To: Jeevacation[jeevacation@gmail.com]
From: Corina Tarnita
Sent: Sat 11/21/2009 7:03:16 AM

hi jeffrey, i don't know if martin already told you about this but here's something that might validate your DNA hypothesis: if you play repeated games with memory 1 (you remember the opponent's last move), a winning strategy is Tit-For-Tat. you can think of such strategies as finite state automata. if you make an evolutionary process where these automata can evolve and grow as large as they want (hence producing more and more sophisticated strategies), and if you look for winners you will see that often TFT is still a winning strategy.
but what changes is that the newer TFTs are encoded by longer and longer automata (same strategy, just given by more complicated automata). but more interestingly, i think it takes much longer to invade a longer TFT than a short one. this would mean that it makes sense to have more junk there -- it certainly seems inefficient to produce an automaton with 50 states that encodes a strategy which could be given with 2 states. but it's not that stupid; all that "junk" seems to protect against invasion. we're investigating this now. thought you might like to know.

hope you're well,

corina