

第36回 MEE seminar

Mathematical Ecology & Evolution

2012年7月12日(木) 16:45~17:45

明治大学生田キャンパス第二校舎A館: A207

July 12, 2012. 16:45~17:45 Meiji Univ. Ikuta campus A207

小田急小田原線 「生田駅」から徒歩10分
又は「向ヶ丘遊園」駅北口から「明治大学正門前」行きバスで15分終点下車
詳しくは、http://www.meiji.ac.jp/koho/campus_guide/ をご覧下さい

Evolution of the sharing convention

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Abstract: In many animal species, including modern humans, individuals struggle for various resources, which sometimes leads to heavy damages for the participants. To avoid severe struggles, the convention of ownership often evolves among the individuals; she gains the resources if she finds them earlier, she gives up the resources if she finds them later. In modern humans, however, individuals sometimes share their resources even with strangers, neglecting their ownership; the convention of sharing can hardly be observed in other animals, including the great apes and the Neanderthals. To elucidate the conditions in which the convention of sharing evolves, I construct an Agent Based Model in which multiple individuals struggle for resources. In the model individuals select one of the four strategies, Hawk, Dove, Bourgeois and Sharing, to increase their total gains in a boundary limited plane. If more individuals select the Dove or the Sharing strategy, the convention of sharing more likely dominates the population. Computer simulations suggest that the convention of sharing expands in the population when (1) the costs of severe struggles are high, (2) resources are distributed around locally restricted region, and (3) individuals can move for wider ranges. Modern humans might have faced with such social environments at the era of the Replacement and have adopted their sharing strategy to release their risks.

参加自由です。皆様のお越しをお待ちしております。

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