



University of Milano Bicocca



“The Adaptive Behaviour of Biological Systems and the Scientific Method”



Center for Interdisciplinary Study of Economics, Psychology and Social Sciences



“Riccardo Massa” Department of Human Sciences

WORKSHOP

“Perspectives on the evolution of evolutionary theory:

towards an Extended Synthesis?”

Tuesday, December 14th, 2010

h 9.30-12.30

Auditorium - Building U12 - Via Vizzola 5, Milano

The roundtable will put into discussion a particular perspective on today's evolutionary biology, that is the persuasion that a growing body of discoveries and fields of studies is demanding an *extension* of the Modern Synthesis (MS), which was realized in the 1930s and 1940s around the development of population genetics. Massimo Pigliucci, one of the main advocates of the Extended Evolutionary Synthesis (EES), lamented in 2007 that for many evolutionists «the MS provides *the* framework for current and future evolutionary biology, with no need to revisit the fundamentals», despite many novelties such as evolvability, phenotypic plasticity, epigenetic inheritance, complexity theory and more,

which were unknown at the time of MS. On the other hand, there is a more “continuist” perspective that sees evolutionary theory as *already* grown, although perhaps in ways different from the establishment of a new synthesis. Furthermore, some researchers are not yet persuaded that the the newly described phenomena have sufficient relevance and empirical support to justify a broad theoretical revision. There are also, although lying completely outside the scientific field of evolutionary biology, perspectives that see the same biological mechanisms as symptoms of the need for an entirely new theory to supplant the neo-Darwinian synthesis (e.g. Fodor & Piattelli Palmarini, 2010). We invited **Gerd B. Müller**, editor with Massimo Pigliucci of the book *Evolution: The Extended Synthesis* (MIT Press, 2010) and author of an essay on “Epigenetic Innovation” therein, to present the open project of the Extended Evolutionary Synthesis. Different perspectives will surely emerge and interact thanks to the discussion with two affirmed Italian biologists with an interest in the theoretical reflection on the development of evolutionary theory: **Giuseppe Fusco** and **Maurizio Casiraghi**. Economist and CISEPS member **Luigino Bruni** will bring the debate on suggestions and possible implications for evolution-inspired modeling of social and cultural processes: a field which is more and more known as “cultural evolution”, although still in need of much conceptual development. Moderators of the roundtable will be **Telmo Pievani** and **Emanuele Serrelli** who will present and put into productive discussion the results of the biennial research program “The Adaptive Behaviour of Biological Systems”, co-funded by the Italian Ministero dell’Istruzione, dell’Università e della Ricerca Scientifica (framework PRIN 2007).

SIMULTANEOUS INTERPRETING will be available from English to Italian and back.

WORKSHOP

“Perspectives on the evolution of evolutionary theory: towards an Extended Synthesis?”

- Keynote speaker: **Gerd B. Müller**
Professor for Zoology, Department of Theoretical Biology, University of Vienna; Chairman of the Konrad Lorenz Institute for Evolution and Cognition Research, Altenberg
- Discussants: **Giuseppe Fusco**
Professor of Zoology, Dipartimento di Biologia, Università degli Studi di Padova
- Maurizio Casiraghi**
Researcher of Zoology, Dipartimento di Biotecnologie e Bioscienze, Università degli Studi di Milano Bicocca
- Luigino Bruni**
Professor of Political Economics, Dipartimento di Economia, Università di Milano Bicocca; CISEPS
- Chair: **Telmo Pievani**
Professor of Philosophy of Science, Dipartimento di Scienze Umane per la Formazione “Riccardo Massa”, Università degli Studi di Milano Bicocca; national coordinator of the Research Program “The Adaptive Behaviour of Biological Systems”
- Emanuele Serrelli**
Dipartimento di Scienze Umane per la Formazione “Riccardo Massa”, Università degli Studi di Milano Bicocca; Researcher in the Research Program “The Adaptive Behaviour of Biological Systems”

Milano, November 4th, 2010