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WHAT ET WILL LOOK LIKE AND WHY WE SHOULD CARE

Abstract

Our experiments to find extraterrestrial life are predicated on the assumption that it is most likely to be found on so-called "habitable worlds." These are planets and moons where surface liquid water exists, and atmospheres of light gases are found. Our searches presume that life on other worlds has a biochemistry at least somewhat similar to our own.

While these postulates might be our best guide for finding biology, they could be misleading us in the search for extraterrestrial intelligence (SETI). Timescale arguments suggest that shortly after a sentient species invents the technology for communication, it develops synthetic intelligence. Consequently, SETI's targeted searches of star systems that might have habitable planets in the conventional sense may be chasing a very short-lived prey.

In this paper, we discuss what the implications of post-biological intelligence might have in directing our SETI experiments.