

EDITORIAL

Sofia-Iberia in Europe *An interdisciplinary project on human evolution*

The Sophia-Iberia in Europe Project is an endeavor to integrate the philosophical and theological traditions in Spain and Portugal in the stream of European and international thought. It also aims at being an area open to free multidisciplinary participation in scientific and philosophic reflection on human evolution oriented towards recent metaphysical issues for all who are interested in participating in the network. Sophia-Iberia in Europe was launched in the beginning of 2007 and is a three-year project, generously supported by the John Templeton Foundation.

The first activity of Sophia-Iberia: the international academic conference ‘*Human Evolution: in search of our anthropic roots*’, was held successfully on September 5-8, 2007. More than 90 participants - nearly a third of them Jesuits - from the European Union, the United States, Russia and India met in Madrid to debate the very complex and interdisciplinary theme of human evolution.

The conference started with a ‘big-bang’ during the first session on matter and Universe with an intense debate about the first two evolutionary moments. William Stoeger - member of the Vatican Observatory and the University of Arizona (US) and specialist in Cosmology, Astrophysics and interdisciplinary studies of science, Philosophy and Theology - seemed to disclose the whole content and purpose of the conference in his presentation. It was exciting to understand the implications of the cosmological evidence of the red-shifts in contrast to a blue-shift, which would imply a collapse of the Universe instead of the expansion. Even more incredible is the existence of the microwave background radiation that comes from every direction in space, with equal density.

How the big-bang actually happened and models that explain what occurred prior to that moment belong to the realm of Philosophy. Furthermore, complexity and autonomy are part of evolution on all scales, yet it still remains intelligible with models that are fine-tuned and show interdependence, transience and fragility, along with some directionality.

The discussant of this session, Paul Gabor of the Institute of Space Astrophysics in Orsay (France), discussed the impressive equation of Drake that gives the probability of the existence of some form of life in the Universe. He also underlined the importance of understanding Science as a spiritual quest. “It is in this sense that Science, that is unitary, connects with the deepest desires of man to know and explain - indicates Javier Leach, the director of the Institute of Science, Technology and Religion -, and that desire that is, possibly, the deepest that exists in man, connects with his spiritual capacities, because man, beyond

Science, can establish final or ultimate questions about life and the Universe. But those questions do not make them separated from the scientific knowledge of the world”.

The second session was dedicated to the evolutionary moment of the emergence of life. In view of the difficulty of establishing a clear definition of what life actually is, Niels Henrik Gregersen, - Professor of Contemporary Theology at the University of Copenhagen (Denmark) – seemed to evade this tricky topic and took a quantum (or was it a cosmic?) leap to the topic of the fifth session of the conference related to theological reflections with a particular consensus of the importance of Darwin’s theories on evolution.

The third session on man and Neurology cleared and opened our minds to understanding how little is known about how our brains actually work and understand reality. Francisco Mora - Professor of Human Physiology at the Complutense University of Madrid (Spain) and the University of Iowa (USA) – unmistakably demonstrated how the brain is the result of evolution, while also being a product of the genes and the development of the individual. Since emotions are products of our brains, it is not our genetic makeup that determines our fate but the experiences that we have during our lives (i.e. it is nurture not nature that is determinant).

Javier Montserrat - Professor of Psychology in the Autònoma University of Madrid, member of the Institute of Science, Technology and Religion – acted as the discussant of this session, and presented the emerging theory of quantum neuroscience as a possible way to formalize how the brain works. This confirmed to most participants the incredible plasticity of our brains and how the structure and connection between neurons is influenced by what we learn and experience in our every day lives.

Piergiorgio Odifreddi - Professor of Mathematical Logic at the University of Turin (Italy) - was the invited speaker of the fourth session of the conference. This was a very informal session on about the emergence of the formal sciences. Odifreddi started by arguing that the anthropic principle, in its weak formulation (that is that in the Universe there are concrete parameters that have allowed life to occur), can only indicate a probability, but it is not just because something is probable that it is true.

Odifreddi was also radically against dogmas, as they made religion seem irrational by imposing the belief of something that is difficult to understand, like the mystery of the Holy Trinity. As an answer to this, Leach said that: “God implies rationality. The Christian revelation makes us be rational, because it makes us be human, and reason is the most important dimension of the human being”. Javier Montserrat stated that God has created an independent world that can evolve on its own, a world that is co-creator, just like humans, who can construct their own form of life: atheist, agnostic, religious. This can mean that God has created a world of freedom and that the human being has the will to decide his own path. In this aspect, Leach does not encounter any contradiction with Science: “human freedom has much to do with human evolution from the anthropic perspective. Essentially, the process of matter, life, conscience and

formal sciences leads to the creation of human beings and to that which characterizes them as rational and free beings, and that freedom is what allows one understand and to take decisions in life”.

With an open mind from the third session, that was slightly formalized by the forth, we discussed the theological reflections of human evolution in the final session. Fraser Watts - researcher of the interaction between Psychology and Theology at the University of Cambridge (UK) - began his presentation by stressing the directional change - not progress – in evolution. He also indicated that Darwin helped establish a more balanced conception of human nature by accepting the acquisition of good and evil throughout evolution as a discernment to make choices.

In conclusion, the debates that took place in each session were lively and open to different approaches of the subjects, in all their complexity and from diverse disciplines: Physics of the matter, scientific Cosmology, Biology, Neurology, Philosophy, atheistic, agnostic or secularist theologies of diverse religious traditions, and interpretations.

Other discussants of the conference were: Carlos Alonso Bedate, of the Spanish Scientific Research Council, Madrid (Spain); Piotr Janik, of the University School of Philosophy and Ignatius Pedagogy, Cracow (Poland), and Job Kozhamthadam, Professor of Philosophy of Science, Cosmology and Science and Religion in the Pontifical Institute of Philosophy and Religion, Pune (India). All of the discussants are members of the Association Jesuits in Science which held its tenth meeting of the European Jesuits in Science (EJS) the day after the conference.

Furthermore, the Conference Book (available on our website) includes the valuable contributions from the speakers and discussants, as well as from the following participants: Carlos Beorlegui Rodríguez, Óscar Castro García, Khalil Chamcham, Cornelio González Valdenebro, Miroslav Karaba, María López Ferreiro, Miguel Lorente Páramo, Sara Lumbreras, Fátima Masot, Alice Antonela Rusu, Iulian Rusu, Ivan Vikulov.

Science and religion develop in parallel worlds and the need to take into consideration and understand each world in order to advance knowledge on human evolution (as well as other important issues) was a clear outcome of the conference. The conference participants were all very pleased with the quality and intensity of the debates and expressed their interest to collaborate with Sophia-Iberia in the future. The web-based workshop - on the same theme as the conference - will remain open for one year, to allow further contributions from the participants of the conference as well as from others who would like to participate.

Human evolution has its roots in matter, the Universe and life, but the decisive moment when the human species emerged within the framework of the evolutionary process is the appearance of human reason. This statement leads to the theme of the next activity of Sophia-Iberia, the first web-based Academic Seminar on: *‘Evolutionary genesis, ontology and functional nature of reason’*. What is reason? How does rational knowledge function in the human mind?

What are the evolutionary causes which have led to the emergence of the rational mind? How can a scientific explanation of reason be constructed? These questions will be dealt with in the seminar, which intends to establish an interdisciplinary approach to the theme which involves a variety of disciplines such as Ethology, Biology, Neurology, Palaeontology, Epistemology, scientific Psychology, Computation and Mathematics, Anthropology, etc. (see www.upcomillas.es/sophiaiberia for more information).

Additionally, Sophia-Iberia in Europe will have a scientific session on 'Mind, human perception and social evolution' during the Euroscience Open Forum - ESOF2008 (www.esof2008.org) - in Barcelona on 18-22 July, 2008. ESOF2008 is the third edition of the biennial forum of Euroscience, a European Association of scientists dedicated to the promotion of science of all disciplines, including Social sciences and the humanities. This will be a good opportunity to strengthen the links and establish a more permanent dialogue between scientists and scholars.

Dr. Christine Heller del Riego

Fr. Professor Javier Leach

Javier Leach is Editor of European Journal of Science & Theology. He is a Jesuit priest, Director of the LSI Chair of Science, Technology and Religion at the Universidad Pontificia Comillas and Professor at the School of Computing of the Universidad Complutense de Madrid. Christine Heller is the Project Director of Sophia-Iberia in Europe, member of the Institute of Science, Technology and Religion and assistant professor of the Escuela Técnica Superior de Ingeniería of the Universidad Pontificia Comillas in Madrid.