My presentation is about how we as individuals and as a species think about our place in the universe and how this relates to SETI. More generally, I am interested in the nature of belief systems and their relation to CONTACT. My objective is to get a conversation started and also get suggestions.
Over the past 10 years my interest in cognition has grown from having a basic understanding about conceptual systems to thinking how belief systems form and are sustained, and especially why they are resistant to change. For many years, theories of learning have viewed communication as active assimilation as if listening were like eating: I tell you something and you digest it. In the simplest view, learning is like pouring knowledge into the head which is a kind of vessel; it is passive. An alternative views intellectual digestion as an active, inquiry-driven process in which the learner seeks new knowledge by asking questions and experimenting. But as anyone knows, in real life people first apply their biases to determine whether the speaker is authoritative. They then either believe what is said as being fact, or they try to discredit the speaker and argue away discrepant claims as not constituting new information. So in this talk I’m interested in how our everyday and scientific belief systems bias SETI and CONTACT.
To frame this discussion, it appears that there are three logical levels of inquiry that naturally follow from the idea of ET Life. My questions arise at the third level. At the first level, the focus is how to search and also how to respond.
Some people have focused on another logical level, why haven’t we detected a signal?

Webb provides a useful case analysis that gets at our assumptions about aliens, technology, and communication:
% Intentional/Motivational “Reaching out” Issues
----14 They Stay at Home
----23 They Have No Desire to Communicate
----6 The Interdict Scenario % Would we communicate with Hawaii today knowing what we know now about the affect on their civilization?

% Communication Signal Issues
----Distance/Dimension, Technology/Medium/Code, ...
----Not actually more advanced % If so much more sophisticated than us, they could have adapted to our means of receiving & interpreting signals!
----More rare and so more separated
And this leads from a social and cognitive perspective to a third logical, meta-level – perhaps we might not know what we are looking for: Both because we do not understand ourselves and because what we can find is constrained by our ways of thinking.

Baird’s remarks relate directly to my starting points – both the nature of consciousness in humans and our belief systems affect our notion of what intelligence can be, how it might communicate, and how we would attempt to communicate with it. At the root, my interest is to delineate a bit the bounds that Baird mentions and to see if and how we might break out of ways of thinking that are limiting SETI. Al Harrison’s “After Contact” discusses this point as well in mentioning Sagan’s “assumption of mediocrity,” that our civilization and technological ability is average. (But that’s an incredibly weak assumption; it’s like being in Europe in 1500 and assuming that half the civilizations on Earth are launching exploratory expeditions.)
So realizing the power of biases, and particularly the strong metaphors that organize our thoughts on many difficult topics, such as politics, I wondered what schemas were influencing my own thinking about how our species fits into the grand scheme of the Universe. These are topics that relate belief systems to SETI and CONTACT.

And you see already there what I mean by a schema, the idea that objects and events “fit” and that there are organizing principles.
What Are We Searching For?

- Scientific Knowledge & Technology
- Cultural Enrichment
  - Blaise Pascal: A diversion from our miseries
- Knowledge we are not alone
- Friends/companions (“We come in peace”)

So what are we searching for? Projects today such as KEPLER and SETI’s Hat Creek Radio Observatory are scientific efforts focussed on detecting Earth-like (habitable) planets and ET signals, respectively. In contrast, if you look at the Pioneer 10/11 Plaque and Voyager 1 & 2 record, it seems obviously our idea of communicating with aliens is to announce our existence, share knowledge and swap stories. Voyager pretty much shouts out, “send your family pictures and favorite music.”

Blaise Pascal said we can’t sit alone in an empty room because of our miseries – so perhaps some seek diversion or escape from the reality of life on earth.

We appear more interested in knowing we are not alone than in protecting our private oasis. Following the title of one of Seth’s books, perhaps we seek company.
So putting this together it seems logical that our quest for meaning in life, as aspect of cosmology, naturally relates to SETI.

I started asking, what do I take for granted about the place of humanity in the universe and how does this affect my view of the purpose of life? Could questioning our assumptions about mortality, purpose, and humanity’s long-term role in the Universe inform SETI?

Others have asked related questions, such as the lively session, “Getting Smarter about Intelligence,” during the last Astrobiology Conference. Maybe what we are learning about belief systems may help us form better expectations about how others might communicate or why they don’t.
So here’s an example of a belief system people use to frame their relation to the Universe. In answering the question, what is the purpose and nature of human life, we might expect reality to fit certain schemas similar to those that organize our everyday lives << read first point >>.

Such schemas strongly relate to our physical and social orientation to objects. We inhabit our bodies; human inhabit the earth. SETI is searching for other inhabitants.

I think most of our thought about value is tied to our concern for persistence – whether you are thinking about your own contributions, your children, or your species, the meaning of what you are doing depends in some part on what you leave behind and how you have permanently changed the world.

Religion has often used familiar schemas to make our life understandable, e.g., we are children of god; god is like a parent with feelings who cares about us and is watching.
Now, very briefly, science in the 20th century has overturned some commonsense schemas.

Out notions of knowledge, evolution, and culture in particular are no longer based on progressive accumulation; causal linearity has been replaced by a theory of complex systems, which applies to biology, neuropsychology, and sociology, emphasizing context, holistic analysis, and emergence. These changing views have implications for the nature and varieties of intelligent life.
Here is an attempt to identify some of the schemas that shape our thinking about intelligence and SETI. The scientific topic here is the diversity and evolution of cognition.
So we see again as Baird said, that the search for an extraterrestrial intelligence is inseparable from the search for understanding our place in the Universe. The subtitle of my talk, “The Search for Human Intelligence” refers on the one hand to the apparent emotional aspect of searching for beings like ourselves with whom we could communicate. But in this search SETI intersects with the cognitive scientist’s quest, “The search for human intelligence” – its origin, nature, how it works and develops.

I think to revitalize CONTACT we should could add a specific focus on the nature or failures of human communication on Earth. If we cannot communicate among ourselves it is absurd to think a superior life form would want, would try, or would be able to communicate with us.

At the same time, we are realizing life and intelligent life might take such diverse forms we cannot even relate to it or might hope for at least a relationship as good as we have with other mammals and better than we’ve had with other primates.
References

- Harrison, Albert A., Psychology and the Search for Extraterrestrial Intelligence, Behavioral Science, 35:3 (1990;July)