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**Extraterrestrial Intelligence: What Would it Mean?**

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Results from NASA's Kepler mission imply a hundred million Earth-like habitable worlds in the Milky Way galaxy, many of which formed billions of years before the Earth. Each of these worlds is likely to have all of the ingredients needed for biology. The real estate of time and space for the evolution of intelligent life is formidable, begging the question of whether or not we are alone in the universe. The implications of making contact have been explored extensively in science fiction and the popular culture, but less frequently in the serious scientific literature. Astronomers have carried out searches for extraterrestrial intelligence for over half a century, with no success so far. In practice, it is easier to search for alien technology than to discern intelligence of unknown function and form. In this talk, the modes of technology that can currently be detected are summarized, along with the implications of a timing argument than any detected civilization is likely to be much more advanced than ours. Fermi's famous question "Where Are They?" is as well posed now as it was sixty years ago. The existence of extraterrestrial intelligence would have profound practical, cultural, and religious implications for humanity.