

CMMA Monthly Seminar

第3回 CMMA 月例セミナー

講師：青木健一

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Abstract :

Cultural evolution during the Palaeolithic/Stone Age was apparently characterized by long periods of stasis punctuated by abrupt regime shifts. In order to interpret this pattern of cultural evolution, the coupled dynamics of the size and cultural/technological level of a population, with positive feedback between these two variables, is modeled in the classical Malthusian-Boserupian framework. What is new is that innovativeness is included as a parameter, because genetic changes in cognition cannot be ignored, given the immense span of biological-evolutionary time involved and the fact that brain size increased at least twofold. Bifurcation diagrams, with innovativeness as the parameter, show that abrupt transitions in the cultural level “catastrophic bifurcations” are possible. This modified Malthusian-Boserupian model can also explain the correlations between toolkit size and population size, or the absence thereof, among ethnographic societies. Finally, time permitting I briefly describe a reaction-diffusion model for the geographical spread of early farming in Europe, which accounts for the observed constant rate of advance.

“Modeling 2,600,000 Years of Human Cultural Evolution”

※ 講演は日本語で行います。Japanese will be used in the lecture.

日時：2015 年 1 月 16 日（金） 17:00-18:00

場所：明治大学 中野キャンパス高層棟 6 階 研究セミナー室 3

主催：

文部科学省 共同利用・共同研究拠点
明治大学先端数理科学インスティテュート
現象数理科学研究拠点 (CMMA)



■連絡先

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