

Q&A

His quest for life is just out of this world

"Hello out there, is anybody listening?" Boy, would the people behind the Search for Extraterrestrial Intelligence project love to hear something like, "Yeah, here we are, send more Chuck Berry." Of course, nothing like that has remotely turned up, but Dr. Michael J. Klein, the project manager and co-author of "Cosmic Quest: Searching for Intelligent Life Among the Stars," will continue listening nonetheless. Klein was interviewed by Herald Q&A editor Mitchell Fink.

Question: The search for extraterrestrial intelligence has been going on for a number of years. In any of your searches, has anything ever turned up?

Klein: So far, the searches have not turned up anything that would indicate that we have a real signal. There have been some interesting events, but we've never been able to verify anything.

Q: What were they, irregularities in sound waves?

A: Not sound, but radio waves. Sound doesn't travel across space, but radio waves do. As we point a radio telescope in a particular direction, we've seen a signal start to come into the antenna beam. In other words, if the sky is drifting and we point our antenna in a particular direction, then the amount of energy coming in, if there is a radio source there, comes into the field of view of the antenna beam, then the signal will increase to a peak and then decrease as the source moves out of that beam again.

What we have seen is, occasionally, a signal coming in at a particular frequency, and not at neighboring frequencies, and then it goes away, disappears. Most likely, these kinds of things have been interference from some transmitter here on Earth.

Q: The project you are managing now, how long has that been going on?

A: The current funding started in '83. It's a 10-year program. Right now, it is in a 5-year research and development program, which will terminate in '87. At that time, we hope to get some implementation money to build some of the hardware we are presently designing, then start a serious search around 1990.

Q: What do you mean by "serious search"?

A: Serious meaning that we will be carrying on searches during our research and development phase, but they are fairly limited. All the other searches that have been done have been greatly limited, a little bit by sensitivity, but mostly by their inability to look at a large number of frequencies at once. The cosmic haystack is a very large place. The haystack is bounded by how far away they are, in what direction they might be. We have no idea in what direction to look, we have no idea

how far away they might be, no idea at what frequency they might be transmitting.

Q: Is what you're doing based on the assumption that intelligent life might be trying to contact us?

A: Not contact us, contact emerging civilizations. If you think about it, our sun is a very average star. There is nothing special about it; others are bigger, smaller, older, younger. So, our assumption is that there are a lot of other average stars out there that could have spawned life on Earthlike planets, if planetary systems are as abundant as we think they are.

Q: So, if we're average, we assume that some intelligent life is up to our capability?

A: Right. We assume we are the technological infants. If you are any younger than we are technologically, you can't communicate, because we didn't discover how to stick our toe into space until our lifetime. A hundred years ago, it was totally impossible to think of transmitting across the great distances of space. Now we can do it with ease.

Q: I'm fascinated by this central assumption that "they" are smarter than we are.

A: That's not even an assumption. If there is life out there, that's almost a given.

Q: If they're so smart, why

haven't they contacted us?

A: There are between 100 (billion) and 200 billion stars just in our own galaxy. We know that the number of solarlike stars is several billion for sure. We have to say that the big assumption is that life is not unique to Earth. Everything we know about the universe says it is not. The assumption is that there are other Earths out there and the numbers are so staggering.

I personally believe that there is life out there somewhere. Is it within our destiny, ever, to contact them? There are two ways to contact them. One is to send a spaceship from here to there. Another is to communicate. To send a spaceship is something we can do if the distance is 10 or 20 light years. But when you start going much further, you start

getting into one-way trips. In order for them to visit us, you require them to be older than we are. I have no problem with that.

But if you go from here to there, start accelerating yourself close to the speed of light, and if the theory of relativity is correct, and your biological clock runs slower relative to your home base, you could go somewhere and come back in a much shorter time than the time that would have elapsed on Earth. But even then it is a one-way trip.

You come back to an Earth that is no longer the Earth you remember. It might be 1,000 years older than when you left. One has to question the motivation of someone willing to make that kind of trip.

Q: Why are we listening, as opposed to sending?

A: Since we are the technological infants, it behooves us to listen for evidence of more advanced civilizations communicating. They could be directing a signal directly at us. I don't want to rely on that. We make the assumption that someone is sending out signals, but they may not know we are here. Think of a lighthouse with beams going out in all directions.

Q: Let's say "they" are intelligent enough to have come to the same conclusion. In effect, everyone's listening...

A: And no one is sending. I understand your point. But, if they have evolved further with their technology, maybe they are sending.

Q: Why do you do this?

A: I have been interested in astronomy since I was 9. The reason I do it is that I think we as human beings need to gain perspective of who we are, where we came from and what our destiny might be.

I think it's critical that some fraction of our population tries to help us learn collectively, so that we as a human race, will progress from one stage to the next without destroying ourselves, without going back to the caves. I'm in it not so much to advance our technological capabilities, although that is a good thing to do.

My real interest is that we as a race need to gain perspective of who we are. Science helps us do that because it gradually unlocks nature's secrets. And the possibility of unlocking life somewhere else is a very humbling thought, to say the least.

LOS ANGELES CA

3/1/85