From storytelling to Facebook

Content biases are stronger when retelling a story than when sharing it

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• Cultural evolution researchers use *transmission chain experiments* to investigate which content is more likely to survive when transmitted from one individual to another.

• Examples of successful content:
  • Negative information (e.g. Bebbington et al., 2017)
  • Threat-related information (e.g. Blaine & Boyer, 2018)
  • Information eliciting disgust (e.g. Eriksson & Coultas, 2014)
• The content that is successful in transmission chain experiments is also successful in general, for example in

• Urban legends (Stubbersfield et al., 2017)

• Online misinformation (Acerbi, 2019)
• But: participants in transmission chains need to *understand*, *memorise*, and *reproduce* the content, while an online “share” simply involves the willingness to share it.

• Does this change the content that is more likely to be successful?
• Two fully pre-registered online experiments
  • Experiment 1 (N=540) tests whether negative content, threat-related information, and information eliciting disgust are better transmitted than their neutral counterpart in a traditional transmission chain setup.
  • Experiment 2 (N=600) uses the exact same material, but participants are asked whether they would share or not the content in two conditions: in a large anonymous social network, or with their friends, in their favourite social network.

Pre-registration
https://osf.io/wf7pd
A major outbreak of salmonella has been reported in the US. The outbreak is the largest in the last 25 years. The outbreak had its origin in Saint Rika's hospital. More than 500 cases were identified in the hospital only. The likely source of the outbreak is contact with contaminated feces in the hospital's toilets.

A major outbreak of chickenpox has been reported in the US. The outbreak is the largest in the last 25 years. The outbreak had its origin in Saint Rika's hospital. More than 500 cases were identified in the hospital only. Chickenpox can be transmitted when a person touches another one.

- 3 conditions (negative, disgust, threat)
- 2 types of content for each condition (attractive VS neutral)
- H: More information overall is transmitted, in each condition, for attractive content
Experiment 1 - results

Proportion of information transmitted vs chain position for different contents:

- **Negative**
- **Disgust**
- **Threat**

- **Attractive**
- **Neutral**
- Three contents presented to each participant (negative / disgust / threat), each of them neutral or attractive.

- Condition 1: participants are asked whether they would share each of the content *in a large anonymous social network*

- Condition 2: participants are asked whether they would share each of the content *with their friends, in their favourite social network*
Experiment 2 - results

- **Anonymous sharing with friends**
  - Negative content: high number of shares
  - Disgust content: moderate number of shares
  - Threat content: low number of shares

- **Sharing with friends**
  - Attractive content: moderate number of shares
  - Neutral content: moderate number of shares

The diagram illustrates the number of shares for different types of content under anonymous and sharing with friends conditions.
Experiment 2 - results

Graph showing the number of shares for different types of content under two conditions: anonymous and sharing with friends. The content types are negative, disgust, and threat. The graph includes bars for attractive and neutral content.
• Experiment 1 confirms that in transmission chains, attractive content is better transmitted than its neutral counterpart, for all three types of content.

• Experiment 2 shows that in only one condition (negative content and anonymous sharing) the attractive content is advantaged.

• Results suggest that (i) negative content may be stronger than other biases (ii) anonymous sharing is different from non-anonymous sharing, and (iii) memory, reproduction, etc. have an influence on content biases.

• More counterintuitively, content biases could be less strong in online sharing than in oral transmission.
Thank you!

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