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An Astronomer Looks at UFOs

A Lot Less than Meets the Eye

ANDREW FRAKNOI

When I talk about UFOs in my introductory astronomy classes, I always tell my students that I *absolutely* believe in UFOs. After a brief pause for incredulous stares, I ask them to think about what the term *UFO* actually means. I explain that I fully believe there are objects in the sky that the average person may not be able to identify. This does not mean, however, that *no one* can identify these objects. It only means that they could appear “unidentified” to someone who is not familiar with the sky or with the full range of sky phenomena that can surprise a novice.

Indeed, upon more careful investigation, many so-called UFOs turn out to be perfectly natural objects or processes in the Earth's atmosphere or beyond. As the late Carl Sagan emphasized, “Extraordinary hypotheses require extraordinary proof.” Surely, the notion that some mysterious phenomenon you briefly observed in the sky must be an interstellar spacecraft (and not a human craft, meteor, or a bright planet) qualifies as such an “extra-ordinary” hypothesis! Yet, amazingly, given the number of UFO incidents believers report, not one UFO has left behind any proof—a piece of spacecraft material or machinery (or even a sandwich wrapper) that laboratory analysis has shown to be of clearly extraterrestrial origin.

It's also remarkable how unlucky the UFO occupants are in their choice of people to kidnap. Never do “aliens” seem to snatch a person with a good knowledge of astronomy or

physics or someone with high-level government clearance. Time after time, their “victims” turn out to be homemakers, agricultural workers, or others whose relevant knowledge base seems to be limited to reading UFO enthusiast literature.

Even UFO sightings turn out to be reserved (for the most part) for those who have not studied the sky in any serious way. Although the world's supply of professional astronomers is not much larger than the population of Wasilla, Alaska, the world has many tens of thousands of active *amateur* astronomers who spend a great deal of time observing the sky. You would think that if UFOs really are alien spacecraft, a large majority of reported sightings would come from this group. Yet, unsurprising to astronomers, you almost never get UFO reports from experienced amateurs whose understanding of what they see in the sky is much more sophisticated than that of the average person.

All of which does not mean that astronomers in general are pessimistic about the presence of intelligent life on planets around other stars. Indeed, many observations over the last few decades have increased the level of optimism in the astronomical community about the potential for life to exist out there. Primary among these is the discovery of more than 300 planets around relatively nearby stars, which certainly shows that planetary systems like our own may be far more common than we dared to hope. We just don't think that intelligent aliens are necessarily visiting Earth.

The problem is that the stars are fantastically far away. If our Sun was the size of a basketball (instead of 864,000 miles across), Earth would be a small apple seed about thirty yards away from the ball. On that scale, the nearest star would be some 4,200 miles (7,000 km) away, and all the other stars would be even farther! This is why astronomers are skeptical that aliens are coming here, briefly picking up a random individual or two, and then going back home. It seems like an awfully small reward for such an enormous travel investment. □

Andrew Fraknoi is chair of the astronomy department at Foothill College near San Francisco and senior educator at the Astronomical Society of the Pacific. He is a fellow of CSI, specializing in debunking pseudoscience connected with astronomy. Asteroid 4859 was named Asteroid Fraknoi by the International Astronomical Union to recognize his contributions to the public understanding of astronomy, but he is eager to reassure readers that his is an extremely boring main-belt asteroid that is in no danger of hitting Earth.