THE SPIRITUAL QUEST IN THE SETI RESEARCH

J. G. Funes[1], M. Lares[2], M. Martiarena[3], M. Asla[4], L. Florio[5] and G. Bernardello[6]
[1] Universidad Católica de Córdoba
Obispo Trejo 323, 5000 Córdoba, ARGENTINA.
Email: jfunes@rectorado.ucc.edu.ar
[2] Instituto de Astronomía Teórica y Experimental (IATE, CONICET-UNC)
[3] Universidad Católica de Córdoba
[4] Universidad Austral
[5] Universidad Católica Argentina
[6] Escuela de Biología, UNC, CONICET

Abstract. The Search for Extraterrestrial Intelligence (SETI) research assumes that we live in a bio-friendly universe. But do we live in a spiritual-friendly universe? We propose to include the spiritual quest in a new multidisciplinary approach to SETI. We consider different types of alien civilizations by including a *Spiritual factor* according to the characteristics of those civilizations as described in this paper. We propose to simulate the number of planets where there is a Communicating Extraterrestrial Inteligence (CETI) in our Galaxy. To validate our thought experiment, we propose to apply this model to the different ages of human history trying to describe different alien civilizations according to the Spiritual factor.

1. Introduction

The SETI program assumes that we live in a bio-friendly universe. But do we live in a spiritual-friendly universe? As SETI is seeking new ways of decoding and coding messages using universal markers [2], we propose to include spiritual markers as part of a new approach. In dealing with the potential spiritual nature of an alien civilization, we address two related quests: the communication and the detection of intelligent life (questions 2 and 3 in p.671 [2]).

Teilhard de Chardin's integration of geobiological phenomena with philosophical and spiritual perspectives resulted in ideas such as the emergence of a "sphere of human thinking" (noosphere) as the next evolutionary stage of the biosphere, and the ultimate expansion of consciousness into the galaxy [7].

According to Lehman and Persinger [7], three of Teilhard de Chardin's concepts - the prominence of "spiritual energy", the emergence of a sphere of human thinking (the noosphere) and the expansion of consciousness beyond the terrestrial domain - can be supported by quantification of known parameters of the human cerebral cortices and the fundamental energies and forces that permeate the universe.

Therefore, as we consider planetary biosignatures reflecting the presence of a biosphere [2], we will focus on the definition and search for spiritual signatures that could reflect the presence of a noosphre in other planets.

We hardly understand the interaction of life and environment in the evolutionary process of the emergence of intelligence. For this reason, it is even more difficult to consider the question whether a spiritual genesis is a necessary product of the cosmic evolutionary process or if it could have happened on Earth by chance, as a result of the development of particular events in human history.

In our search, we are interested in spiritual living beings, i.e. beings not only capable of processing information - as animals and machines actually do - but self-conscious subjects, capable of abstract thinking and conceptual language. A further caveat is that we should discuss whether the scientific rationality is the only approach that could address adequately the spiritual nature of *Homo sapiens* or any other extraterrestrial (ET) species. As scientific rationality, we understand here the investigating approach to reality as it is known in the natural sciences.

We propose here a parameterization of the spiritual nature. We also recognize the difficulty that always involves quantifying qualities related to the spiritual essence.

2. Spiritual Characteristics of ET Intelligence

Homo sapiens, as the only available study case, has a spiritual nature that is shown in a variety of ways. However, these spiritual manifestations may be quite different in other ET civilization.

Instead of giving a definition of spirituality we prefer to describe the characteristics of a spiritual being that includes multiple intelligences. We should analyze different types of intelligences but this discussion is beyond the scope of this paper. The following description is incomplete but it is an acceptable starting point. The spiritual nature of a being is not evident, but should be inferred it from his/her/its operations. Thus, it is expected of an intelligent being:

1. Self consciousness.
2. Symbolic communication: ability to experience beauty and to communicate the emotions through fine arts, literature, music, etc. As part of this intersubjective communication, ET beings should be able to listen and send messages, i.e., capable of developing a SETI alike program.
3. Ability to create and to be convinced by a narrative.
4. Understanding of the universe in scientific categories, explanation of the universe formulating hypothesis founded on a cause-effect relationship based on

experimental data. As Davies [3] suggests, the emergence of the science could be related to the historic evolution of the Greek philosophy and monotheism. Here there might be a link between spirituality and science.

5. Capacity to ask why questions going beyond the immediate perception of reality, ability to find meaning and values for actions and structures. This ability could allow them to develop philosophical inquiries.

6. Ability to invent technology making a rational use of natural resources and a potential development of artificial intelligence.

7. Ability to form social structures at different scales: clans, village-cities, nation-states, global organizations governed by rules – a global consciousness.

8. Awareness of past, present and future with concern for future generations. Cult of the dead, reverence for ancestors.

9. Desire of exploration that could imply space exploration. This desire could express and fulfill a cosmic awareness.

10. Free will, moral sense, altruism, empathy. (On ET altruism and ethics in the cosmos see [9]).

11. Ecological sense. Respectful attitude towards the biosphere and the cosmos.

12. Ability to develop a personal relationship with the other and a sense of belonging to a spiritual-religious community that can transcend a national or cultural consciousness. The religious predisposition should not be identified with the spiritual nature though religions provide structure and contents for some ways of spirituality. Would our core spiritual values of love and compassion be a part of alien religions? Would ET beings even make the same distinction between religion and science or will it all be mixed together? [6]

Specially, the last three characteristics are those in which spirituality is more clearly manifested.

If life is a common characteristic of the universe, we can assume that after a long evolutionary process it could have evolved into a 'Symbolic Species' [4]. Forms of iconic and indexical communication are present in many species on Earth, but as far as we know, only humans have developed thought and communicate symbolically [8]. If, to the best of our knowledge, symbolic thinking is strongly correlated with spiritual nature [5], then it is fair to say that SETI search for spiritual beings is basically the search for someone with whom we could communicate symbolically at an inter-subjective level.

3. The Project OTHER

We build human landscapes and mindscapes from the other's perspective, moving away, differentiating ourselves from the other. Therefore, the question *who is the other?* is essentially correlated with the question *who are we?*

In an attempt to find a cosmic "we", the question *who is the other* rises a series of questions. Are we part of a bigger *spiritual cosmic family*? Could we establish an intersubjective relationship with other spiritual species? Does it include other animals? How could we relate to the other without being too much earthling-centered? To address these and similar questions in Córdoba, Argentina, we have started project OTHER (acronym for *Otros mundos, Tierra, Humanidad, and Espacio Remoto*), a multidisciplinary laboratory of ideas.

4. The Spiritual Factor, Spiritual Markers and The Noosphere

One way to approach the search for a spiritual ET is to introduce the spiritual factor or *S factor* in the Drake equation that could be included in two of the factors of the equation, *fc* - the fraction of intelligent civilizations that develop technology that releases detectable signs of their existence - and *L* - the length of time such civilizations send detectable signs. Since it is not possible to directly measure the *S factor*, the strategy that we propose is to search for spiritual signatures.

Until the SETI program detects an unmistakable signal, all speculations about ET intelligence will be nothing but a philosophical thought experiment [1].

As Asla [1] points out, a constellation of issues (ontological, ethical and religious) orbits around an anthropomorphic nucleus because any speculation about alternative forms of rationality, always hides a reference to ourselves.

To simplify the complexity of the search, we can regroup the twelve spiritual characteristics described in *section 3* into three categories, namely, the relationship of the being with the physical world (*S1*), the intersubjective relationships between different beings (*S2*), and the relationship of the beings to the social structure (*S3*). Thus, the noosphere could be parametrized with these three aspects since a thinker (a scientist or philosopher) can interpret the reality according to physical, intersubjective and normative dimensions. We refer to *S1*, *S2* and *S3* as spiritual markers.

Taking the risk of falling into stereotypes, we assume that an ET civilization could have developed a moral sense - a system of meanings and values. If this is the case, we would like to find some indicators of the level of spirituality. In a first approach, civilizations can be based on a spiritual-moral sense (*S*+) or the spiritual-moral dimension might be not only missing but might be evolved in an aggressive-predator attitude (*S*-). We also consider a S-free or spirituality-independent civilization in which science-technology

and spirituality have developed in a complete separated way.

In a working hypothesis, from our inevitable human perspective, we assign to *S+* and *S-* and *S-free* civilizations some characteristics that we describe below.

S+ civilizations could be characterized by:

- Respect for other emerging civilizations, openness to other ideas or organizations, willingness to share its cosmic vision and spiritual experience.
- Achievement of a certain degree of civilization would require the integration of groups and their differences, maintaining diversity while reaching global agreements. This characteristic implies the respect of individual and minorities rights, and stewardship of the natural resources in their planet.
- Desire to seek for other civilizations to deepen their spiritual understanding and to communicate their experience of the sacred and their spiritual-religious cosmic vision.

S- civilizations could be described by:

- The pursue of survival at any cost, even when it requires to conquer or enslave another species.
- The lack of respect for individual and group liberties, and tendency to dictatorial forms of government
- The development of an absolute ego - in opposition to altruism-, and chauvinism - in opposition to openness to diversity - that determines the system of meanings and values.
- These characteristics might be driven by the fear to the otherness and could derive into religious fundamentalism.

In a *S-free* civilization, science and communication would be regarded as the highest stage in cultural evolution, that would allow the society to overcome all survival crises and assure a happy and pleasant future. In this scenario, science is the only rationality that gives access to a correct interpretation of reality.

We would like to address the following questions. How would the *S factor* affect the survival or lifespan of a civilization? Would a *S+* civilization have more chances to survive than a *S-* civilization? Would a *S+* civilization be more open to listen and to send messages transferring knowledge, information, and technology? Would a *S+* civilization have developed a system to listen and decode arriving signals from outer space? On the other side, would a *S-* civilization be monitoring other civilizations in a lower-level of ET intelligence evolution to control them and exploit their resources?

Since the factors in the Drake equation are quite uncertain, as a first approach to this wide and complex quest, we propose to simulate the chances of communication among planets where there is a CETI in our Galaxy - in other words, planets with a noosphere. In our toy model, we take into account the Galactic Habitable Zone, the average time between the appearance of CETIs, the average life of a CETI, the average period of time during which the CETI is active, and the maximum distance at which a CETI is capable of broadcasting or receiving messages.

In a more detailed simulation we also plan to explore the role of the *S factor* in a parametrization given by *S1*, *S2*, and *S3* that could result in *S+*, *S-*, or *S-free* civilization. We also intend to conduct some kind of thought experiment. For instance, we propose to examine if the *S factor* has any impact on the length of time of CETI civilizations and on the content of the sent message. On the other side, we plan to analyse the influence of the message on the average life of a CETI which receives the message.

To validate our thought experiment, we propose to apply this model to the different ages of human history trying to describe different civilizations according to the *S factor* in its three spiritual markers *S1*, *S2*, and *S3*.

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