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FROM GENE-CULTURE COEVOLUTION TOWARDS AN ASSESSMENT OF THE UNIQUENESS OF HUMAN EVOLUTION

Summary: Human evolution is distinctively characterized by feedback-like interactions between cultural and biological processes. It has been remarked that evolutionary changes in human populations are due to the combination of two distinct channels of information transmission, the biological and the cultural ones. In this paper, I argue that the correlation between cultural and biological inheritance may be understood in the light of contemporary studies addressing the production and transmission of phenotypic variation, the epigenetic dimension, and uniquely-human cultural practices also affecting the biological substrate, yet not necessarily implying transmissible modifications at the genetic level.

Sommario: L'evoluzione umana è caratterizzata da interazioni di tipo feedbacktra cultura e processi biologici. È stato sottolineato che i cambiamenti evolutivi nelle popolazioni umane sono dovuti a due differenti canali di trasmissione d'informazione, quello biologico e quello culturale. In questo articolo proporrò che la correlazione tra ereditabilità culturale e biologica può essere compresa alla luce degli studi contemporanei sulla produzione e trasmissione di variazione phenotipica, sulla dimensione epigenetica, e su quelle pratiche culturali unicamente umane che influenzano anche il sostrato biologico pur non richiedendo necessariamente modifiche trasmissibili a livello genetico.

1. Introducing Gene-Culture Coevolution

Gene-Culture Coevolution (GCC from now on) is a theoretical approach of investigation focusing on the incidence of cultural processes on genetic evolution in human populations. The idea that genes and culture somehow evolve together was proposed almost forty years ago according to the quantitative theory of genetic change in populations [see Feldman & Cavalli-Sforza 1976]. More recently, theoretical evolutionary models based on the interactions between culture and genes have been coupled with the theory of "niche construction" [Laland, Odling-Smee & Feldman 2001], which generally concerns the activities of or-