

Editorial

Introduction: the true nature of aliens

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Is it time to re-think ET?

For well over a half-century, a small number of scientists have conducted searches for artificially produced signals that would indicate the presence of intelligence elsewhere in the cosmos. This effort, known as Search for Extraterrestrial Intelligence (SETI), has yet to find any confirmed radio transmissions or pulsing lasers from other beings. But the hunt continues, recently buoyed by the discovery of thousands of exoplanets. For many, the abundance of habitable real estate makes it difficult to believe that Earth is the only world where life and intelligence have arisen.

SETI practitioners mostly busy themselves with refining their equipment and their lists of target Solar Systems. They seldom consider the nature of their prey – what form extraterrestrial intelligence might take. Their premise is that any technically sophisticated species will eventually develop signalling technology, irrespective of their biology or physiognomy.

This view may not seem anthropocentric, for it makes no overt assumptions about the biochemistry of extraterrestrials; only that intelligence will arise on at least some worlds with life. However, the trajectory of our own technology now suggests that within a century or two of our development of radio transmitters and lasers, we are likely to build machines with artificial, generalized intelligence. We are engineering our successors, and the next intelligent species on Earth is not only certain to dwarf our own cognitive abilities, but will be able to engineer its own, superior descendants by design, rather than counting on uncertain, Darwinian processes. Assuming that something similar happens to other technological societies, then the implications for SETI are profound.

In September, 2015, the John Templeton Foundation's Humble Approach Initiative sponsored a 3-day symposium entitled 'Exploring Exoplanets: The Search for Extraterrestrial Life and Post-Biological Intelligence.' The venue for the meeting was the Royal Society's Chicheley Hall, north of London, where a dozen researchers gave informal presentations and engaged in the type of lively dinner table conversations that such meetings inevitably spawn.

The subject matter was broad, ranging from the multi-pronged search for habitable planets and how we might detect life, to the impact of both the search and an eventual discovery. However, the matter of post-biological intelligence – briefly described above – or the possibility of non-Darwinian evolutionary processes, was an incentive for many of the symposium contributions.

We present here short write-ups of seven of these talks. They are more than simply interesting: they suggest a revolution in how we should think about, and search for, our intellectual peers. Indeed, they suggest that 'peers' may be too generous to *Homo sapiens*. As these essays argue, the majority of the cognitive capability in the cosmos may be far beyond our own.

-- Seth Shostak

This symposium was chaired by Martin J. Rees, OM, Kt, FRS and Paul C.W. Davies, AM, and organized by Mary Ann Meyers, JTF's Senior Fellow. Also present was B. Ashley Zauderer, Assistant Director of Math and Physical Sciences at the Templeton Foundation.