Paper ID: 86823
student

53rd IAA SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The Next Steps (A4)
SETI 2: SETI and Society (2)

Author: Mr. Pauli Laine
Finnish Astronautical Society, Finland

COGNITIVE ASTROBIOLOGY – MIND IN THE UNIVERSE

Abstract

We don't know how unique creatures we are in the Universe. We don't even know how unique phenomenon life is in the Universe. But we know that humans are the only creatures on Earth that have created science and technology. We have languages that are capable of limitless expression and efficient communication. Although many animals behave clearly intelligently, no other animal is able to human linguistic utterances. Is language the enhancer of our thinking or even enabler of our abstract symbolic cognition? Why such rich languages have evolved on humans only among all possible species and during billions years of evolution? What does this mean for the possibility of creatures that are functionally equivalent of humans to exist somewhere else in the Universe? Human evolution and cultural history is not uniform, linear evolution towards modern (western) civilization. Rather modern civilization is the product of cumulative information and skills recorded and transferred extrasomatically from different cultures and traditions throughout the ages. It is said, that stone age human had already all the cognitive abilities as modern day humans. Co-evolution of cognition and language made it possible to permanently record and efficiently transfer ideas and information from human to human, from generation to generation. This led to co-evolution of brain and culture. How human cognitive abilities then differ from other animals? Is the difference only quantitative, not qualitative? Is the ability to learn and use language the only thing that distinguishes us from other higher animals in cognitive level? Are we just the first specie to achieve science and technology on Earth, or are we product of series of improbable coincidences?

Cognitive astrobiology is an early state research area combining two multidisciplinary research areas: cognitive science and astrobiology. One of the confluences of these two areas is the research of human specific cognitive abilities and the possibility of the emergence of similar abilities in somewhere else in the Universe. The Search for Extraterrestrial Intelligence (SETI) has been searching for artificial signals for more than 50 years. During these years SETI research has assumed that (or at least is possible that) human- like intelligence and technology could evolve also somewhere else in the Milky Way. However, intelligence is a controversial and vague concept. Cognitive astrobiology can clarify the concept of intelligence by searching the features of the most general, multiple realizable rational cognition, functionally equivalent of humans.