# **ELEATICA 2008-2009**

## Francesca Gambetti\*

From January 15 to 18, 2009, the yearly *Eleatica*-Symposium organized under the scientific supervision of Livio Rossetti took place at the Alario Foundation in Ascea (Salerno-Italy), close to the ruins of ancient *Hyele/Elea*. The conference was held by Jonathan Barnes (Université Paris IV-Sorbonne), who spoke on *Zeno and the Infinite*. In truly Eleatic style he tackled Zeno's paradoxes in a paradoxical way, maintaining the following three points: 1) if we want to understand Zeno's paradoxes we can rely only on physics, 2) mathematics is therefore not able to solve these paradoxes; 3) from a general logical viewpoint it is not true that Zeno uses the term "infinite" as if it were the name of a number.

In the first lecture on *Zeno and Physics* the first paradox was examined: Zeno, philosopher without philosophy, became famous for having discovered the dialectical genre in order to help his teacher Parmenides. Proclus maintains that these dialectical arguments were forty in number, but we have a detailed account only for six or seven of them, while we can conjecture another five or six. The paradox is a statement which is against the general opinion and the common sense, being nevertheless true. Unlike the Stoic paradox, which

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should be considered as "an odd statement" (e.g. only the sage is rich), Zeno's paradox is a *logos* starting from apparently shared considerations and reaching conclusions which are formally contradictory (i.e. the existing things have both a finite and an infinite number, are tiny and huge, moving and not moving). Usually, Aristotle refers in a wrong way to these contradictory conclusions providing two juxtaposed clear-cut arguments, as he quotes only one part of the argument (i. e. things are not moving), that is the part he wants to point out as a sophism or even a paralogism. However, Barnes is not interested in a historical or philological account of the paradoxes. He prefers to gain a theoretical perspective which enables him to consider Zeno as a philosopher dealing with basic issues such as movement, space, time, and infinite. Scholars generally assume that infinite is a technical, complex, and intrinsically paradoxical concept. On the contrary, Barnes holds that Zeno's infinite is not technical, nor complex, nor intrinsically paradoxical. It is not technical in the same sense by which we mean the notion of "transfinite numbers", but it deals with our general idea of infinite; it is not complex because it is a concept that we already have at the age of eight or nine, when we learn that the series of the natural numbers is infinite, or when we think that the eternal life is an infinite series of tomorrows. Above all, it is not paradoxical because Zeno was perfectly aware that what is paradoxical owes this feature to particular ways of describing things: i. e. the series of the natural numbers is infinite exactly as the series of the even numbers included in it.

In his second lecture on *Zeno and Mathematics* Barnes tried to demonstrate that Zeno did not have an ingenuous or wrong idea of the mathematical infinite, and that his arguments were directed at solving the difficulties of the mathematicians of his time, or else of philosophical theories which aimed at assimilating physical bodies to numbers. His model is physical and not

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mathematical, as most scholars believe (such as the distinguished mathematician Imre Toth, who was present at the lecture and animated a very interesting debate). Contemporary mathematics cannot refute Zeno's paradoxes (as has been tried with the sum of convergent series), as these deal with physical bodies. By principle, they cannot be refuted by atomism either, because the atom of Leucippus and Democritus is a logical truth produced by thought, and not a contingent truth we can have experience of.

In his third lecture on *Zeno and Logic* Barnes tried to save Zeno's arguments from an overall logical viewpoint. In fact, some scholars criticized him from a purely theoretical viewpoint without even considering the possible errors he did in physics and mathematics. They accused him of using the term "infinite" as if it were the name of a number. Barnes, on contrary, holds that the concept of the infinite, on which every other paradox is based, does not at all entail a number. He argues that when the term "infinite" is used to answer the question "how many things are these?" it means that it is not possible to ascribe a number to the amount considered (e.g. to the whole of the natural numbers).

As in the previous years, the discussions were enlivened by well known scholars from all over the world, such as G. Casertano, N.-L. Cordero, S. Nonvel Pieri, L. Palumbo, L. Rossetti, M. Wesoly, as well as by a large Brazilian group including M. Campolina Peixoto, G. Cornelli, R. Gazolla, and M. Perine.

Together with Serge Mouravieff, Anna Jellamo, Scott Austin, and Dmitri Panchenko most of them animated the *Winter School – Not just Eleatics*, an additional event that took place just before *ELEATICA*, from January 8th to 14th. Under the guide of Livio Rossetti, scholars, teachers and students discussed a large number of issues concerning the research on Presocratic thought, such as the criteria through which the testimonies can be used more extensively beneath the fragments, these early thinkers can be differentiated from the members

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of the poetic and the religious tradition, and their cultural identity can thus be reconsidered. Very interesting was also the presentation of the huge project *Presocratics online* which S. Mouravieff leads together with an équipe. Its aim is to put on the web all the fragments and testimonies on the Presocratics with translations in three modern languages and a complete bibliography.

Many other events took place beside *ELEATICA* and the *Winter School*: the opening of the multimedial exhibition on the classical civilization *Vision of time – Time vision*, promoted by the Alario Foundation with the Universities of Salerno and Calabria and other institutions; the presentation of the *Zeno Prize*, addressed to students of secondary school which will provide explicative models of Zeno's paradoxes; the award of the *Eleatica Prize* for the best graduate thesis on Eleatic thought (which went to a student of Giovanni Casertano); the bestowal of the honorary citizenship of Elea-Velia to Nestor-Louis Cordero and Livio Rossetti, both of which contributed to the growth of the research on Eleatic thought; last but not least, the publication of two books closely linked to all of these events: N.-L. Cordero *et al.*, *Eleatica 2006: Parmenide scienziato?* (Academia Verlag, Sankt Augustin), and L. Rossetti, *I sophoi di Velia: Parmenide e Zenone* (Levante, Bari), a beautiful booklet containing an interesting iconographic appendix by F. De Martino, useful both for secondary school students and visitors of the excavations of *Hyele*.

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