In Vita and Post Mortem Forams Events: Hydrodynamic Tools for Paleoenvironmental Reconstructions

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During the last decade, the *post mortem* events, which affect large foraminifera and their distribution, are becoming even more prominent. Several depositional models have been proposed to give advantages in understanding the paleoecology, paleoenvironment and biology of nummulitids. Many outcrops with giant *Nummulites* and *Assilina* or the large foraminifera distribution on a slope or ramp, are still a question mark on many aspects. Many theories take into account only the biological aspect and partially the foraminifera distribution acted by *post mortem* events. The hydrodynamic approach seems to complete the biological one and seems to fit the models for the different depositions of large foraminifera.

Previous studies have shown that large benthic foraminifera can be easily reworked by waves and currents (Yordanova & Hohenegger 2007) and several authors point out that the hydrodynamic behaviour of *Nummulites* is an important factor controlling their distribution (Jorry *et al.* 2006). Depth transport functions vary with morphology because of different test buoyancies (Hohenegger & Yordanova 2001). Concerning nummulitids, outer morphology depends by size and shape; the internal structure affects the density of the test. These three physical variables, size, shape and density are the control factors which differentiate the hydrodynamic behaviour of every object.

The calculation of hydrodynamic parameters could approximately explain the 'particle' answer to an energetic input, could quantify the post mortem transport and the paleodepth of every test depending on the environment where it lived.

Considering both the ecological and the biological approach together with the transport function, a larger foraminifera depth estimation is now possible for every environment.

Key Words: large benthic foraminifera, hydrodynamics, paleodepth distribution