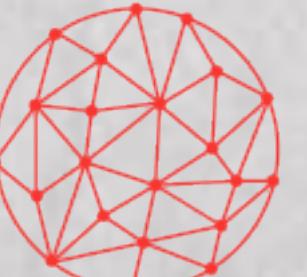


# Cultural evolution on the web

Alberto Acerbi

July 7th - Evolutionary thinking for the web



WebSci'20



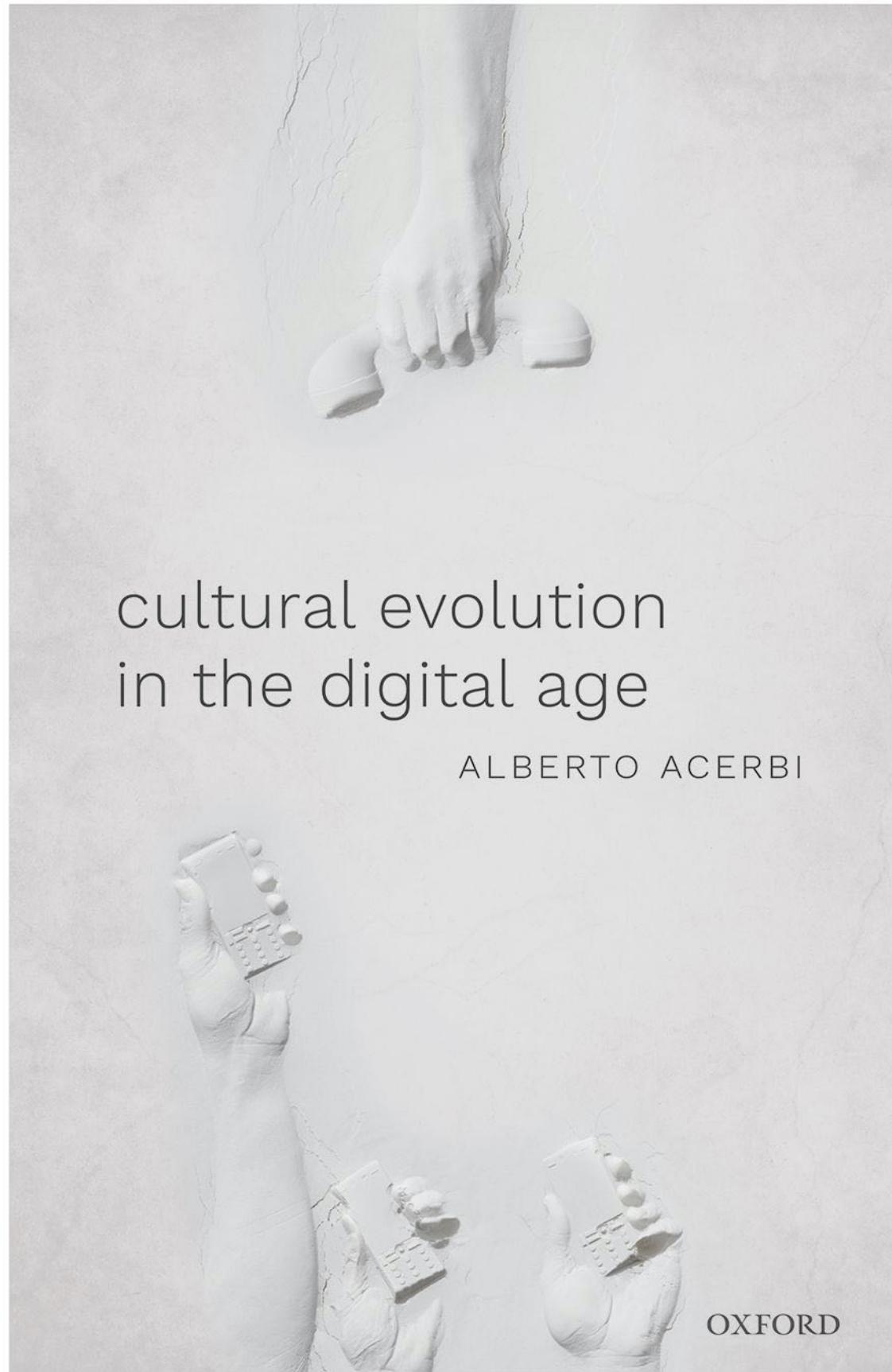
Centre for Culture and Evolution - Brunel University London

# What is cultural evolution?

- Quantitative and evolutionary-inspired approach to the study of culture (~social information).
- How does culture influence human behaviour?
- How do cultural items spread, become successful, disappear?



# Cultural evolution in the digital age

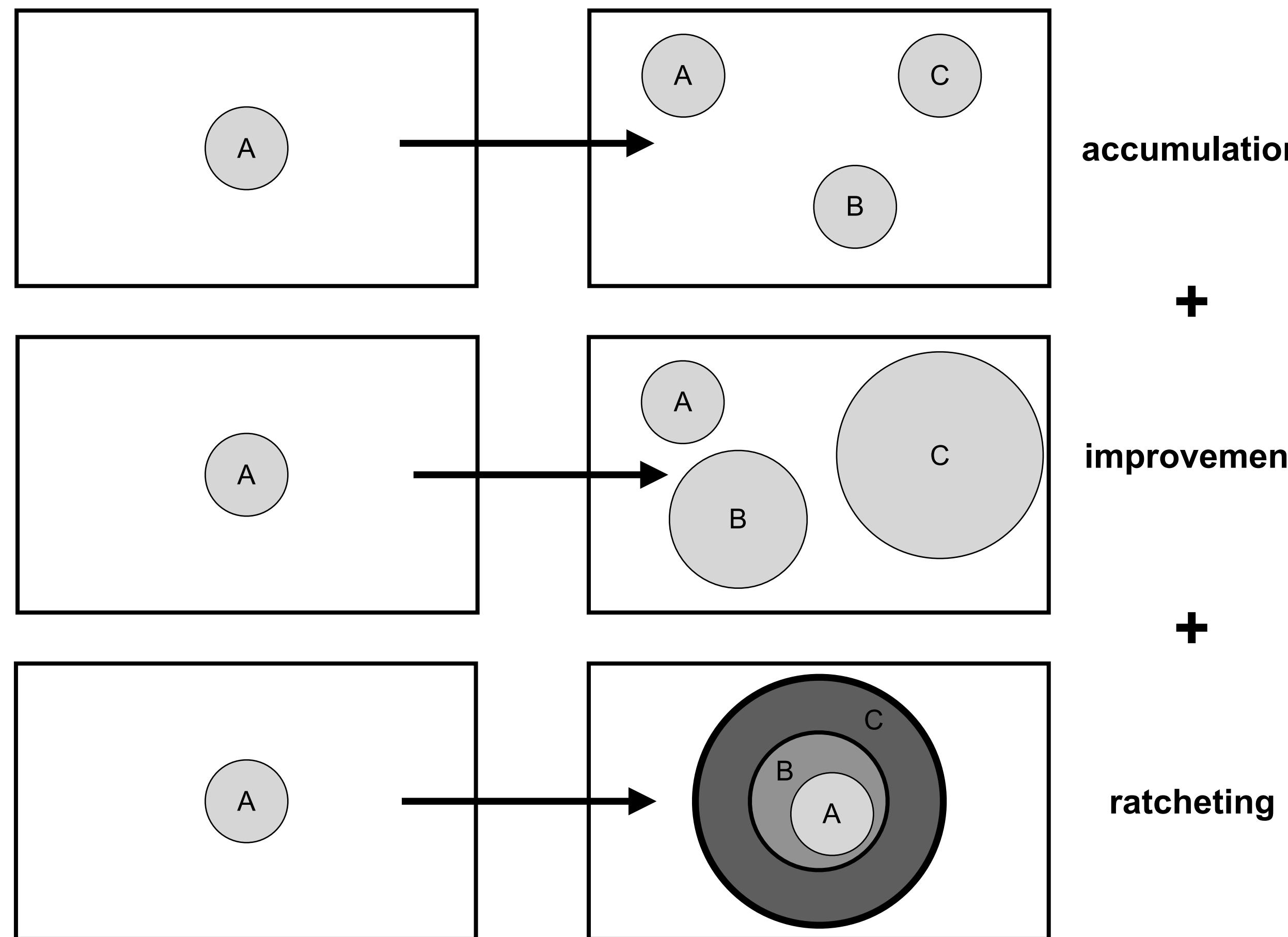


- First application of cultural evolutionary theory to digital and online media
- Cumulative culture on the web

# What is cumulative culture?



# What is cumulative culture?



# Cumulation is different in different domains



# Cumulation depends on availability



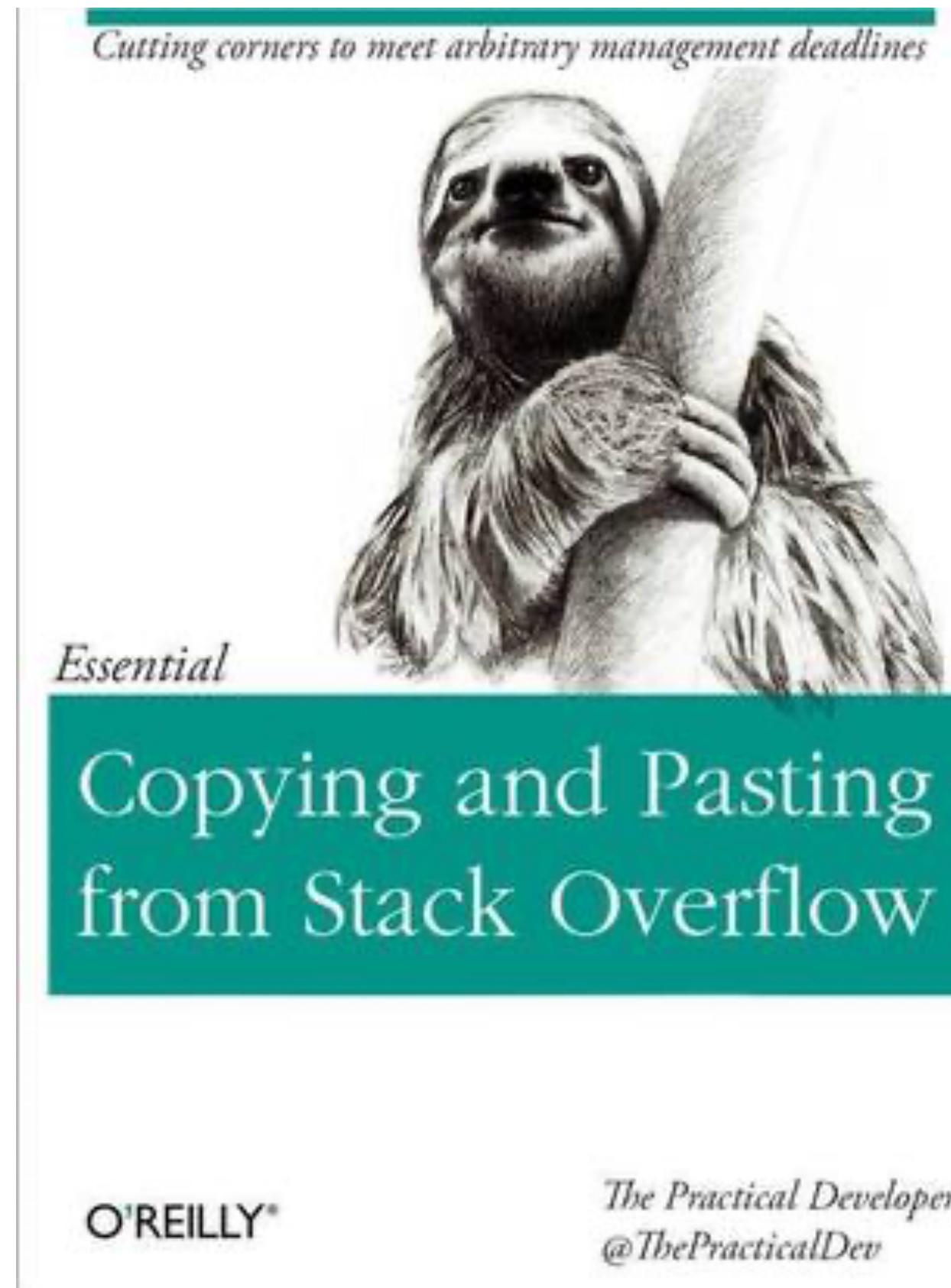
Henrich, 2004

# Cumulation depends on fidelity of transmission



Bartlett, 1926

# The web provides hyper-availability

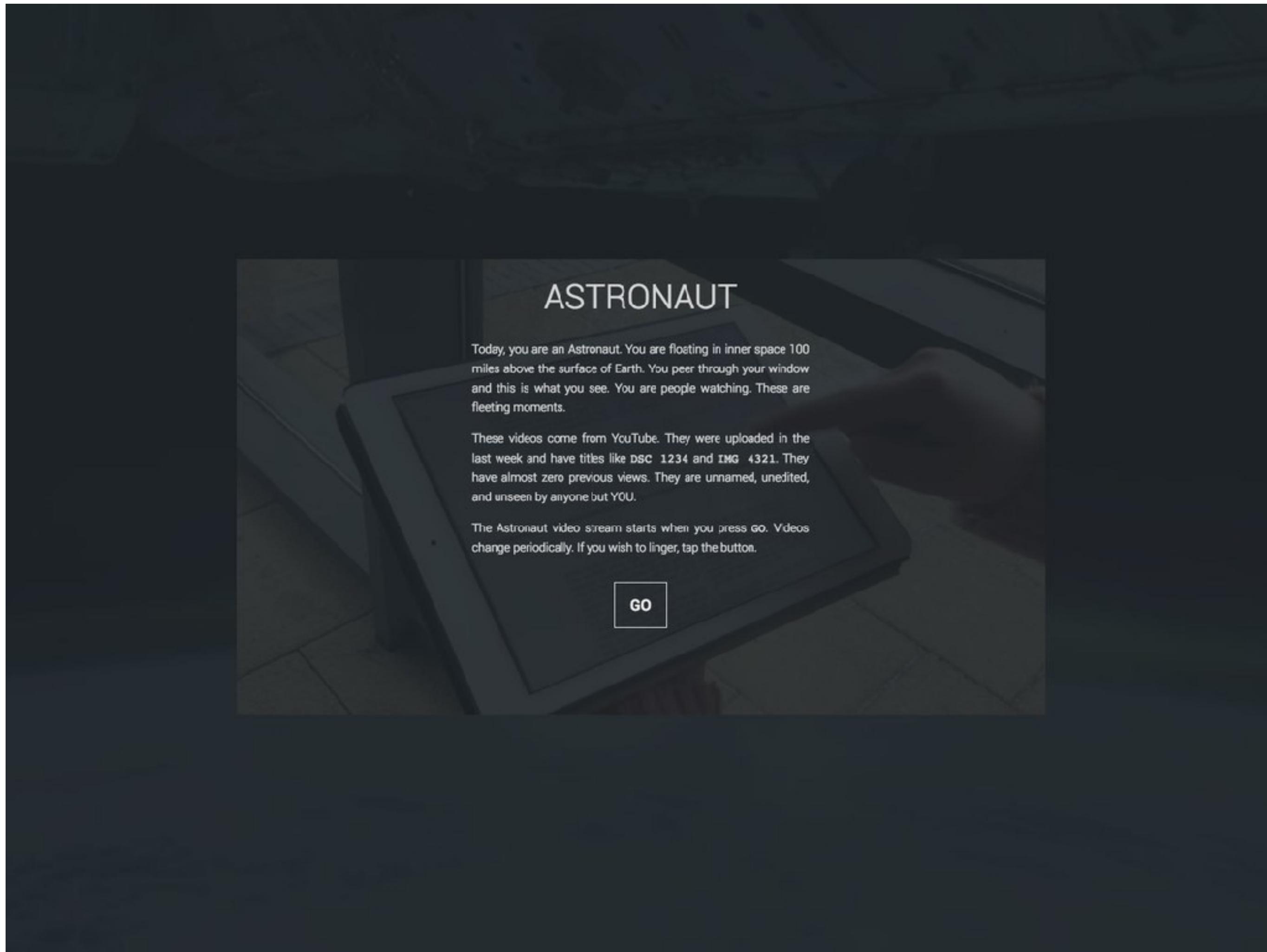


# The web increases fidelity



A screenshot of a YouTube video player. The video frame shows a close-up of a person's hands tying a dark blue Windsor knot. The person is wearing a white dress shirt. The YouTube interface includes a navigation bar with icons for play, volume, and settings, and a progress bar indicating the video is at 0:02 / 3:00. Below the video, the title reads "How to Tie a Tie | Windsor (aka Full Windsor or Double Windsor) | For Beginners". The video has 25,113,754 views and was uploaded on 19 Jul 2015. The bottom right corner of the video frame contains a small circular icon with an 'i' symbol.

# Cultural cumulation online?

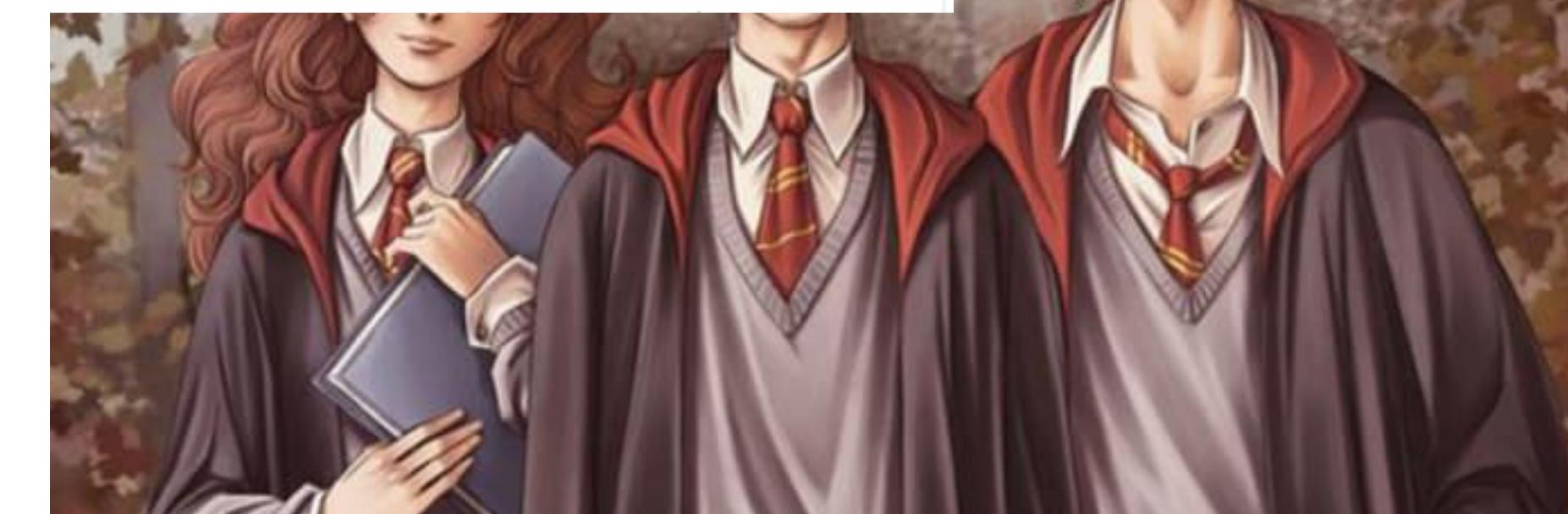


# Cultural cumulation in online fan fiction

- Work in progress with Federico Pianzola and Simone Rebora
- Harry Potter fan fiction - data from <https://archiveofourown.org>



# Cultural cumulation in online fan fiction



 Alberto Acerbi  
@acerbialberto

Here a piece of useless information. The longest Harry Potter fandom story on AO3 is called "Ascension Book 2: Eternal", and it has 354 chapters, for a total of 2,300,260 words. [archiveofourown.org/works/1114409/...](https://archiveofourown.org/works/1114409/)

4:41 PM · Mar 26, 2020 · Twitter Web App

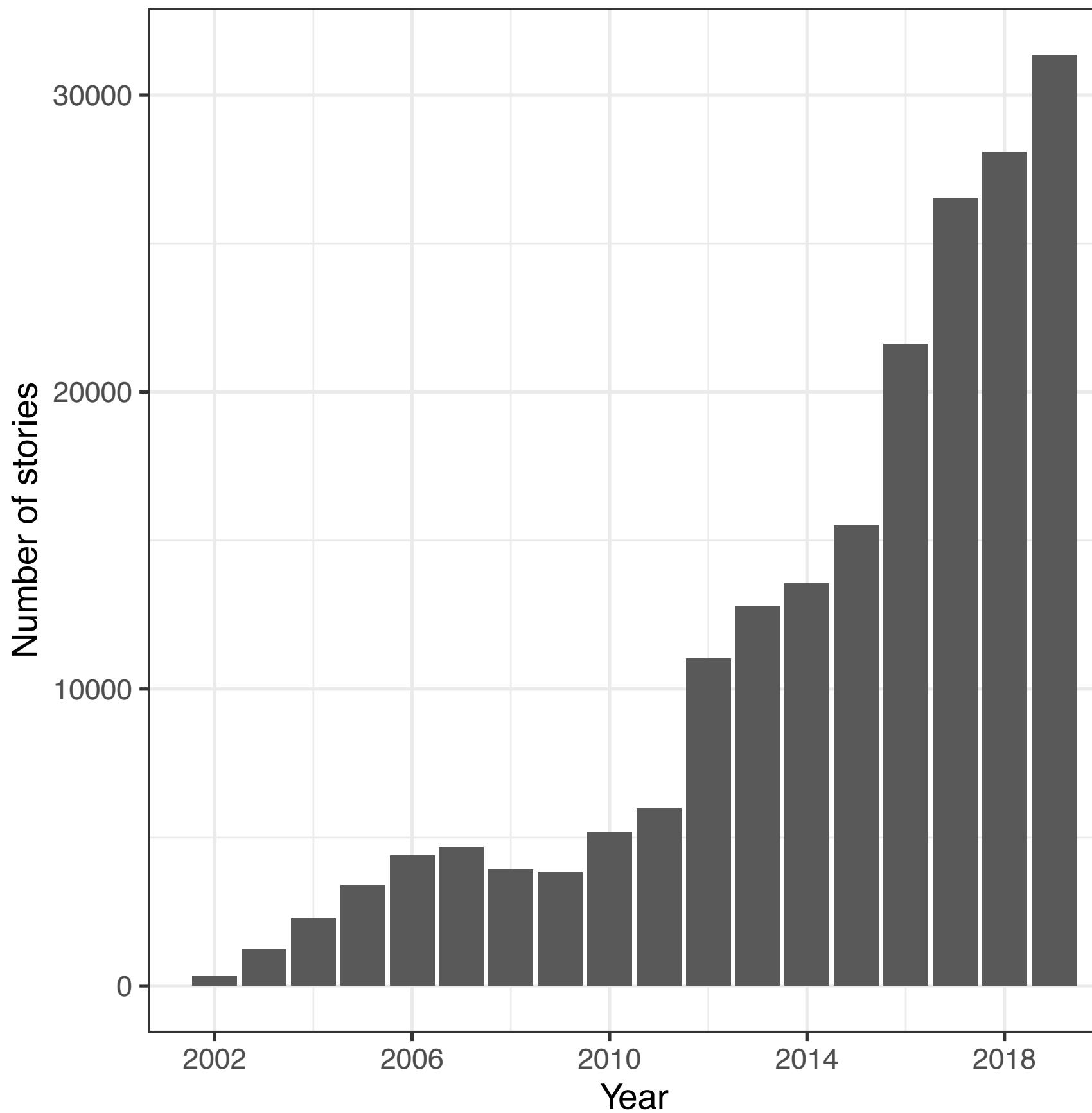
[View Tweet activity](#)

1 Retweet 8 Likes

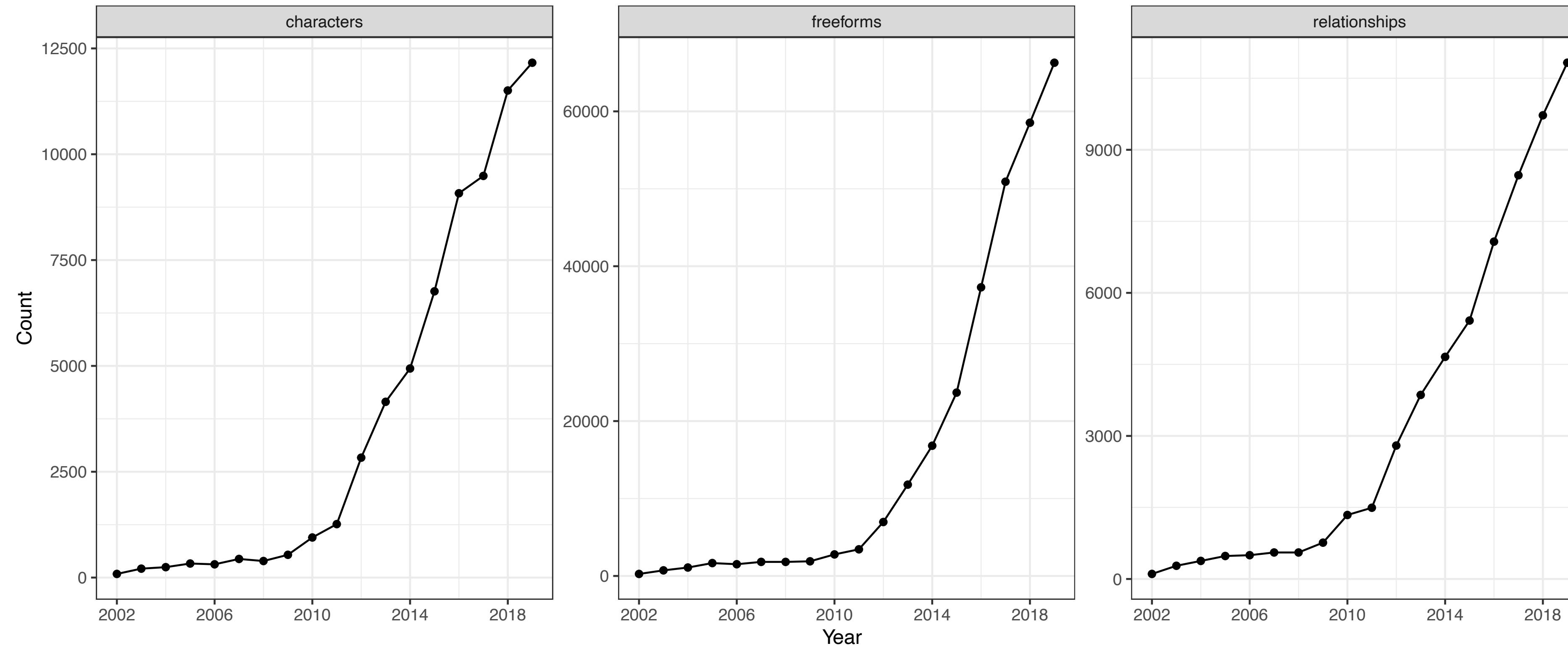
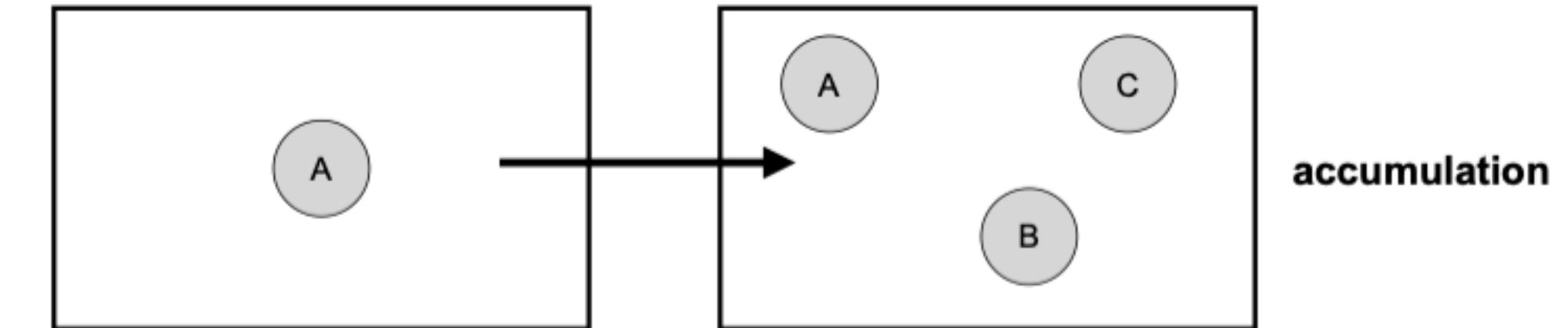
 Alberto Acerbi @acerbialberto · Mar 26  
Replying to @acerbialberto

In the "List of longest novels" of wikipedia would figure at the second place, behind "Devta" and before "Les Hommes de bonne volonté". For comparison, "À la recherche du temps perdu" has \*only\* 1,267,069 words. [en.wikipedia.org/wiki/List\\_of\\_l...](https://en.wikipedia.org/wiki/List_of_l...)

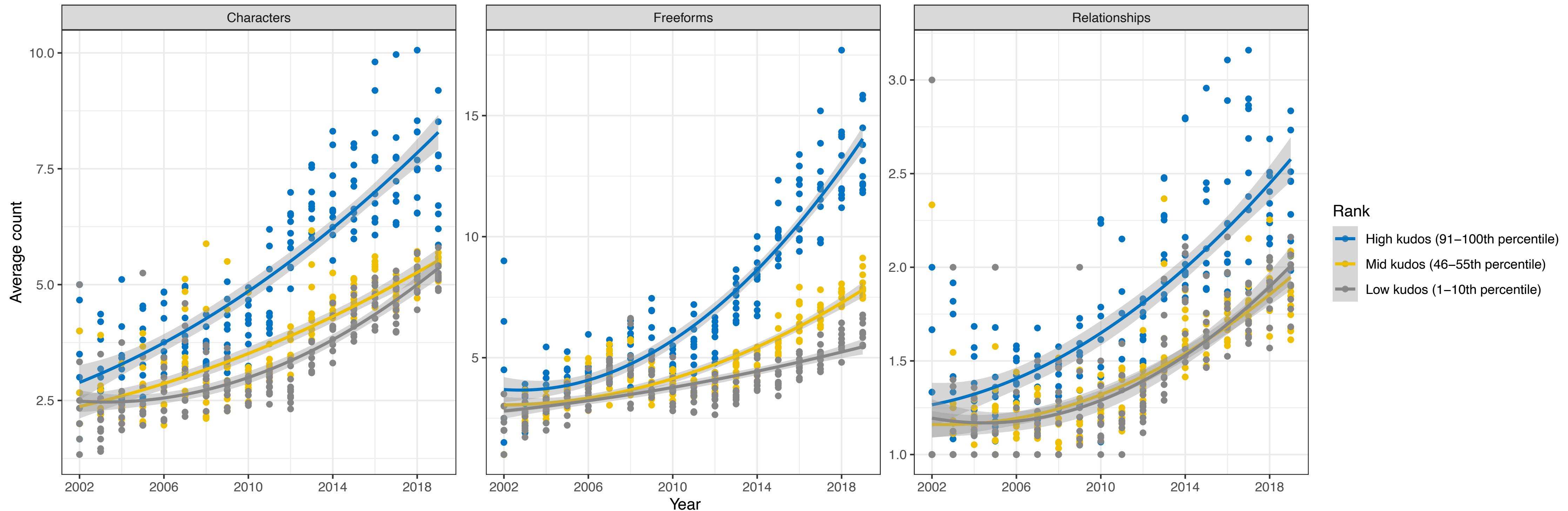
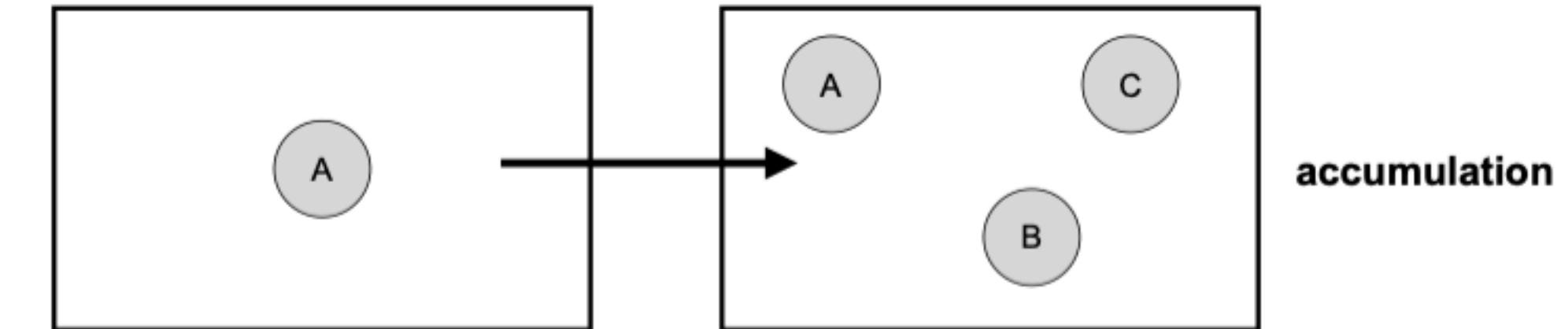
# Cultural cumulation in online fan fiction



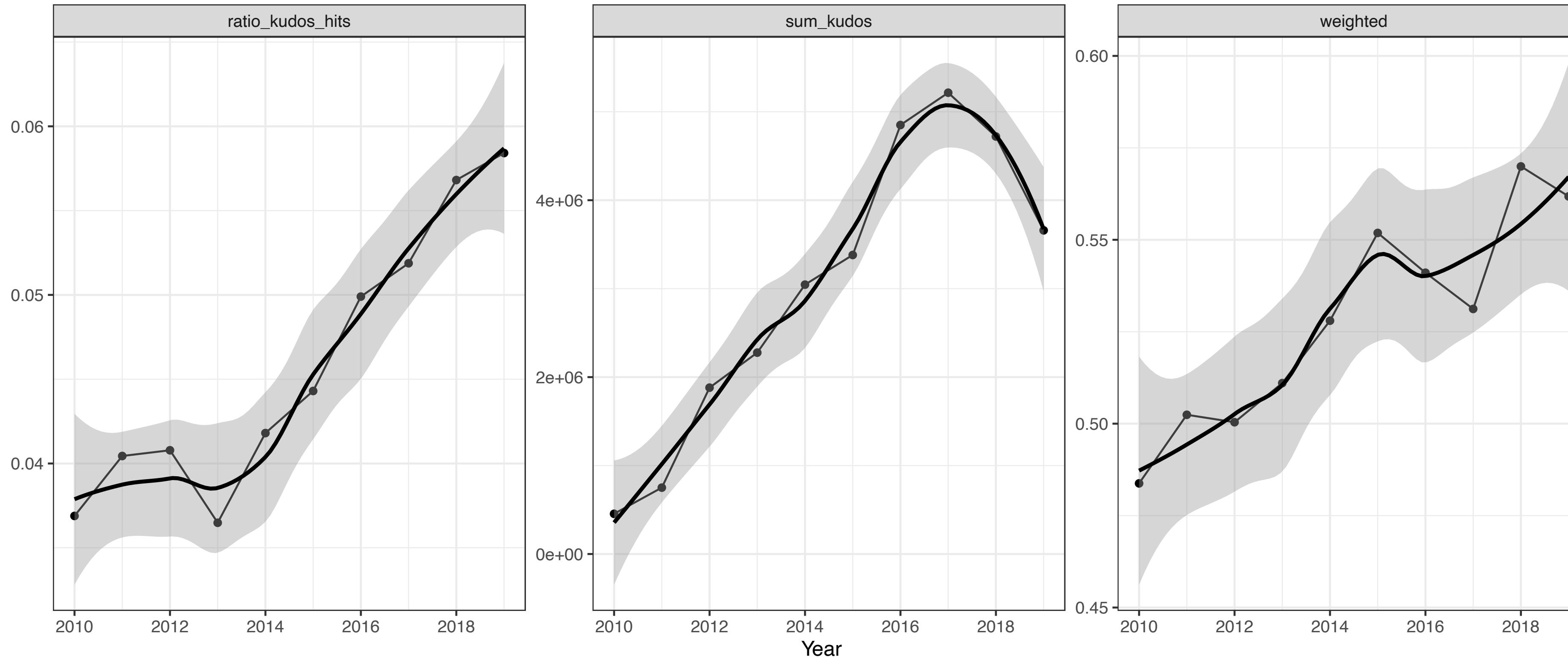
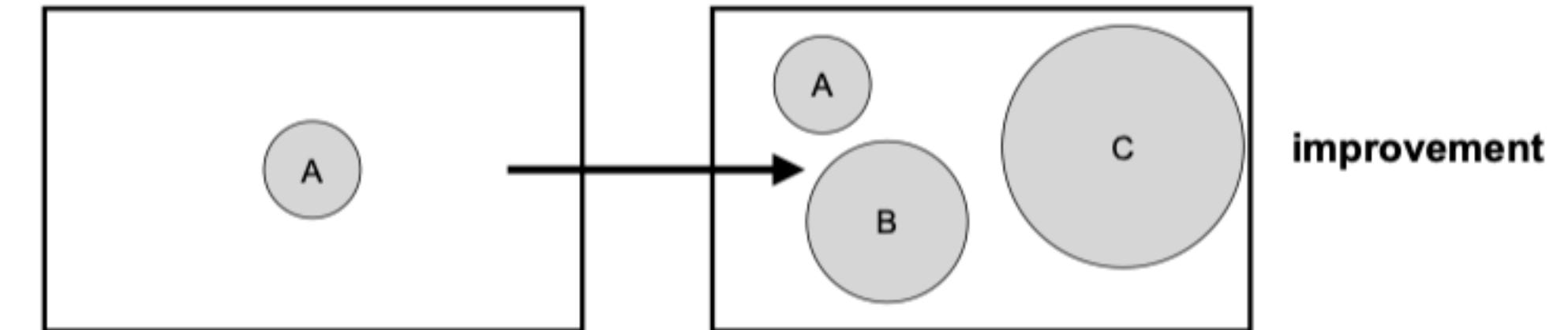
# Cultural cumulation in online fan fiction



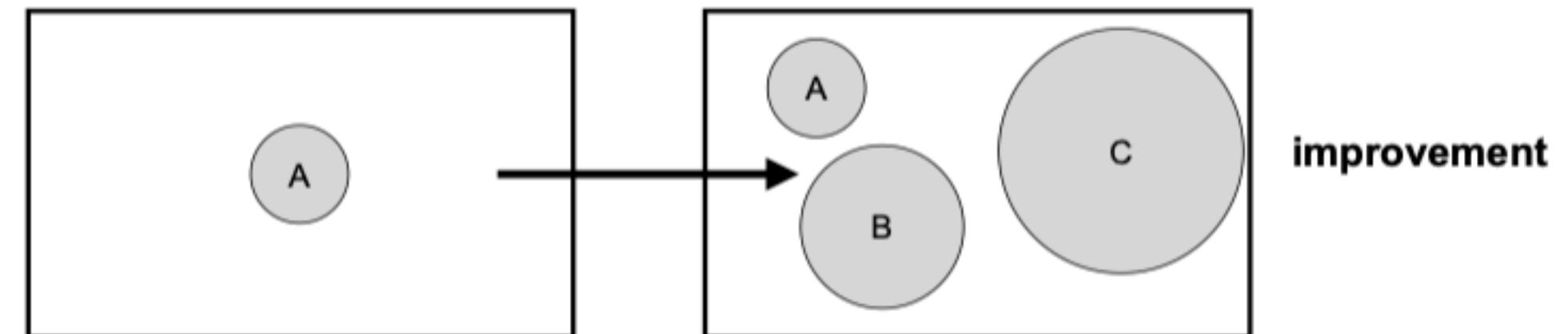
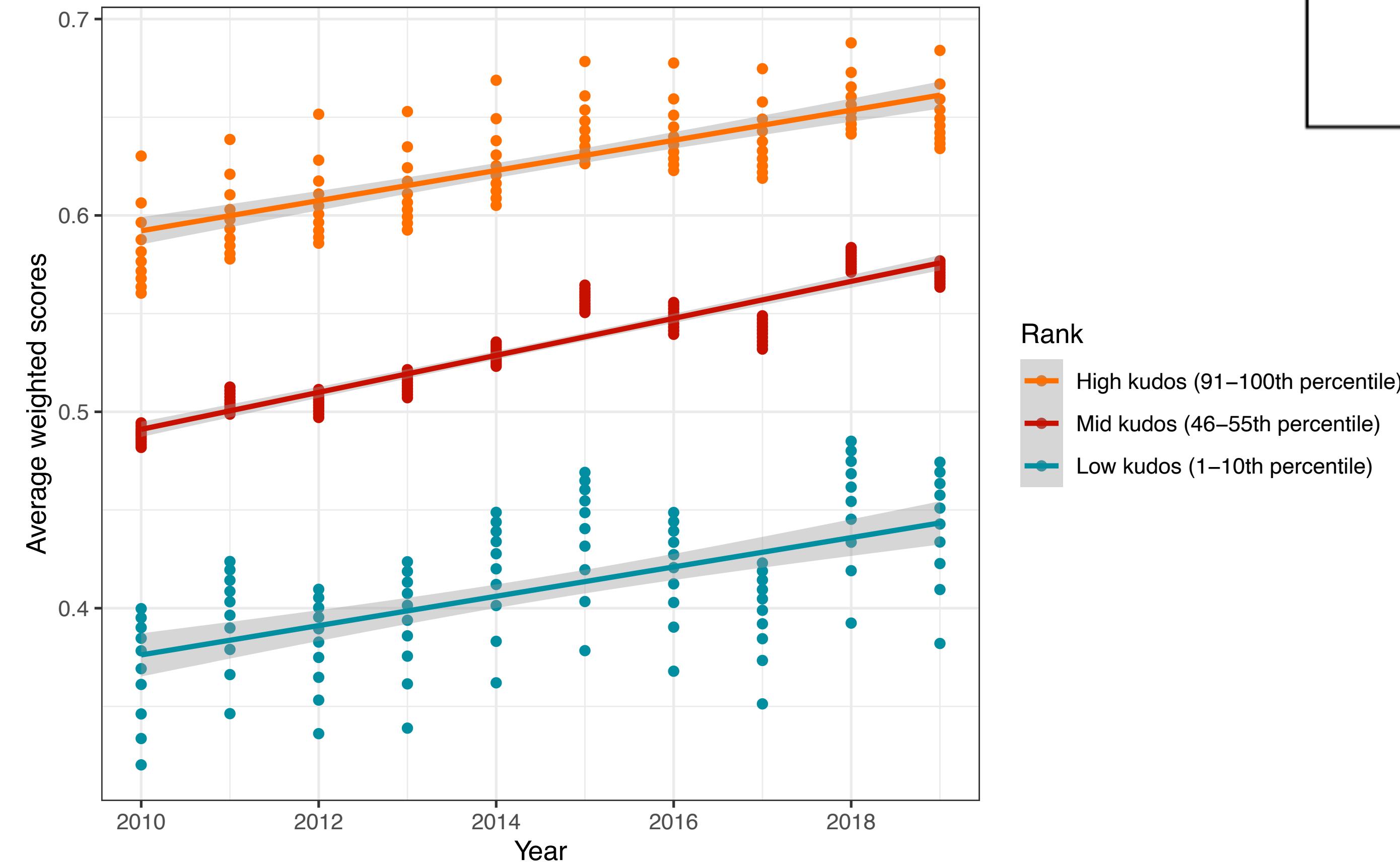
# Cultural cumulation in online fan fiction



# Cultural cumulation in online fan fiction



# Cultural cumulation in online fan fiction



Rank

- High kudos (91–100th percentile)
- Mid kudos (46–55th percentile)
- Low kudos (1–10th percentile)

# Conclusion

- Methods and hypothesis from cultural evolution can be used to study online dynamics
- Cumulative culture (accumulation + improvement + ratcheting)
- Cumulation differs in different domains, possibly related to availability + fidelity
- How does the web change cultural cumulation?

# Thank you!

 @acerbialberto

 <https://acerbialberto.com>

 ***Cultural Evolution in the digital age, 2019, Oxford University Press***

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