

UFOs Don't Impress Me

By Dr. Adam Frank

- 1 This month the TV news program “60 Minutes” ran a segment on recent sightings by Navy pilots of unidentified flying objects (UFOs). The pilots’ accounts were bolstered by videos recorded by cameras on board their planes that captured what the government now calls “unidentified aerial phenomena.” In the wake of these enigmatic encounters, people are asking me what I think about UFOs and aliens.
- 2 I understand that UFO sightings, which date back at least to 1947, are synonymous in the popular imagination with evidence of extraterrestrials. But scientifically speaking, there is little to warrant that connection. There are excellent reasons to search for extraterrestrial life, but there are equally excellent reasons not to conclude that we have found evidence of it with UFO sightings.
- 3 Let’s start with the Navy cases. Some of the pilots have told of seeing flying objects shaped like Tic Tacs or other unusual forms. The recordings from the planes’ cameras show amorphous shapes moving in surprising ways, including appearing to skim the ocean’s surface and then disappear beneath it. This might appear to be evidence of extraterrestrial technology that can defy the laws of physics as we understand them – but in reality 9.
- 4 For one thing, first-person accounts, which are notoriously inaccurate to begin with, don’t provide enough information for an empirical investigation. Scientists can’t accurately gauge distances or velocity from a pilot’s testimony: “It looked close” or “It was moving really fast” is too vague. What a scientist needs are precise measurements from multiple viewpoints provided by devices that register various wavelengths (visible, infrared, radar). That kind of data might tell us if an object’s motion required engines or materials that we Earthlings don’t possess.
- 5 Perhaps the videos offer that kind of data? Sadly, no. While some researchers have used the footage to make simple estimates of the accelerations and other flight characteristics of the UFOs, the results have been mixed at best. Skeptics have already shown that some of the motions seen in the videos (like the ocean skimming) may be artifacts of the cameras’ optics and tracking systems.



- 6 There are also 11 objections. If we are being frequently visited by aliens, why don't they just land on the White House lawn and announce themselves? There is a recurring narrative, perhaps best exemplified by the TV show "The X-Files," that these creatures have some mysterious reason to remain hidden from us. But if the mission of these aliens 12, they seem surprisingly incompetent. You would think that creatures technologically capable of traversing the mind-boggling distances between the stars would also know how to turn off their high beams at night and to elude our primitive infrared cameras.
- 7 Don't get me wrong: I'll read with great interest the U.S. intelligence report about UFOs that is scheduled to be delivered to Congress in June; I believe that UFO phenomena should be investigated using the best tools of science and with complete transparency. But there may be more mundane explanations. For example, it's possible that UFOs are drones deployed by rivals like Russia and China to examine our defenses – luring our pilots into turning on their radar and other detectors, thus revealing our electronic intelligence capacities. The United States once used a similar strategy to test the sensitivities of Soviet radar systems. This hypothesis might sound far-fetched, but it is less extreme than positing a visit from extraterrestrials.
- 8 What's most frustrating about the UFOs story is that it obscures the fact that scientists like me and my colleagues are on the threshold of gathering data that may be relevant to the existence of intelligent extraterrestrial life. But this evidence involves subtle findings about phenomena far away in the galaxy – not sensational findings just a few miles away in our own atmosphere.
- 9 Powerful telescopes that will soon be operational may be capable of detecting city lights on the night side of planets that orbit distant stars or the telltale mark of reflected light from planetwide solar-collecting arrays or the distinctive sign of industrial chemicals in a planet's atmosphere. All of these "technosignatures," should we find evidence of them, will be small effects. If we do detect such things, you better believe that my colleagues and I will go to extraordinary lengths to eliminate every possible source of error and every possible alternative explanation. This will take time and careful effort.
- 10 15 But that is the price we pay because we don't just want to believe. We want to know.

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Tekst 5 UFOs Don't Impress Me

- 1p 8 What is the writer's view on UFO sightings, judging from paragraph 2?
- A They are a compelling myth used for entertainment purposes.
 - B They are merely unsubstantiated observations by amateurs.
 - C They do not give enough cause for thorough investigation.
 - D They fail to provide confirmation of civilisations beyond our planet.
- 1p 9 Which of the following fits the gap in paragraph 3?
- A it doesn't amount to much
 - B it proves quite the opposite
 - C the footage was clearly manipulated
 - D the footage wasn't sharp enough
- 1p 10 Which of the following is **not** discussed as a possible explanation for UFO sightings in paragraphs 3-5?
- A accidental effects in equipment used
 - B hyped-up stories in the media
 - C unreliable eyewitness reports
- 1p 11 Which of the following fits the first gap in paragraph 6?
- A common-sense
 - B constitutional
 - C ethical
 - D security-related
- 1p 12 Which of the following fits the second gap in paragraph 6?
- A calls for stealth
 - B is to destroy humans
 - C is to establish contact
 - D requires high-tech machinery
- 1p 13 What is the function of paragraph 7?
- A to clarify the need for more extensive research into UFO sightings
 - B to explain why UFO sightings are in the center of public attention
 - C to highlight the technical challenges of research into UFO sightings
 - D to sum up some less common interpretations of UFO sightings

- 1p 14 What is the **main** point made in paragraph 8?
- A Amateur UFO sightings prevent scientists from carrying out serious research.
 - B Scientists are fed up with spending so much time on looking into false information.
 - C So-called UFO sightings complicate important scientific work in deep space.
 - D The general public are hardly interested in scientific discoveries close to home.
- 1p 15 Which of the following best fits the gap in paragraph 10?
- A And just like in every other field of technology, space researchers might overlook the most compelling evidence.
 - B The work of science, though ultimately exciting, is mostly painstakingly methodical and boring.
 - C UFO research, then, might seem to be a lost cause even though people are captivated by the mystery around it.

De volgende alinea is weggelaten in de tekst.

- 1p 16 Op welke plek hoort deze alinea te staan?

I'm an astrophysicist who is involved in the search for extraterrestrial intelligence. My colleagues and I were recently awarded one of the first NASA grants to look for signs of advanced technology on planets outside our solar system. I have argued in these pages that the 10 billion trillion habitable planets that we now believe exist in the universe make extraterrestrial civilizations far more likely.

- A voor alinea 1
- B tussen alinea 1 en 2
- C tussen alinea 2 en 3
- D tussen alinea 4 en 5

Bronvermelding

Een opsomming van de in dit examen gebruikte bronnen, zoals teksten en afbeeldingen, is te vinden in het bij dit examen behorende correctievoorschrift.