

A CRITIQUE OF SETI SCIENCE

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Abstract

I present a fundamental difficulty that plagues the scientific rationale for the Search for Extraterrestrial Intelligence (SETI). It is argued that the two opposing camps – the detractors and the proponents – are basing their hypotheses on two opposing principles of the scientific method. The Copernican principle of mediocrity is used by the proponents, and indeed, is widespread amongst the lay public. The Occam's razor principle is used by the detractors to suggest that lacking evidence for ETI, there is no justification in postulating their existence. It is suggested that the Occam's razor principle is an ontological principle based on algorithmic complexity theory, and that the Copernican principle has not such a basis. It is suggested that science popularisers should be presenting the Occam's razor principle as the fundamental ontological premise in order to make it more widespread among the lay public. The net result of such a programme would increase the incidence of critical analysis and skeptical thinking resulting in a favourable reduction in beliefs in pseudo-scientific mumbo-jumbo. I suggest that the only way to reconcile the Copernican principle and Occam's razor were if evidence of ETI did exist but we have yet to find it. On the basis of this, I suggest that a diverse set of observational approaches to SETI should be undertaken including a search for extraterrestrial artifacts in our solar system. This may be achieved by piggybacking on conventional planetary science missions by deploying scientific instruments *en route* to their destinations (when they would usually be switched off). Finally, I suggest a topical scientific conundrum as validation of communication with an ET source.