedness. Without their love, support, and understanding I could not have written this book—and I am not sure there would have been any reason to. And finally, to Joshua especially, I apologize for the fact that one of your first intelligible utterances was “Dada work, book.”

For Lissa



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Science and Pseudoscience

If all of the claims were true, this world would be an extraordinarily strange place, far different from what orthodox science would suppose.

Cats would be psychic and children could bend spoons with the power of their minds. Aliens from outer space would regularly fly over the earth, kidnap people, and perform medical examinations on them.

People could read minds, and by shuffling and dealing a special deck of playing cards (called Tarot), your future could be predicted. Sleeping under a pyramid-shaped bedframe would be conducive to good health, and wearing a quartz crystal suspended on a chain around your neck would make you more energetic.

Furthermore, the precise locations of enormously distant celestial bodies at the instant of your birth would determine your personality as well as your future. People could find water, treasure, and even archaeological sites with forked sticks or bent coat hangers. You could learn to levitate by taking a course.

Beyond this, if all of the claims were true, people living today would actually have lived many times in the past and could remember when they were kings or artists (few would remember being ordinary). And hundreds of boats and planes and thousands of people would have disappeared under mysterious circumstances in the dreaded "Bermuda Triangle."

Also, plants would think and have feelings, dolphins would write poetry, and cockroaches and even fertilized chicken eggs would be clairvoyant. Some people would spontaneously burst into flames for no apparent reason; and tiny ridges on your hands, bumps on your head, and even the shape of your behind could be used to understand your personality. People

could have sex with ghosts or the devil. Finally, human prehistory could best be understood as the result of supernatural occurrences, enormous cataclysms, and the interference of extraterrestrial space aliens.

It would be a strange world indeed, and the list of extreme, mysterious, and occult claims goes on and on (Figure 1.1). For many of you, some of the claims listed above (all of which have actually been published—even the clairvoyant chicken eggs!) might seem to be interesting to think about. Some of you might think that at least a few are reasonable, logical, and believable.

After all, science has scoffed at things in the past that eventually turned out to be true (meteors, for example). Maybe there is more to some of these claims than close-minded scientists are willing to admit. There must be something to UFOs, ESP, astrology, reincarnation, palmistry, biorhythms, fortune telling, dowsing, ancient astronauts, and so on; magazines, television, and movies flaunt these topics frequently. They can't all be fake, can they?

I have a confession to make. I used to read books on flying saucers and psychic power. I owned a Ouija board and a pendulum, and I analyzed handwriting and conducted ESP tests. I felt that there had to be something to some of these interesting ideas.

But it bothered me that the results of my ESP tests never really deviated from chance expectations and my Ouija board didn't work at all. I owned a small telescope and spent a lot of time looking at the nighttime sky, but I never saw anything that did not have some natural or ordinary explanation (an airplane, helicopter, blimp, bird, satellite, star, planet, or whatever). Yet I kept searching. Like most people, I wanted to believe in these fascinating possibilities rejected by orthodox science.

In the late 1960s, lured by the promise of four books for a dollar in the introductory offer, I signed up for a book club catering to occult tastes. In return, I received *The Complete, Illustrated Book of the Psychic Sciences; Yoga, Youth, and Reincarnation; The Black Arts*; and *The Morning of the Magicians*. The first three contained interesting little tidbits that seemed perfectly reasonable to me at the time: evidence of "real" hauntings and prophetic dreams, the usefulness of astrology, testimony about people's subconscious memories of past lives, and so on. The yoga book, along with some strange claims about reincarnation, actually taught some healthy exercises.

It was the fourth book, though, that really opened my eyes. Without their knowing it, the authors of this marvelous collection of outrageous claims, Louis Pauwels and Jacques Bergier (1960), played an important role in converting me from a completely credulous individual, open to all sorts of absolutely absurd ideas, to a scientific rationalist, still open to the possibility of all sorts of absolutely absurd ideas, but demanding rigorous proof that, unfortunately, these all seem to lack.

UFO ALIEN BURNED OUT MY CANCER WITH LASER BEAMS

Bizarre Mole People Tribe Stole My Bride

NOAH'S ARK FOUND IN GOBI DESERT — REMAINS OF INTELLIGENT, 2-LEGGED LIZARD PEOPLE DISCOVERED ON BOARD SAY SOVIET SCIENTISTS

PSYCHIC DOCTOR HEALS DYING KIDS WITH HIS EYES

Liberace's Ghost Visits Me Every Friday Night

Figure 1.1 Actual headlines as they appeared in issues of various tabloid or "super-market" newspapers.

The Morning of the Magicians

Remarkable claims about things that scientists were trying to hide from the public filled *The Morning of the Magicians*—evidence for reincarnation, levitation, ghosts, and so on. As always when I read most of these books, the first claim left me excited and fascinated. The second claim provided almost the same sense of intellectual exhilaration. But the third, fourth, fifth, and sixth were just more of the same. I slowly began to lose the ability to be surprised by the authors' claims of effective magical incantations, telepathy, the mystically engineered transformation of lead to gold, and the like. As exciting as any one of these claims might have been, the cumulative effect was simply a buildup of an intellectual resistance to surprise. I became immune to the claims. I was bored.

In skimming through the book, I found a section on remarkable discoveries in prehistoric archaeology related to the occult. It surprised me that there was any archaeology in the book at all; I had never considered connections between the occult and archaeology. Fascinated by the possibilities, I immediately began to read that section.

And I was absolutely appalled by what I read. I knew quite a bit about the archaeological topics they discussed, and what they said was incredible. Their claims about Egyptian pyramids; the massive, carved stone heads of Easter Island; the ancient culture of Peru; and other archaeological artifacts,

sites, and cultures were based on misinformation, the twisting of facts, and the misrepresentation of archaeological data and the study of the past.

At their very best, the authors' claims showed extreme ignorance. For example, their assertions about the supersophistication of prehistoric metallurgy in South America were misleading. Their insistence that this industry was somehow mysterious showed a gross ignorance of very well documented, sixteenth-century eyewitness accounts by Spanish explorers of the native metal-making process.

Their claims about advanced information exhibited in the dimensions of the Egyptian pyramids—the distance from the earth to the sun, for example, and the precise value of pi—had been made years before. Such claims were invariably based on incorrect measurements, miscalculation, and not just a little wishful thinking.

The authors' extraordinarily strange view of the past is best summed up in their own words:

It is possible that our civilization is the result of a long struggle to obtain from machines the powers that primitive man possessed, enabling him to communicate from a distance, to rise into the air, to liberate the energy of matter, abolish gravitation, etc. (Pauwels and Bergier 1960:109)

In other words, according to the authors of *The Morning of the Magicians*, today we are simply rediscovering abilities that prehistoric people had—the ability to fly, to harness the energy of the atom, and to communicate electronically, for example. Although today we do so with machines, prehistoric people apparently could do it with their minds. Pauwels and Bergier were honest enough; they had entirely, openly, and unabashedly abandoned a skeptical approach: “No hypothesis is excluded: an atomic civilization long before what we call the prehistoric era; enlightenment received from the inhabitants of Another World, etc.” (p. 105).

On simple facts, they were consistently wrong. These were things that might not be noticed by a nonarchaeologist. For example, they stated that the Toltecs built the Pyramid of the Sun at the Mexican site of Teotihuacán (p. 115). That's like saying the seventeenth-century Dutch settlers of New York City built Yankee Stadium; the Toltecs culture did not come onto the scene until at least two hundred years after Teotihuacán was abandoned.

In South America, the authors noted with amazement, archaeologists have found statues of camels, “which are unknown in South America” (p. 114), implying some sort of ancient mystery. Yet camels originated in South America, where four separate, camel-like species still exist (llama, alpaca, vicuña, and guanaco). The authors of *The Morning of the Magicians* also stated that there were prehistoric statues of dinosaurs in South America, though science tells us that the last of the dinosaurs became extinct some sixty million years ago (see Chapter 11).

They stated that the Mayan civilization of Mesoamerica is “far older than that of Greece” (p. 115). Yet classical Greece dates to well over twenty-five hundred years ago, while the Mayan civilization was at its peak more than one thousand years later, barely fifteen hundred years ago.

How, I wondered, could authors who seemed so well informed about physics, psychology, chemistry, biology, and history, be so confused when it came to my own field of archaeology? How could they so eloquently “prove” the existence of all sorts of occult things related to these other fields of science and be so lacking in their knowledge of the human past?

And then it struck me. Of all of the disciplines discussed in *The Morning of the Magicians*, archaeology was the only one with which I had more than just a passing familiarity. The more I thought about it, the clearer it became. The often-bizarre claims in *The Morning of the Magicians* that were related to physics, chemistry, biology, psychology, and history seemed reasonable to me primarily because I did not have the knowledge necessary to assess them intelligently.

It was a valuable lesson indeed. The authors had not mysteriously abandoned scholarly research and the scientific method (see Chapter 2 of this book) only in the one field in which I was well versed. As I looked further into their claims it became obvious that they had ignored the truth in just about every phenomenon they had described.

I began to read a number of books written by scientists in various fields who had been similarly appalled by the extreme claims made by occultists like Pauwels and Bergier. Again and again, I saw reactions and arguments that mirrored mine after reading the prehistory section of *The Morning of the Magicians*. When astronomers analyzed claims about extraterrestrial life, astrology, and UFOs; when psychologists examined telepathy and clairvoyance; when physicists and chemists investigated alleged evidence for perpetual motion machines or alchemy, they were nearly unanimous in their skepticism. In other words, claims that may have sounded good to me could easily be discounted, disproven, and disposed of by people who knew more than just a little bit about them. All those interesting occult claims that had fascinated me could be shown to be, at best, highly speculative and unproven or, at worst, complete nonsense.

Pseudoscience and Archaeology

I then began to search out more of the unsubstantiated, occult, and speculative claims that were being made about the prehistoric past by people who, it seemed, were wholly ignorant of modern archaeology. I have been doing this ever since, and it has been a surprisingly fruitful, if depressing, search. Little did I realize when I began to read *The Morning of the Magicians* how popular archaeological occultism and fraud is.