

INTEGRATING ACTIVE AND PASSIVE SETI PROGRAMS: PREREQUISITES FOR MULTIGENERATIONAL RESEARCH. D. A. Vakoch, SETI Institute, 515 N. Whisman Road, Mountain View, CA 94043, USA; dvakoch@seti.org

Introduction: For SETI to succeed as a multigenerational activity, we need to foster people's expectations that they can contribute to the creation of humanity's "long now" [1]. By making a significant commitment to Active SETI, we would also be making a statement of some of our ideals as a civilization: that we hope to continue to exist when a reply arrives, and that even if we do not survive that long, we are willing to expend resources and effort to provide something that may be of benefit to other civilizations.

By integrating Active SETI and Passive SETI programs, we could also establish an institutional framework for sustaining Passive SETI and the scientists who conduct it, even in the face of decades or centuries of silence from the stars. By engaging in a clearly articulated, ongoing, and evolving set of experiments to test various versions of the Zoo Hypothesis [2], we could build into Passive SETI programs specific dates at which we could expect a first response to messages sent to particular stars. Such a multi-generational activity would need to look not only to the future, but also to the past, recalling the dates, content, and targets of transmissions sent centuries or millennia before.

Indeed, we could increase the likelihood that stars to which humans had previously transmitted would be re-examined by developing community practices that would foster the observations. For example, we might initiate an ongoing series of annual celebrations in conjunction with "first reception days." By specifying in messages to the extraterrestrial recipients the specific date and year that we would hope to receive a first reply, we could even have such "first reception days" fall on the same day of the year on Earth, with different potential "first receptions" coming from different stars in different years. One of the most critical concepts to communicate in an interstellar message, in this plan, would be our means of reckoning time—a concept addressed by past interstellar messages [3, 4].

If the same day of the year were chosen each year for potential "first receptions," this annual celebration could provide a regular opportunity for the SETI community of the time to gather before the reception date, reflect on the nature of the transmission that had been sent to the target stars of interest that year, and discuss current and future SETI projects—always knowing years ahead of time when the celebration would be held, allowing participants to avoid scheduling conflicts. Ideally the date would have a significance that would remain obvious even if calendar systems change over the millennia; for example, each year's "first reception day" could fall on the Summer Solstice, or some other seasonally significant day. Though we would expect that most such annual cele-

brations would not bring news of the discovery of extraterrestrial intelligence, by connecting intellectual and social gatherings of committed communities of researchers with these potentially critical days, there would be opportunities to build and sustain these communities by reflecting on the current search as part of an ongoing enterprise with a rich history. Such times of community building would provide a means for recognizing tangible progress in developing increasingly sophisticated and ambitious messages and transmission technologies, even if no signal were received.

References: [1] S. Brand, *The Clock of the Long Now: Time and Responsibility*, Basic Books, New York, 1999. [2] J.A. Ball, The Zoo Hypothesis, *Icarus*. 19 (1973) 347-349. [3] C. Sagan, L. Salzman Sagan, F. Drake, A message from Earth, *Science*, 175 (1972) 881-884. [4] C. Sagan (Ed.), *Murmurs of Earth: The Voyager Interstellar Record*, Ballentine Books, New York, 1978.