

Clean Eating Gorillas Get There On Their Own

Damien Neadle spoke to Cultured Scene about his recent publication and its making: Social learning is a possibility but not a necessity.

The paper

Cultured Scene: What is the key finding of your study?

Damien Neadle: The key finding is simple, gorillas can display food cleaning (a behaviour recently suggested to be a putative cultural trait) without an absolute need for social learning. That is, individual learning is sufficient to explain the emergence of this behavioural form – but this does not discount the fact that social learning may facilitate its expression within a community. Frequency and form of a behaviour are two very different aspects to explain.

CS: Why is this topic important, and how do you feel it relates to social learning and cultural evolution more broadly?

DN: The fact that some behaviours have been shown to be reinnovated (i.e. made possible by individual learning alone) adds to the hypothesis that social learning may not be necessary in the expression of other potential cases of culture in non-human animals.

The process

CS: How did you arrive at the idea for the study?

DN: I noticed, upon reading the [target paper on wild gorilla cultural behaviours](#), that one purported case of cultural behaviour in particular (food cleaning) seemed similar to food washing, a be-

haviour that my supervisor (Claudio Tennie, and colleagues) had [previously investigated](#). I asked Claudio whether he still had the data, and he then directed me to his collaborator (Matthias Allritz) who located the old videos. I then reanalysed these videos with a new objective, namely to look for the food cleaning behaviour as identified by the field researchers. And indeed, we found it, i.e. in a culturally unconnected (captive) population. This project was the first of my PhD.

CS: What was the most challenging aspect of conducting the study?

DN: To be honest, the whole process went very smoothly. Having said that, it was a lot of work coding the videos and the writing process was a learning curve.

CS: What were the best and worst aspects of data collection – any funny stories?

DN: I used to send my supervisor every email before it was sent to Matthias, I was worried that I might accidentally offend him or overstep some hidden mark. One day my supervisor said to me, there is no need to send me these emails... you are British, Matthias is German, you will not offend him!

Publishing

CS: How did you manage the writing process? Was it straight forward, or were there challenges?

DN: The writing process was enjoyable. We all worked very well together and our writing styles meshed very well. This said, the writing process demanded that the manuscript went through many versions and formatting changes. This is very normal and a part of the publication process as it stands.

CS: How was the peer review process?

DN: The peer review process was probably the part that I was most apprehensive of, I had heard horror stories about reviewers tearing papers apart. However, our editor (Katie Slocombe) and review-

Pitch to publication

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ers (Lydia Hopper and an anonymous reviewer) were very good. They were firm but fair, and I think that the paper is substantially better as a result of their inputs. I can only hope that my next reviewers will be this helpful!

What's next?

CS: Will you be following up on this research? What questions interest you next, based on your findings?

DN: This research was more of a follow up of Claudio and Matthias' previous work with Josep Call and Martha Robbins' method of exclusion paper (based on field data). However, it does compliment the general approach of our lab to scrutinising putative cultural dependent traits by testing naïve subjects. Culture dependent traits are those beyond the pure individual learning capacity of a species. Thus, if naïve subjects show the behaviour, they cannot be culture dependent. But they may

still be cultural, in a minimal sense. We published, in this paper, a very minimal definition of culture (a sort of "soft culture"). For this minimal culture, (any type of) social learning is the process and culture the automatic product.

CS: As early career researchers, we're always learning. Is there anything you'd do differently in future, based on your experiences conducting this study?

DN: I learned that it is always best to agree (between authors) on the basics of the story that you are telling before you even begin telling it (in our lab we do this by bullet pointing the bare bones of the paper before adding the prose once everyone agrees on the narrative). This process has shaped the way that I write and work going forward.

CS: Finally – what do you think are some of the big questions / challenges facing the field of cultural evolution and social learning?

DN: The challenges are the same as every other area of science, replicability and open research practices. I think that it is very important that researchers adopt a more open approach to the scientific process. This will allow the public to regain their trust in the scientific community and allow us to assess others' work in the cold light of day!

A big, much debated, question is: how similar are non-human animal cultures to those that we have come to take for granted in our own lineage? Also, how and why they evolved in us. □



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[Neadle, Allritz & Tennie \(2017\) Food cleaning in gorillas: Social learning is a possibility but not a necessity. PloS one, 12\(12\), e0188866.](#)