Listening for an Extraterrestrial Ruckus

By Dennis Payton Knight

SETI is an acronym for the Search for Intelligent Life. A decade ago, German astronomer Seth Shostak, a senior astronomer for the SETI center in Mountain View, California knew he caused a ruckus with a prediction: “I bet everyone in the room a cup of coffee that we would find the aliens within two dozen years,” he said. “The media really seized on that.” Shostak was featured in a 2017 NASA posting from NASA’s Langley Research Center.

The SETI center works in conjunction with NASA’s Ames Research Center in Mountain View. Based on man’s scientific understanding of the origins of life on earth, and a mathematical extrapolation of probabilities, it seems reasonable that an evolved civilization like Earth’s may soon be found across interstellar distances.

During the 1970's, many radio astronomers conducted searches, using existing antennas and receivers. Those efforts continue to the present with improving equipment and methodologies developed at the SETI Center, and at Harvard, the University of California, and Ohio State University.

As development of new technologies continues, new signal processing algorithms and strategies are progressively integrated into specific observing projects. Much of the SETI Institute’s funding has been provided by private individuals and grants from foundations. NASA contributed financially in 2005 with a grant for work on signal detection for the Allen Telescope Array.

NASA’s Kepler spacecraft, launched in 2009, has identified many planets about our size outside of our solar system where conditions could potentially permit the presence of intelligent forms of life. Inside our own solar system, new information has caused scientific speculation about the possibilities of life on Saturn’s moon Enceladus and Jupiter’s moon Europa. Those likelihoods were enhanced by evidence NASA encountered in its mission to Mars demonstrating that liquid water flows intermittently on that planet. As NASA’s article reflects, “…if you’re looking for life, follow the water.”

There is numerical argument supporting Shostak’s bet. Astronomers say the number of planets in our own Milky Way galaxy could be on the order of a trillion, and analysis extrapolated from Kepler data there are tens of billions of earth’s cousins existing in the galaxy in a habitable zone, meaning orbits where they could possibly have liquid water on their surfaces.

Those same numbers work against those who believe Earth is the only place in the universe with intelligent life. The odds against them, according to Shostak, are one in a billion. “You have to admire those people because they believe in miracles [and it would be] a miracle if there isn’t any cosmic company.”

Shostak’s bet caused a ruckus. Maybe it won’t happen within the time he predicted. It may not happen in our lifetime, maybe not in this century, maybe never, despite odds by the billions in its favor. But what a fine ruckus were going to have when it does, when we finally intercept that Morse code radio signal from Zaphod Beeblebrox. He’s out there, someplace. I saw it in the

movies.