Oranzees

Introduction

- Human culturans - culture super important.

- How it evolved one of the top 125 questions of our time

- human culture is cumulative. Many say that this means its a Darwinian process. For that it needs copying

- Ape culture is said to often depend on copying

- If that were true, then why dont they show more cumlative culture and/ or clear differences inside traits?

- There are only two logical outcomes here: either apes do not copy or copying does not automatically lead to cumulative culture (or neutral drift).

- While some have experimentally studied this, some have argued that the gold standard should not be the lab, but the wild.

\_ Hard to do experiments in the wild

- BUT, we can rebuild the wild, which we have done here.

- Thus, do the patterns observed in the wild (ape culture) actually require copying? Lets find out.

- We have build a model of agents with similar structure and needs as wild apes (oranzees), and while we provide them with social learning (widespread in the animal kingdom) we have excluded ALL copying variants of SL.

- We hypothesize that, if copying is necessary to produce cultural patterns resembling those of wild apes, that oranzees cannot achieve similar patterns, as they lack any copying at all

- We also hypothesize that, IF oranzees can and do show cultural patterns resembling wild ape patterns, this is proof that such patterns cannot be counted as evidence that copying takes place. This would solve the big issue in the literature: it would leave intact the notion that copying leads to drift and CC while allowing apes culture (minus cumulative culture).

Results

- Result 1: With realistic parameter values (null to medium genetic differences, and medium to high ecological differences), simulations generating a number of cultural behaviours consistent with Whiten et al. (1999) are found.

- Result 2: Not only the number of cultural behaviours, but also the proportion of the other patterns described in Whiten et al. (1999) (A, B, C) are reproduced, confirming the robustness of the results.

- Result 3: Even in scenarios where the number of cultural behaviour is different, we can obtain a similar number by changing the value of the parameter *S* (proportion of socially-mediated innovations). Even less social learning could be sufficient if high ecological (or genetic) differences.

- Result 4: the model also reproduces a weak but significant correlation between population size and number of cultural traits, consistent with empirical findings.

Note: we can decide about 3 and 4 (I would put them)

Methods

I already drafted it in the document “model-description.pdf” so there is no need to add it here.

Discussion

Sth like that. Adjust as you see fit (and obviously this is very rough yet). I currently think the

population size thing should be a follow up paper (or paralell). Just to keep the story lean. OR maybe we work it in and then discuss in the discussion? But then I would like to mention it in title and abstract. Its just too cool