Exercise 4 Instructions

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Background

When examining content biases in the cultural evolution of narratives, researchers will sometimes use **transmission chain** experiments. These involve providing material to one set of participants (generation 1), who then reproduce the material from memory. The product of their recall is then used as the material for the next set of participants (generation 2) and so on down the chain. This allows researchers to examine the cumulative effects of transmission. By comparing how to narrative texts differ in how they are transmitted along the chain, we can test for the effect of content biases in transmission.

In this exercise you will code chains of material for how faithfully they were transmitted along chains. There are two types: **Social** and **Control**. The Social material was rated highly for containing social information, while the control material contains no social information. If a content bias for social information exists, we would expect the social material to be more faithfully transmitted along the chains.

Coding

Each text is broken down into 5 central elements:

Control material:

Cheddar Gorge is a rock formation formed by melt water floods at the end of the last Ice Age[1]. The limestone rock was blocked with ice which prevented water from flowing through it[2], so melting water was forced to flow over the surface, carving out the gorge[3]. During warmer periods the ice melted and water flowed underground through the limestone, creating the caves[4] and leaving the gorge dry. Today much of the gorge has no river until an underground river emerges in the lower part from a cave[5].

1. Cheddar Gorge is a rock formation formed by melt water floods at the end of the last Ice Age

2. limestone rock was blocked with ice which prevented water from flowing through it

3. melting water was forced to flow over the surface, carving out the gorge

4. During warmer periods the ice melted and water flowed underground through the limestone, creating the caves

5. Today much of the gorge has no river until an underground river emerges in the lower part from a cave

Material recalled by the participants is coded for the presence of these original 5 central elements. These do not have to be reproduced exactly, participants may change word order or use synonyms but as long as the 'gist' is the same, it can be coded as present. For example, a participant might produce this:

> Cheddar Gorge is a rock formation that was formed from melt water ice from the last ice age. The limestone rock was blocked so it forced water to flow over the rock, creating a gorge. When the ice melted it flowed underneath the rock creating a river underneath the rock making it dry. In warmer periods this happens. There is no river underneath the rock apart from when the ice melts.

This could be coded as:

> ==Cheddar Gorge is a rock formation that was formed from melt water ice from the last ice age==[1]. The limestone rock was blocked so ==it forced water to flow over the rock, creating a gorge==[3]. When the ice melted it flowed underneath the rock creating a river underneath the rock making it dry. In warmer periods this happens. There is no river underneath the rock apart from when the ice melts.

So would only score 2/5. Some elements are present in part, but do not contain enough of the gist of the original to be coded as present in full. They important part to coding is to be consistent across material.

The Exercise

To complete the exercise, use the coding keys and guidance above to code Social chains 1 to 3 and Control chains 1 to 3 and enter their scores in the chart. Material can be found in the 'Exercise chains' folder. You can then compare your coding to the model answer. After completing the exercise, reflect on the key questions below.

Key questions:

Which material was more faithfully transmitted along the chains?

How did the materials compare when looking at their scores? Was the social material more faithfully (closer to the original) transmitted along the chains than the control material?

What other aspects might explain faithful transmission?

How the material differs beyond containing social information? Do you think these other differences were related to social content or distinct from it? Could they explain the pattern of results more successfully than differences in social content?

Discrepancies with the model answer?

Did you coding differ from the model answer? Consistency, objectivity and reliability of coding is a key challenge in researching the cultural evolution of narratives. To try and make coding as objective as possible, some researchers use more complex coding systems (such as propositional analysis), which should produce less variation between coders. It is also common to use multiple coders, including ones who are unaware of the experimental hypothesis and work out the *inter-coder reliability*, essentially how similar their coding is. If the inter-coder reliability is high, then the coding is likely to be consistent, objective and reliable.