



# ἘΠΈΚΕΙΝΑ

International Journal of Ontology  
History and Critics

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X International Ontology Congress

San Sebastian/Barcelona 1-9/10/2012

Physis. From elementary particles to human nature

EPEKEINA, vol. 1, n. 1-2 (2012), pp. 193-195

*Notes, Reports & Interviews*

ISSN: 2281-3209

DOI: 10.7408/epkn.v1i1-2.13

Published on-line by:

CRF – CENTRO INTERNAZIONALE PER LA RICERCA FILOSOFICA

PALERMO (ITALY)

[www.ricercafilosofica.it/epekeina](http://www.ricercafilosofica.it/epekeina)



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**X International Ontology Congress**  
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**Physis. From elementary particles to human nature**

*Laura Candiotta*

*The root was black, while the flower was as  
white as milk; the gods call it Moly, Dangerous  
for a mortal man to pluck from the soil, but not  
for the deathless gods.*

Homer, *Odyssey* X 304-306.

“*Physyn autou edeixe*” The word “*physis*” first appeared in the *Odyssey* of Homer relating to a white flowered plant with a black root which was hidden under the surface of the ground. The process, known as the process to light everything that is hidden, marks the beginning of the philosophy of nature. Since getting to know the nature of things is the process needed to light everything that is hidden.

Barbara Cassin and Francesc Casadesús highlighted this particular issue stressing the connection between nature and knowledge. Alberto Bernabé analysed the recurring adjective “*physikos*” and was capable of pointing out the connection between the studies of medicine and nature. The dialogue about ‘*physis*’ between philosophers and physics, main objective of the congress, allowed us to return to the pre-Socratic origin of our culture. The purpose of this dialogue was to explore which approaches can offer a theory of contemporaneous physics and its experimentation within quantum mechanics.

The theoretical physicist Carlo Rovelli provides an excellent expression of this possibility of dialogue. He introduced us to the great scientific significance of Anaximander’s philosophy, with particular emphasis on a naturalistic prospective. This prospective constitutes a valuable

addition to the physical and philosophical investigations. Rovelli also proposed a method of philosophy borrowed from science, where reliability and effectiveness are the substitutes of certainty.

A radical uncertainty leads to an endless questioning of premises and thus permits a constant growth of knowledge and also confers reliability. But, of course, ontologically speaking, the desertion of a solid truth does not lead to a nihilistic form of relativism. On the contrary, the results of the research of ‘what it is’ are positive and provide an answer to the question: ‘What is the world made of?’

The same question has been answered by Frank Wilczek (physics noble prize 2004), by identifying the bonds between a research based on theoretical ideas and another one based on the observation of the phenomena. A glance at history, from the Pythagorean philosophy to quantum mechanics, is enough to remind us that due to the concept of symmetry it is possible to observe the beauty of the *cosmos*.

Francis Wollf, who also answered the question, was in favour of a realistic prospective which states that the real exist regardless of the mind. On the contrary, Daniel Dennet (honorary president of the Congress), claimed that the human mind is a social construction which was built thanks to the assimilation of the memes. This construction assess the extent to which cultural evolution shapes human nature. Dennett also embodies the underlying spirit that gave structure to the conference and that could be called analytical. The philosophy of mind rests in neuroscience and in observation. The neuroscience is based on the use of experiments that might lead to the development of philosophical theories whereas the observation is based on a method founded on examples (i.e Aristotle and Wittgenstein). However, Dennet wanted to emphasize that this mind conception does not lead us to an uncontrolled will.

Does this kind of remark lead us to a conception of the human nature different from the traditional one based on anthropocentrism?

The contribution of José Ignacio Galparsoro was essential to find an answer to this question. While describing the schools of thought: transhumanism, hyper humanism or post humanism, he stressed the necessity to find a new definition for the 'human nature interpretation' along with its ethical and politic implications.

According to Galparsoro, who supports the thesis of Roberto Marchesini, it is necessary to overcome technophobia and to find a dialogue (that lies between *techne* and *bios*) capable of providing a non-anthropocentric vision. Regarding human biology, Francisco J. Ayala emphasized the importance of evolution in the constitution of human nature.

The studies recommended: Anaximander (Tomás Calvo), Parmenides (Luis Andrés Bredlow and Fernando Santoro), Plato (Andrea Le Moli and Laura Candiotta) and Aristotle (Carla Francalanci and Pietro Giuffrida) [to name a few] have masterly proved the conception of physics within Greek philosophy.

The scholars tried to individualize the strategies used by philosophers in order to justify the physical world. These included a reassessment of *doxa* (thinking of Parmenides), the construction of order (thinking of Anaximander and Plato) and the definition of movement (thinking of Aristotle).

Besides, we were given the opportunity to attend to an interesting dialo-

gue about teleportation between Anton Zeilinger (experimental physicist), and Simon Kochen (mathematician) which took place in Barcelona. The moderator Ulises Moulines led the dialogue towards an ontological plane. He posed a strong question: What's the meaning of being teleported if we cannot talk about substances anymore?

A possible answer to the question: 'What is the world made of?' would be that the dialogue between philosophy and physics it is quite prolific. The famous article signed in 1935 by Einstein, Podolky and Rosen was quoted as an illustration of this necessary cooperation: "Can quantum mechanical description of physical reality be considered complete?". Over the last decade, this article has become a favourite subject of study among philosophers.

The congress came to an end with a closing ceremony held in the city of San Sebastian where we enjoyed an splendid performance of the *Parmeniada*, designed by Fernando Santoro and based on Parmenides' fragments. From my personal point of view, it was a marvellous expression of the role played by the beauty of the cosmos, as an object of dialogue between philosophy and physics. It was also an illustrative example of the interaction among intellectual emotions and a research about the nature of humans and the universe; both physical and philosophical.

I reckon, the languages chosen to represent the dramatic performance of the poem (i.e. ancient Greek, French, Portuguese, Spanish, German and Vasco) are a clearly image of a plurivocal manifestation of the Cosmos that stimulates humankind to undertake new causes.

And so, here we are again, back to the beginning: facing the Cosmos with awe and being driven to seek the origin of everything that it is, that is to say, his *physis*.

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