[darpa priority: formerly, group identity; now effect of competition on innovation]

What is cultural evolution?

* Cultural change via variation, competition/selection, & inheritance of cultural traits through means similar to but not identical to genetic/biological evolution
* [we can think of] Cultural traits [as]: beliefs, knowledge, customs, skills, attitudes, languages

Cultural transmission

With regard to cultural traits, who do people decide to copy?

2 types of cultural transmission:

* Conformist transmission is a widely studied phenomena where people have a strong tendancy to copy the most popular trait (why?)

What is prestige?

* “prestige bias” vs conformist copying:. Cultural evo, “who do people decide to copy?”, history of conformist transmission
* slide 3: be careful not to conflate prestige biased transmission (where you are copying someone because of their social status) with payoff biased transmission (where you copy someone because their knowledge is high quality). In general prestige biased transmission is a shortcut to payoff biased transmission. i.e. in many cases we don't necessarily know who has the high quality information, but prestigious people seem generally successful and so they are a safe bet.
* ..
* consistent in small scale societies, fieldwork shows there are certain individuals to whom are conferred status (for their skills, knowledge, etc.)—deferred to, but imitated and sought out to learn from

Prestige vs. dominance

* Contrast to dominance (describe) vs. prestige dynamics (see Joe’s table)
* Prestige bias as a cognitive/social learning bias which favors how we decide who to learn from

Understanding the role of prestige for cultural evolution:

* Prestige is the least understood of social learning biases; doesn’t have a theoretical basis (i.e., lack of models, how prestige would change cultural dynamics).
* Explaining the diversity & complexity of cultural systems: Prestige may explain diversity, diff groups end up w/diff prestigious figures who can influence and group homogenizes
* Conformist bias/transmission has been widely studied; does lead to the formation of groups (models, experiments show that conformist transmission is a thing; conform in line with an S curve; allow ppl to pool information and lowers the cost of individual learning). Constrains innovation, while prestige bias does not; innovations should never spread in a conformist-only world. Groups would never change if we were only conformist learnings. Effect of prestige is unknown re spread of innovations; may slow innovation down but not as quickly as conformist.

Model

-1) does prestige lead to the formation of groups?

-2) does prestige allow innovations to spread?

* Quick model parameters

- agents initialized w/random beliefs

- live on a torus

- every step, update beliefs based on our probabilistic copying rule, which is: a function of

Show figs + lamda plots (change Sigmas to “true” in run.py)

Next: explore different arrangements of agents (e.g., random or “village” model), adding innovation as well.

Test above empirically with dallinger w/ppl

*If time remains:*

Religion project: small scale to large scale transition via Big Gods. 2 types of supernatural agents: 1) dominant/authoritarian, 2) prestigious/benevolent. #2 might be better moral enforcers. Have questionnaire and developing administration of it on dallinger (wrapper for Qualtrics) to utilize dallinger recruiting, etc.