**The Role of Spirituality in the Search for Extra-Terrestrial Intelligence**

**1. Introduction**

Are we alone? This question has triggered many scientific projects on the search for for extra-terrestrial intelligent (ETI) life. Considering the growing number of discovered ‘Earth-like’ exoplanets located within the circumstellar habitable zone, the potential discovery of the existence of an ETI species elsewhere in the galaxy and then our potential ‘first contact’ might have a profound impact on our scientific, philosophical, and social comprehension of humanity.

The current scientific search for ETI poses big questions that scientists could attempt to answer from a purely scientific point of view: What is life? How did it life originate? What might be the criteria that we adopt to identify what we might call an ETI civilization? etc. However, such an important quest requires a thoughtful reflection from the perspectives of a variety of epistemological disciplines. The project OTHER (Otros mundos, Tierra, Humanidad, and Espacio Remoto) is a laboratory of ideas that deals with these and other similar questions.

**3. The project OTHER**

*Homo sapiens* has transformed the earthling landscape according to three dimensions that can be described as 1) physical: we have transformed nature using science and technology; 2) subjective which refers to meaning and values; and 3) social-normative which is related to the emergence of civilizations with social rules on which they are based. From these three perspectives, the landscape is built not only in a physical sense - transformation of the land by the emergence of social structures - but also as a mindscape.

We build human landscapes and mindscapes from the other's perspective, moving away, differentiating ourselves from the other, in an attempt to find a common *“we”* or cosmic *“we”*. Therefore the question *who is the other?* is equivalent to the question *who are we?* This is a crucial quest to the SETI research.

The question *who is the other* rises a series of questions. Should we consider ourselves exclusively as *Homo sapiens*? Are we part of a bigger *“spiritual cosmic family”*? Could we establish an intersubjective relationship with other spiritual species? Does it include other animals? Does it include the entire cosmos? How to relate to the *other* without invading ET; without converting ET into us? To address these and similar questions in Córdoba, Argentina, we have started with the project OTHER (Otros mundos, Tierra, Humanidad, and Espacio Remoto) which is a multidisciplinary laboratory of ideas.

**4. The spiritual factor**

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 signs of the consequences of a spirituality in ET civilizations.

Taking the risk of falling into stereotypes, we could 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.

S+ civilizations can 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 rights (human or universal rights), minorities rights, and stewardship of the natural resources in their planet, etc.
* 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 can be described by:

* The pursue of survival at any cost, even when it requires to conquer or enslave another species.
* The opposite of respect of individual freedom and cultural groups would be absolute submission to a dictatorship.
* 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.

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 ETI evolution to control them – *“a galactic censorship”* - and exploit their resources?

One way to quantify the three types of civilizations is to parametrize the S factor according to their characteristics. We propose to apply this model to the different ages of human history. Once we have validated our model for human history, we will consider different hypotheses in a stochastic process for alien civilizations and their impact on the galactic neighbourhood.

**References**

Davies, P., *Un silencio inquietante: La nueva búsqueda de inteligencia extraterreste* (Spanish Edition). Grupo Planeta, 2011. Kindle edition, location 1482

Deacon, T. *The Symbolic Species: The Co-evolution of Language and the Brain*, 1997, Kindle Edition.

Deacon, T. and Cashman, T., *The Role of Symbolic Capacity in the Origins of Religion*, Journal for the Study of Religion, 2009, Nature and Culture, 3:4, 26.

Grinspoon, D., 2009, *Lonely Planets: The Natural Philosophy of Alien Life*. HarperCollins, 2009. Kindle edition, location 414.

Murphy, N. and Ellis, G., *On the Moral Nature of the Universe (Theology and the Sciences)*, 1996. Kindle edition, location 301

Schilhab, T., Stjernfelt, F., and Deacon, T., *Introduction*, in The Symbolic Species Evolved (Springer, iBooks, 2012).