

# **Report of 19 February 2014 Meeting Royal Society Southern Highlands Branch**

**Speaker:** Professor Charlie Lineweaver  
School of Astronomy, Astrophysics and Earth Sciences, ANU

**Topic:** Science, Humility and the Fallacy of the Planet of the Apes

Before his appointment at ANU, Dr Charlie Lineweaver held post-doctoral positions at Strasbourg Observatory and the University of NSW where he taught one of the most popular general studies courses “Are We Alone?”. As the 107 person audience from the Southern Highlands streamed into the Chevalier College Performing Arts Centre to hear him present the February lecture, it was clear that they too were intrigued by what he sees as the flawed logic of much of what we think about our evolution.

The Planet of the Apes hypothesis is that there is a “human-like intelligence niche”, where there is selection pressure on other species (including our ancestors) to occupy this niche. In our absence in a terrestrial setting (or on other planets) some species will evolve into that niche and develop technology. Carl Sagan called the occupants of this niche the “functional equivalent of humans”. When biologists are asked whether human-like intelligence is a convergent feature of evolution, they answer no. When physicists and Hollywood are asked the same question, they answer yes.

Lineweaver’s view is that since generic intelligence is poorly defined, he prefers the term “human-like intelligence niche”, rather than the “intelligence niche”. Each animal species with or without a brain seems to have its own version of intelligence. Our human-like intelligence, unlike any other type of intelligence on Earth, has allowed us to build radio telescopes and be heard across interstellar distances. This ability that humans have, and that we are able to look for in others, is a “species-specific characteristic”.

It is not surprising that humans search for contact with others in the universe when it is known that there are approx  $10^{22}$  Earth-like planets. However, other planets capable of sustaining similar life are on average 1.8 billion years older than Earth. In that time, humans have climbed up the evolutionary ladder from microscopic single-celled amoebas. Extra-terrestrials may not want to communicate with beings so far their evolutionary inferiors, and in any case they would probably not communicate via relatively primitive radio waves.

Lineweaver adds that it makes no sense to concoct an imaginary set of which we are the only terrestrial member, and then suppose that biological evolution elsewhere in the universe evolves toward this set. He describes this concoction as The Planet of the Apes Hypothesis. It is testable, and so far paleoneurology does not support it. Half a dozen

multi-million year experiments in vertebrate evolution offer no support. They strongly suggest that there are no “functionally equivalent humans” in the universe. Hence the *Great Silence*.

Lineweaver’s surprising conclusion to this fascinating lecture was that despite everything he had discussed and proposed, he does support SETI because...

- When we have new technology to cheaply explore new parameter space we should do it.
- Null results are important
- The universe may be stranger than we imagine
- Lineweaver himself may be wrong about the Planet of the Apes!

Anne Wood