

# **On November 26, 2012, PED Seminar Series Presents**

## **Should advanced reasoning skills prevent complex game dynamics?**

by [Seth Frey](#)

How do uniquely human higher-level reasoning processes affect complex learning dynamics? Economists have claimed that the higher-level reasoning processes behind strategic game decisions will prevent complex dynamics by stabilizing or speeding convergence to the Nash equilibrium of various games. I present a simple laboratory experiment challenging this claim, one that shows that iterated reasoning --- "what you think I think you think I think" --- fails to prevent a periodic flocking behavior in laboratory subjects, and may in fact be driving this mutually beneficial emergent collective effect. This work supports recent claims that complex dynamics are endogenous to real-world social and economic institutions.