

In the hunt for alien life, is man truly 'the measure of all things?'

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Enrico Fermi's lunchtime question at wartime Los Alamos, "Where is everybody?" has been both a gift and a problem to scientists ever since. Known as "Fermi's Paradox," it simply asks, why, since life on Earth is

ubiquitous and developed very early in Earth's history, and the galaxy is very old and not overly large, aren't there intelligent, advanced extraterrestrials everywhere? In particular, why can't we detect any, and why haven't any (obvious) aliens visited us?

There have been a few dozen proposed explanations of Fermi's Paradox, in which, as is the human way, mankind is placed at the center of the picture. It's about what we see, how we evolved to this technological state, what we have or haven't heard from space.

Vojin Rakić, a Serbian philosopher, calls these anthropocentric solutions, because they put humans at the center of the picture. In a paper that studies the existing proposals for solving the paradox, he puts forth a new, possible explanation: Alien life might be unobservable to the senses humans have developed, or even live in part of the wider universe we don't know of or can't yet detect and observe.

His epistemological approach discards the role of man in the nature of the universe and the search for life. A scholar from the Center for the Study of Bioethics at the University of Belgrade, Rakić's work has been [published](#) in the *International Journal of Astrobiology*.

The anthropogenic point of view was summarized early by the pre-Socratic philosopher Protagoras, who, in the 5th century B.C., wrote, "Of all things the measure is Man, of the things that are, that they are, and of the things that are not, that they are not."

Plato later reduced this idea to "Man is the measure of all things." Since then, humans have gone on to pollute the world, change the climate and decimate the rest of the animal kingdom. Is our search for the alien and extraterrestrial based too much on the human perspective?

Rakić begins by classifying the many proposed solutions to the Fermi

Paradox as exceptionality solutions, annihilation solutions and communication barrier solutions. The first posits that life is extremely unlikely to develop and we might be the only life in the Milky Way galaxy, if not the universe, and there may be nobody out there. The development of [intelligent life](#) might be even rarer, much rarer, requiring a series of crucial but exceedingly rare jumps in its path.

Annihilation solutions hold that planet-wide catastrophes happen from time to time, like the asteroid that killed the dinosaurs, or that intelligent species cause their own extinctions with war, weapons or [environmental damage](#), or destroy intelligent life elsewhere either as a means of protection or to grab resources.

Communication barrier solutions question whether alien civilizations are too far away, are incomprehensible to humans, or if they (or we) only exist for a relatively short period of time, or whether intelligent extraterrestrials chose to hide themselves, a scenario discussed in Liu Cixin's sci-fi trilogy "Remembrance of Earth's Past."

The zoo hypothesis proposes that extraterrestrials leave Earth alone to let it develop naturally, a kind of Prime Directive, as was self-imposed by human space explorers in the "Star Trek" universe.

Rakić's proposal goes further, providing an alternative resolution to the Fermi paradox that goes beyond the solution that aliens are so intelligent and advanced humanity cannot perceive them. But "that is just a fragment of the solution that is being proposed in this paper," he writes.

They don't have to take a new form to avoid human detection; they may have always existed this way. They might exist all around us, even if they don't surpass us in intelligence or have very little intelligence at all.

"A significant number of humans believe that they are the most

intelligent beings that have been encountered until now (i.e., encountered by humans)," wrote Rakić. "That is a highly biased anthropocentric assumption."

Do bugs and worms perceive humans as highly advanced life forms, and if so, how? They experience the consequences of our actions but may well not understand why. Are artificial intelligences observing humans in ways we can't discern?

"How do dolphins or whales [two animals that we consider intelligent] perceive humans? How can humans obtain an insight into their perceptive apparatus? They still don't know it." Alien entities might be composed of dark matter or [dark energy](#) or exist in space or time dimensions we haven't yet discovered.

"Humans cannot even imagine what the two (or more) additional dimensions of time would 'look like,'" Rakić continues. "In that respect, humans resemble the bug that perceives space in one dimension only."

Or perhaps life forms exist through a wormhole to a different part of the universe, in parallel worlds, some other part of the multiverse, or on a length and energy scale we can't tackle with even our largest particle accelerators.

These are speculations to be sure, but are they any more speculative than any of the solutions to the paradox proposed to date? There is a lot we know we don't know, but we have no idea what we don't know—the "unknown unknowns."

Rakić concludes, "The formulation of the Fermi paradox is actually too narrow. The paradox is indeed why humans have not perceived extraterrestrial life in a universe that is enormous, but the question is much broader: What may exist around humans that humans cannot

perceive ('around' meaning both terrestrial, extraterrestrial in our universe, as well as extraterrestrial in other universes)? That is the key question.

"The Fermi paradox is only an anthropocentric formulation of one aspect of this question."

More information: Vojin Rakić, A non-anthropocentric solution to the Fermi paradox, *International Journal of Astrobiology* (2024). [DOI: 10.1017/S1473550424000041](https://doi.org/10.1017/S1473550424000041)

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