Do we really want to awaken the alien force?

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SETI's Allen Telescope Array searches the stars for extraterrestrial radio signals. Credit: SETI

While politicians quibble over how to deal with illegal immigration, an ominous group of foreigners goes unaddressed: space aliens.

Should humans try to contact creatures from other galaxies? Do we

really want that force awakened? For scientists, this isn't some esoteric question. The fate of the planet may be at stake.

In recent years, a fierce debate has erupted over proposals to beam messages toward distant solar systems. Until now, the search for extraterrestrial intelligence – or SETI – has largely been limited to listening for radio signals from other galaxies. Having failed to detect a single peep, some scientists want to turn the tables and begin broadcasting missives from Earth into deep space.

But that creates two dilemmas.

First and foremost is the possibility of connecting with hostile civilizations. Should we risk announcing our location to real-life equivalents of Klingons or Stormtroopers? As physicist Stephen Hawking warned in 2010, "If aliens visit us, the outcome would be much as when Columbus landed in America, which didn't turn out well for the Native Americans."

The second quandary is how to communicate with creatures from another world.

The traditional assumption is that photos or other visual images are a universal language that any advanced life form could understand. In reality, it's extremely unlikely that extraterrestrials would see things as humans do, says Don Hoffman, professor of cognitive sciences at the University of California, Irvine.

"The assumption that what we intend to communicate will be received as we intended it could be devastatingly dangerous," Hoffman says.

Even on our own planet, eyesight varies widely, he notes. Bats perceive the world via radar. Indian pythons see in infrared. And honeybees

navigate by detecting polarized light.

Differences in vision also occur within species. For example, nearly one in five women is born with an extra photoreceptor gene and sees colors invisible to everyone else, according to research led by Kimberly Jameson of UCI's Institute for Mathematical Behavioral Sciences.

So it stands to reason that beings from other galaxies would evolve sight systems unlike anything on Earth, Hoffman says. Even if extraterrestrials somehow did develop human-style eyes, they wouldn't interpret images the same way we do, he says.

A few years ago, at a SETI Institute conference on interstellar communication, Hoffman appeared on the bill after a presentation by radio astronomer Frank Drake, who pioneered the search for alien civilizations in 1960. Drake showed the audience dozens of images that had been launched into space aboard NASA's Voyager probes in the 1970s. Each picture was carefully chosen to be clearly and easily understood by other intelligent beings, he told the crowd.

After Drake spoke, Hoffman took the stage and "politely explained how every one of the images would be infinitely ambiguous to extraterrestrials," he recalls.

Evolution and culture shape how a brain processes and interprets visual stimuli, Hoffman says. To someone raised in a remote jungle, for instance, a mushroom cloud would mean something very different than it does to an average American. And even the American's perception isn't an accurate reflection of reality, he says.

Hoffman likens the images our brain "sees" of the world around us to desktop icons on a computer screen, which bear no physical resemblance to the electronics inside. As evidence, his website features optical

illusions that demonstrate how the mind can misread and distort external input.

Thus, attempts to communicate visually with space beings are bound to fail, Hoffman says. "Even the simplest of images will be misinterpreted," he concludes in a paper on interstellar messages.

Would sound work better, perhaps along the lines of the synthesizer tones used to communicate with extraterrestrials in "Close Encounters of the Third Kind"?

In 1977, Voyager rocketed into space carrying recordings of animal noises, poetry readings and a library of music, from classical to Chuck Berry. The mission prompted "Saturday Night Live" to joke that aliens had intercepted the craft and transmitted a four-word reply to Earth: "Send more Chuck Berry."

In truth, Voyager's audio cargo would undoubtedly mystify any interplanetary astronauts who stumbled upon it, Hoffman says.

Again, evolutionary differences interfere. "We can't even understand the language of dolphins despite decades of effort," he says. The chance of aliens deciphering our words are similarly remote: "About zero," according to Hoffman.

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