

From iconic pictures to “grammatical” templates: Modeling the evolution of internet memes

Ana Krajinović¹ & Xavier Rodrigues²

¹Heinrich Heine University Düsseldorf

²University of Bochum

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Introduction

- Grammaticalization as a model of language evolution:
 - from lexical to grammatical
 - from concrete to abstract

**LEXICAL
MEANING**

+ LEXICAL

e.g. 'go'

e.g. 'going to' FUT

+ABSTRACT

Introduction

- Grammaticalization as a model of language evolution:
 - from lexical to grammatical
 - from concrete to abstract
- Lack of precise data on language transmission patterns
- Our hypothesis: Image macros (“memes” in this talk) follow an evolution pattern akin to grammaticalization

**LEXICAL
MEANING**

+ LEXICAL

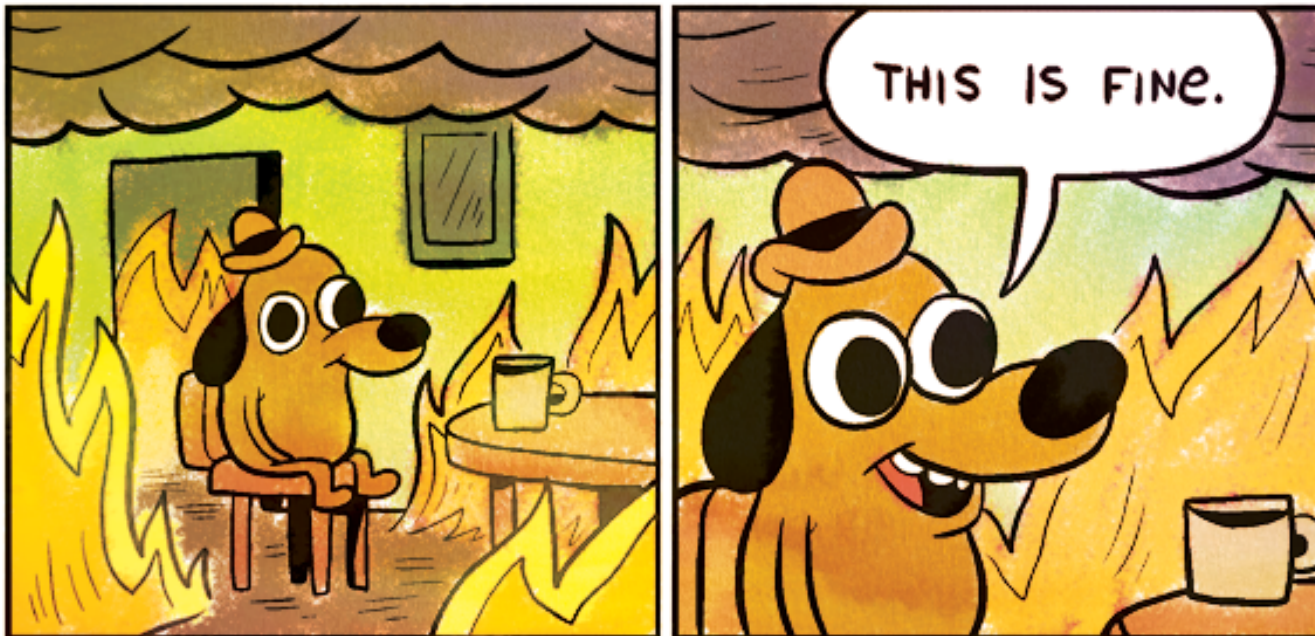
e.g. ‘go’

e.g. ‘going to’ FUT

+ABSTRACT

Introduction

- **Image Macros: multimodal constructions with text superimposed on an image (Zenner & Geeraerts, 2018; Dancygier & Vandelanotte, 2017)**
 - we focus on viral exploitable memes with text



Meanwhile in Europe:



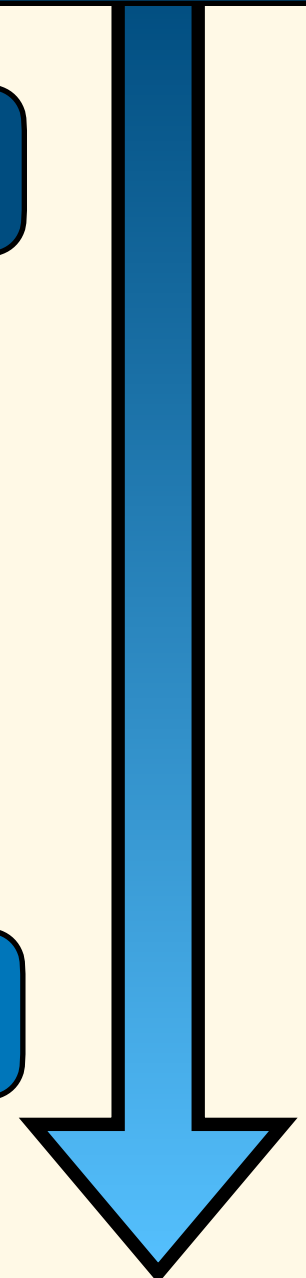
Grammaticalization

- **Stages of grammaticalization** (Kuteva et al. 2019:3):
 - **extension: use in new contexts**
 - **semantic bleaching: loss in meaning content**
 - **erosion: phonetic reduction**
- **UNIDIRECTIONALITY** (Kuteva et al. 2004, 2019)

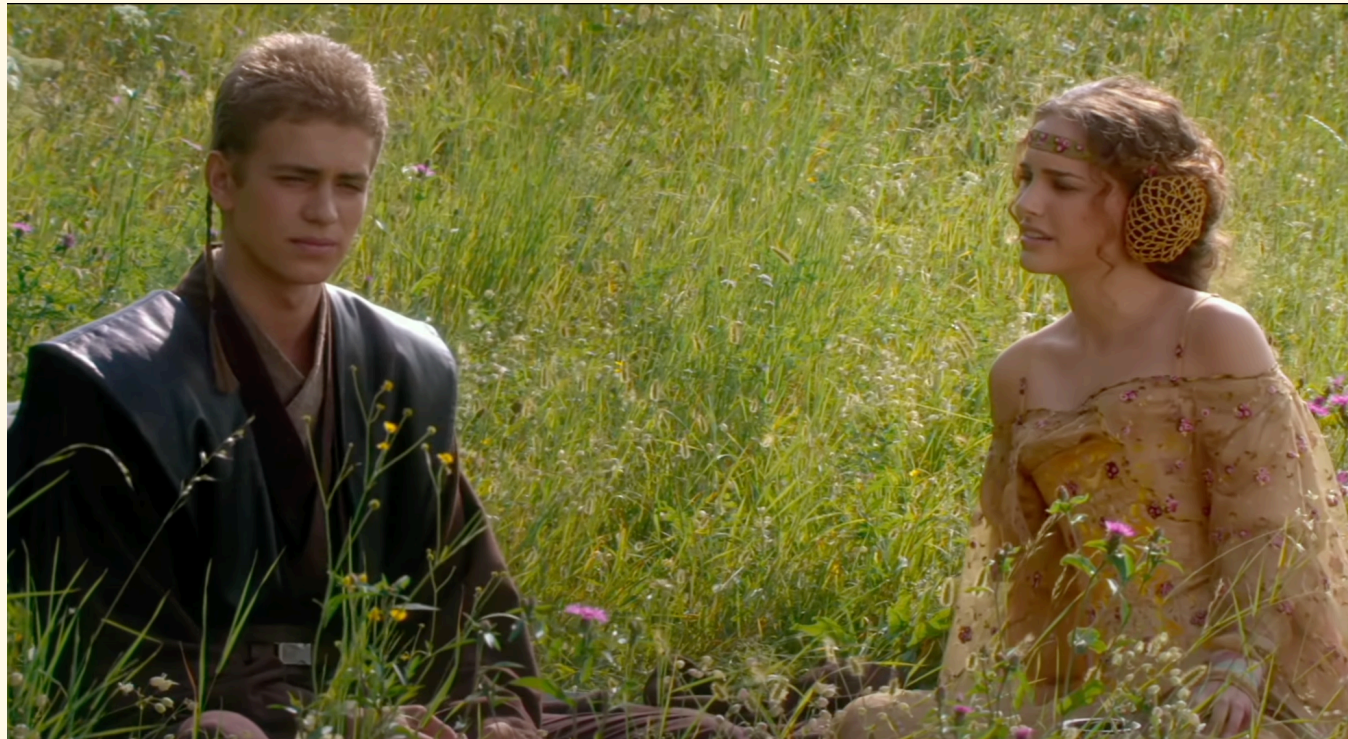
**LEXICAL
MEANING**

+ LEXICAL

+ABSTRACT



From iconic to abstract

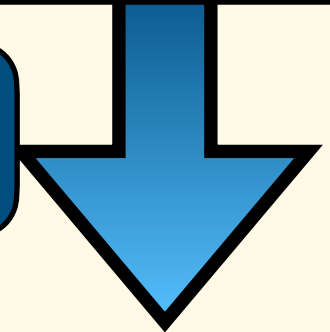


I don't think the system works. How would you have it work?

Original scene from “Attack of the Clones”

ICONIC
MEANING

+ ICONIC



+ABSTRACT

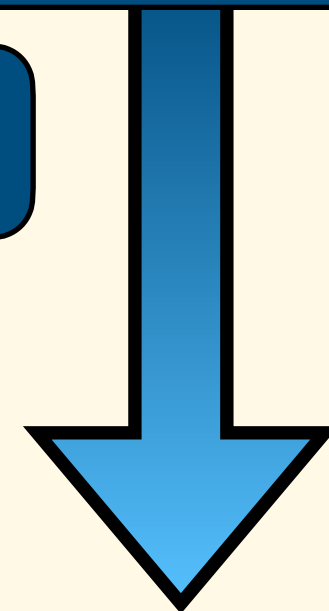
From iconic to abstract



Innovation: use of iconic pictures in a new context
(<https://twitter.com/starwarsposting>)

**ICONIC
MEANING**

+ ICONIC



+ABSTRACT

From iconic to abstract



Text changed: A meme template
(semantic bleaching)

ICONIC
MEANING

+ ICONIC

+ABSTRACT

From iconic to abstract



Pictures changed: Erosion of the original text and picture

**ICONIC
MEANING**

+ ICONIC

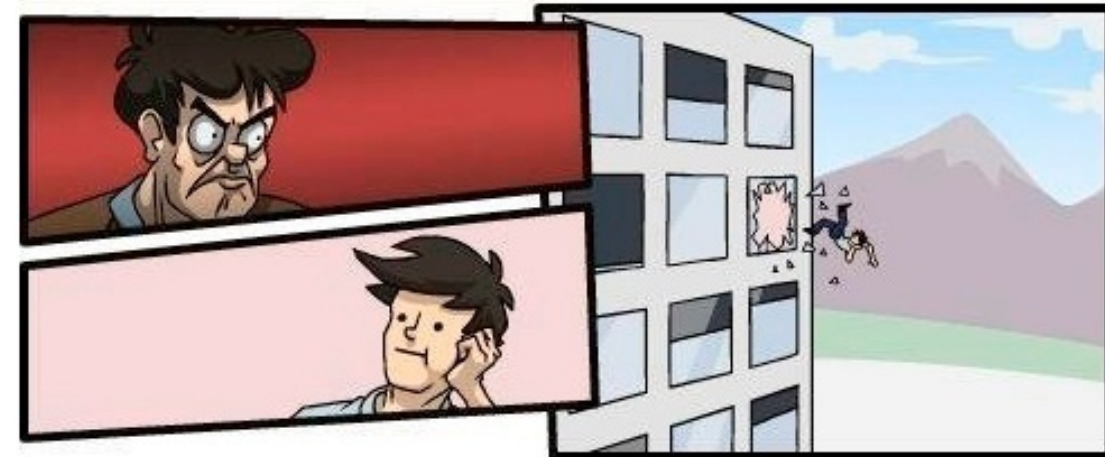
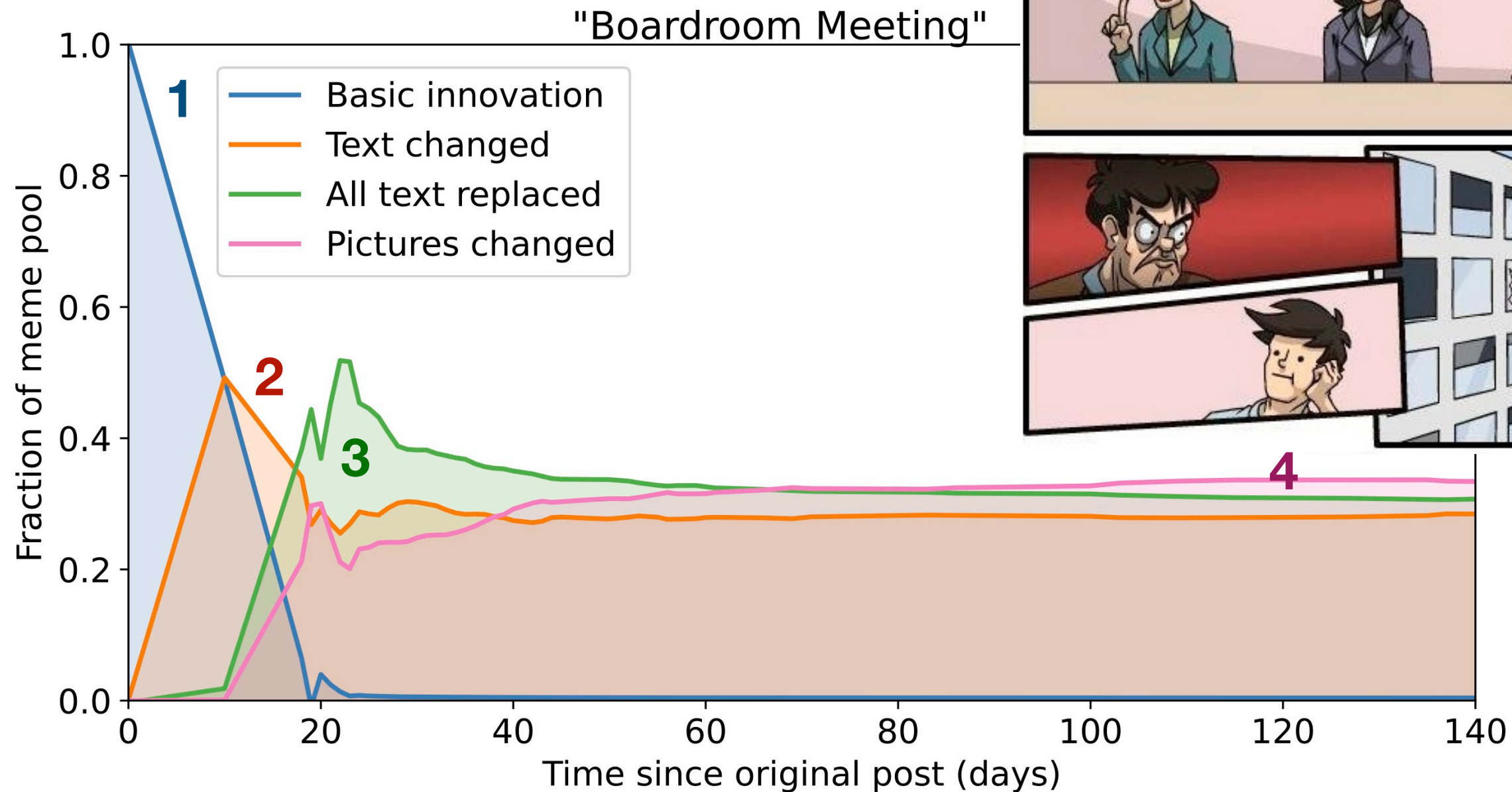
+ABSTRACT

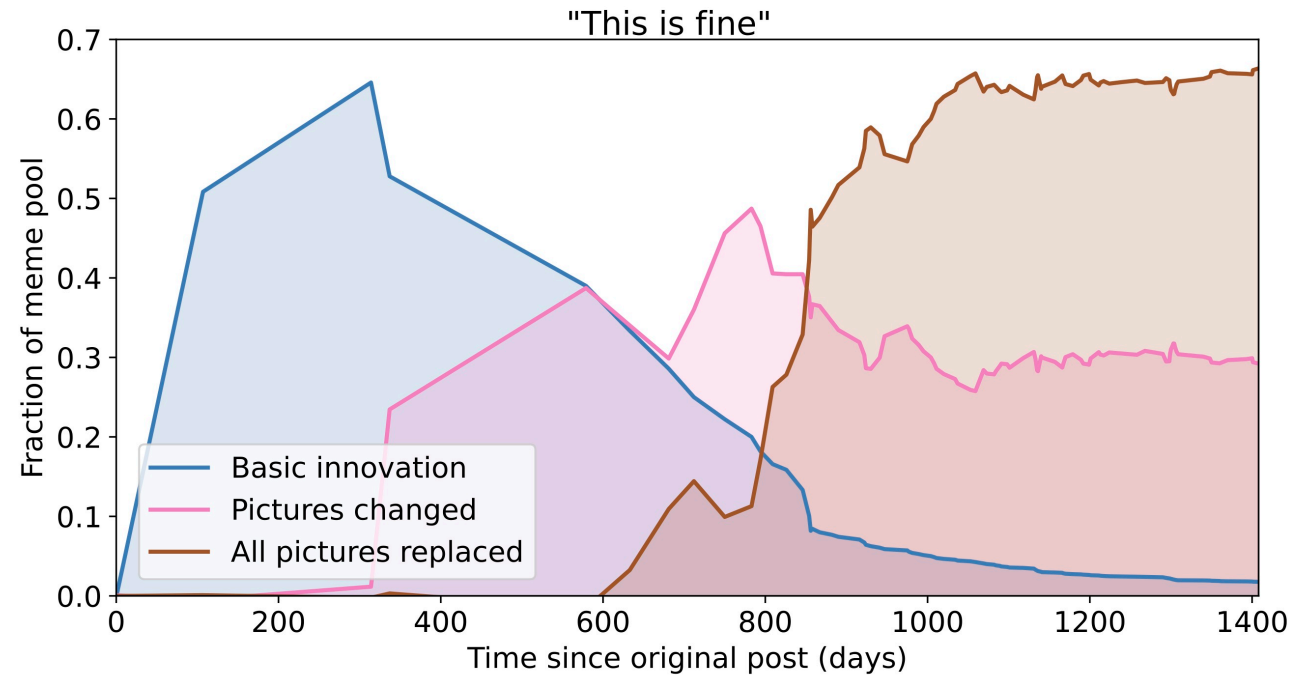
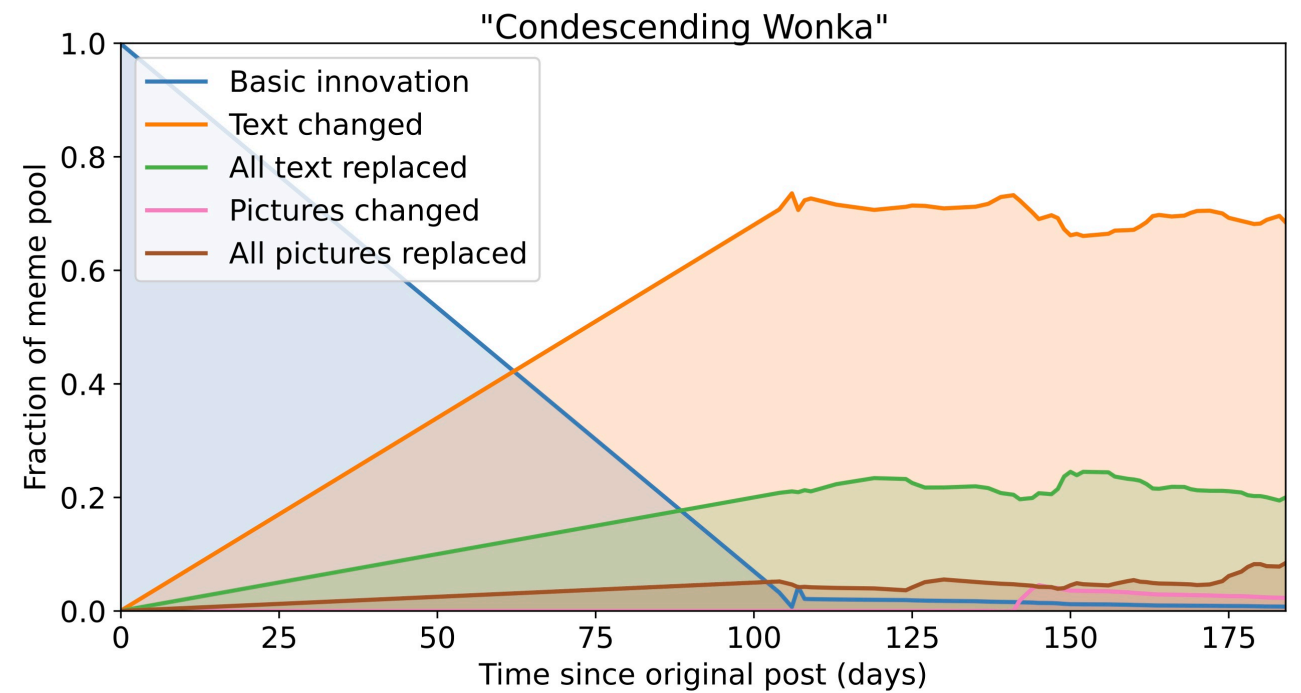
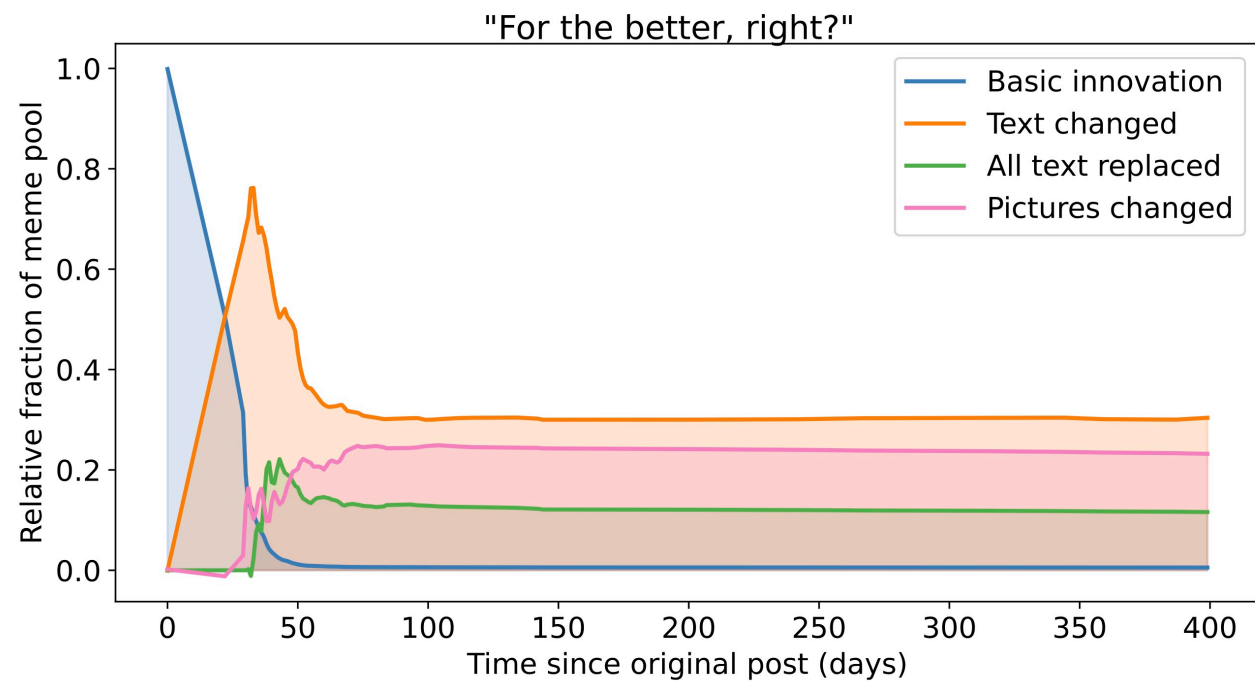
Method

- **we analyzed 1329 instances of 7 randomly selected memes available on knowyourmeme.com:**
 - **date of publication**
 - **classification of semantic change (change of text and/or picture) with values:**
 - **1: innovation**
↓
 - **9: new meme**

Example: “Boardroom meeting”

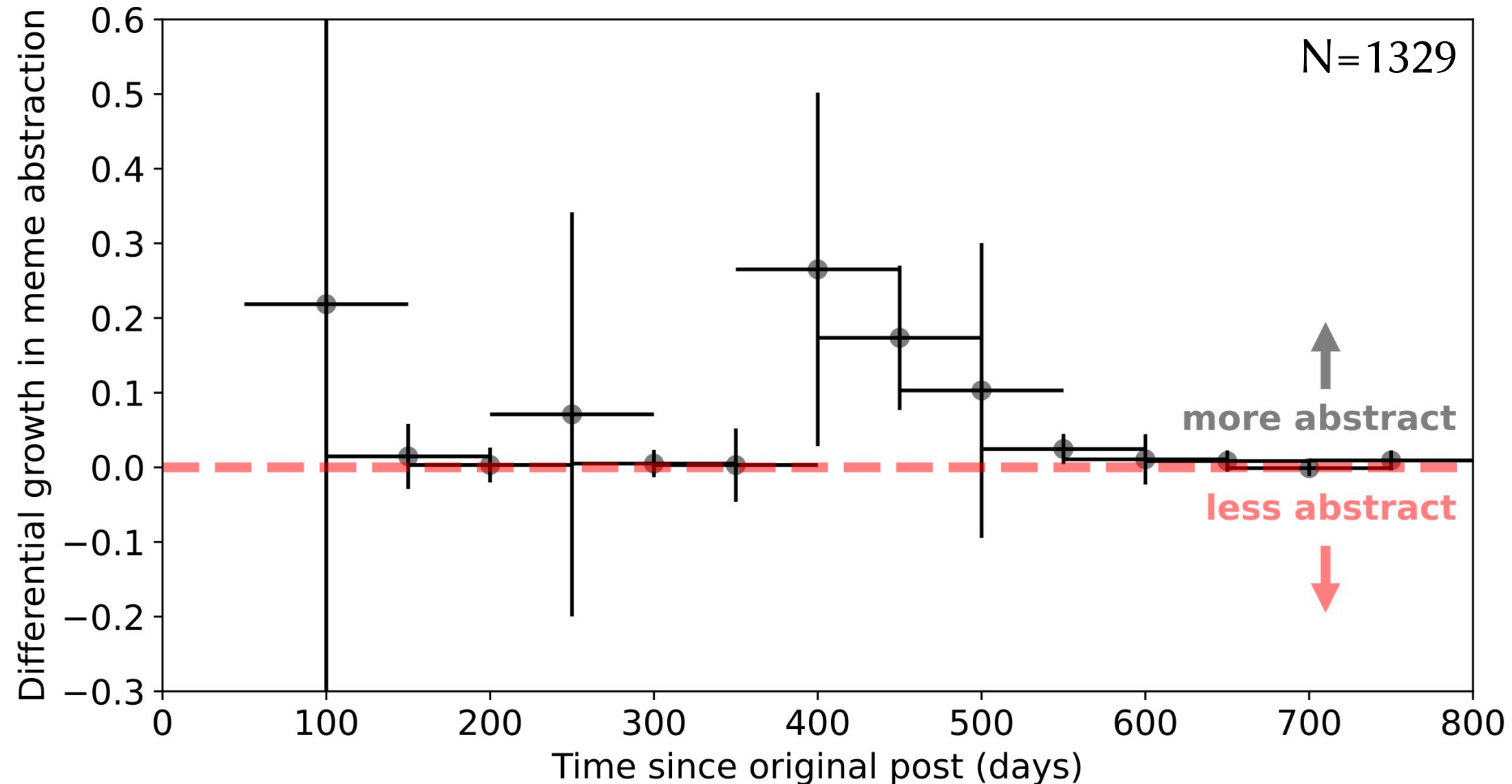
- fraction of memes (N=277) in each stage of evolution over time





- all 7 memes analyzed follow the hypothesized order of stages of abstraction

Quantitative analysis



- we calculated the average level of abstraction for the entire meme pool
- we show the rate of change in time of the average level of abstraction
- above the red line = positive change = growth in abstraction

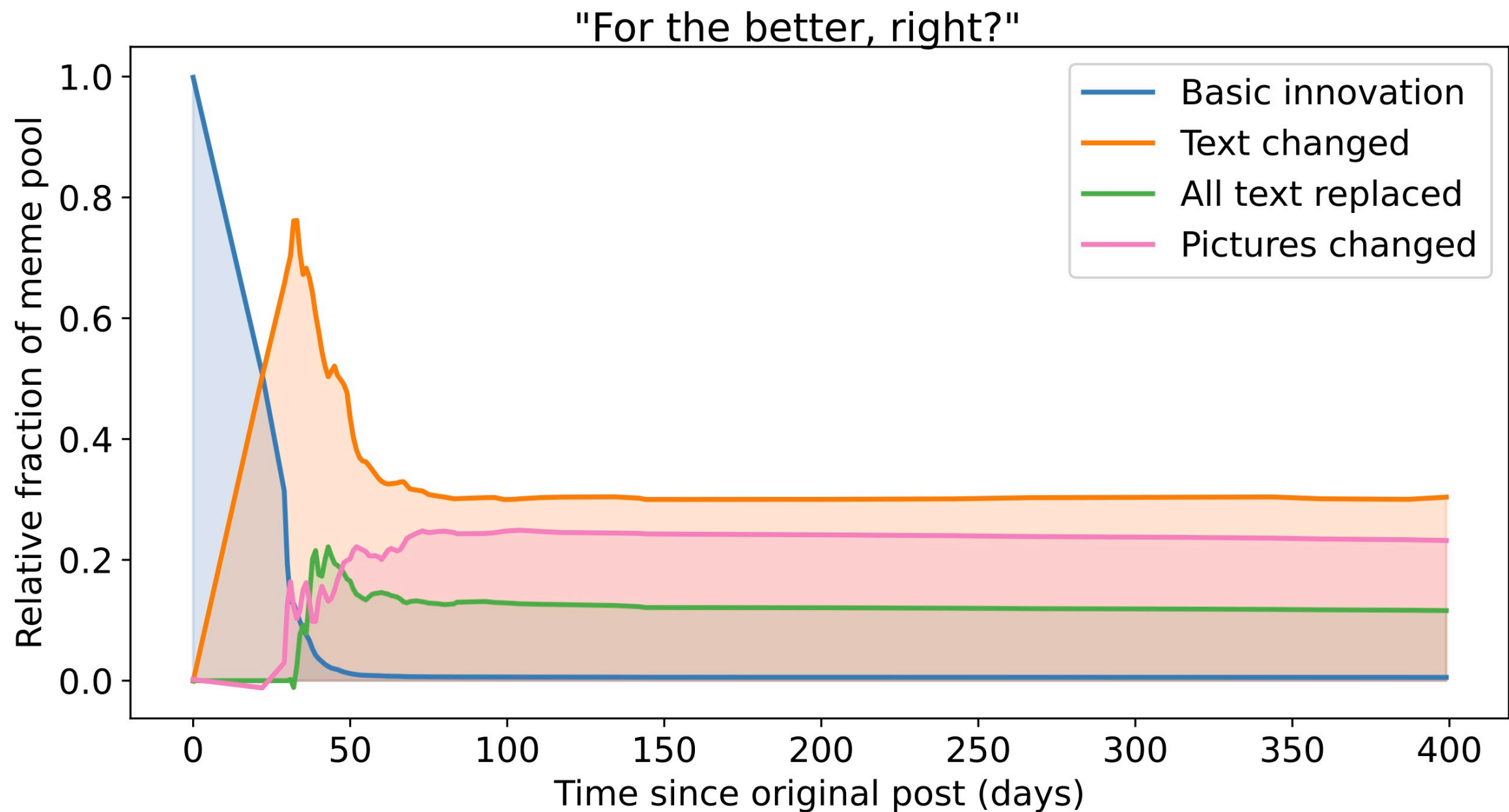
Conclusion

- **exploitable memes become more abstract over time, following stages parallel to grammaticalization**
- **statistically, wider transmission leads to a higher rate of semantic change in the direction of higher abstraction**
- **outlook: use data from Twitter, Reddit to explore the effect of virality on the rate of semantic change**

THANK YOU!

Appendix

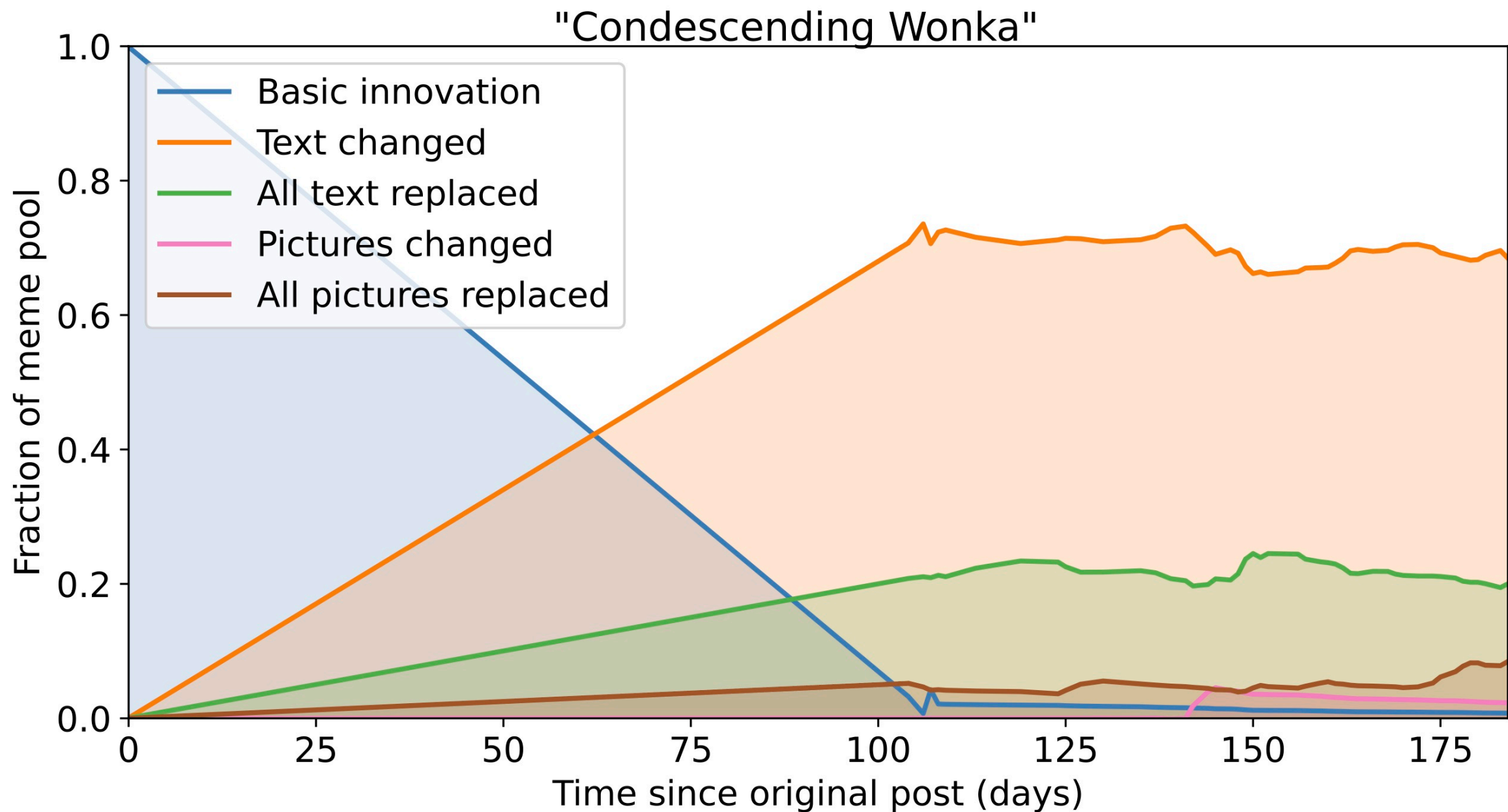
For the better, right?



For the better, right?



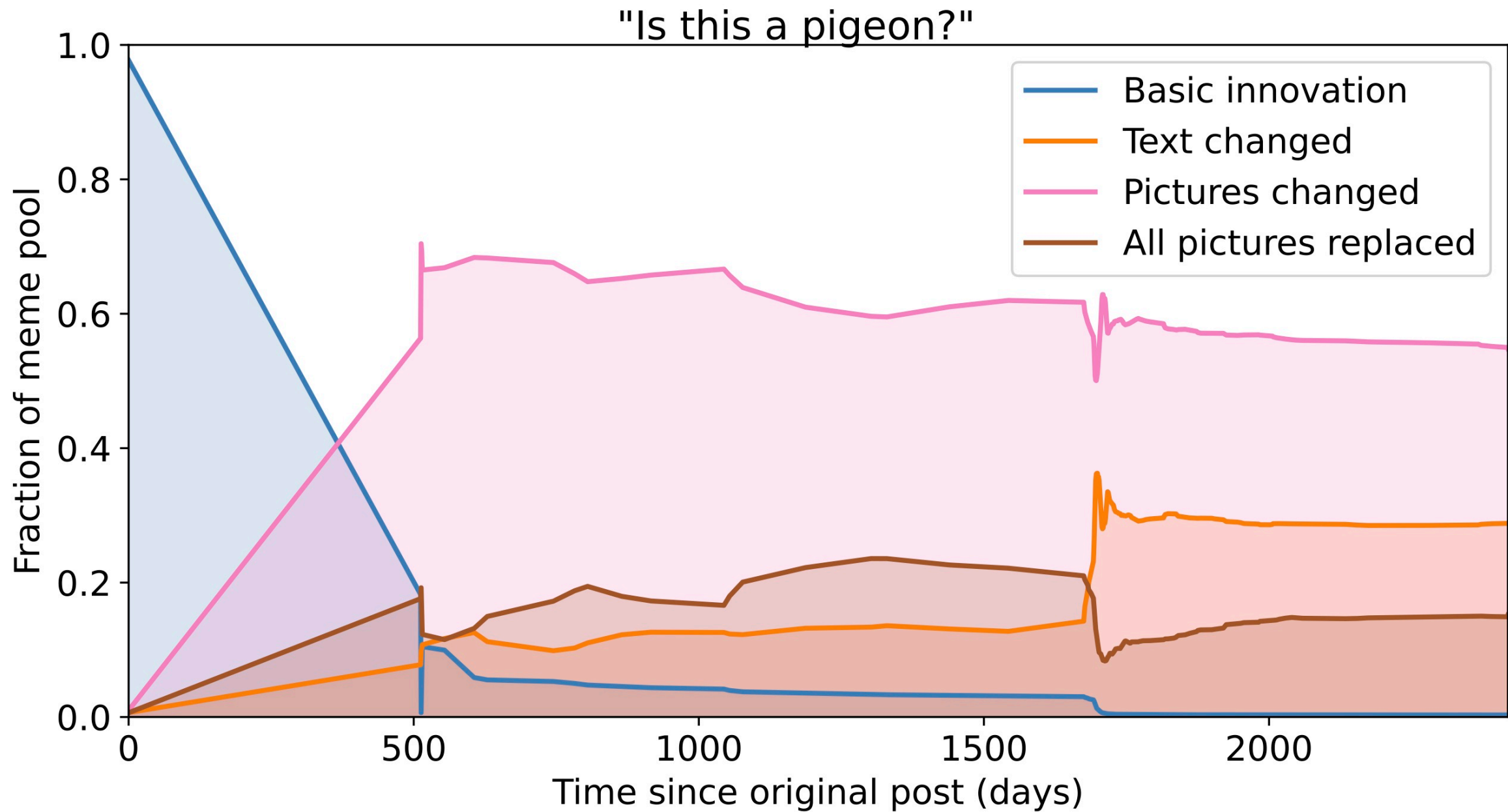
Condescending Wonka



Condescending Wonka



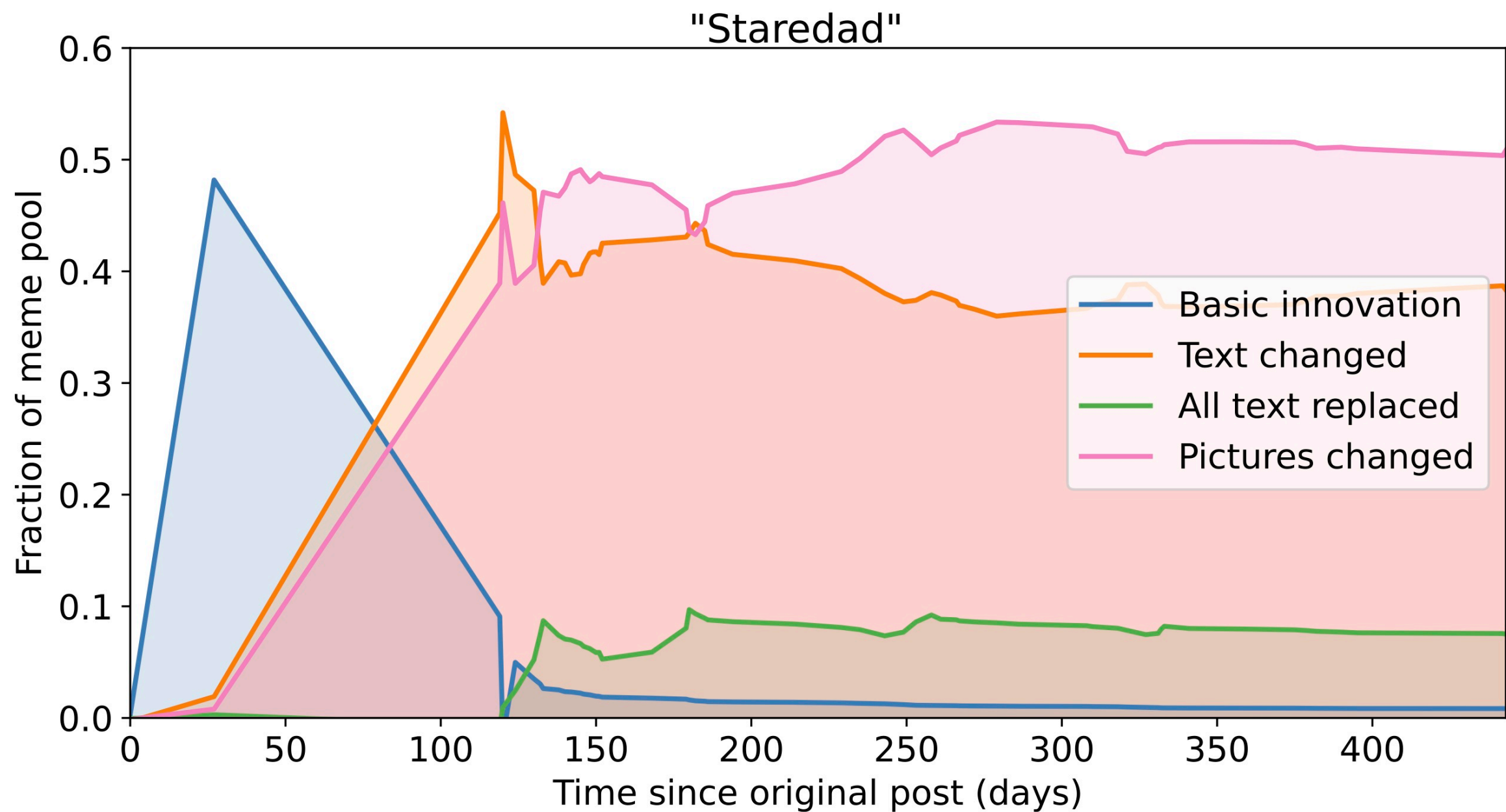
Is this a pigeon



Is this a pigeon



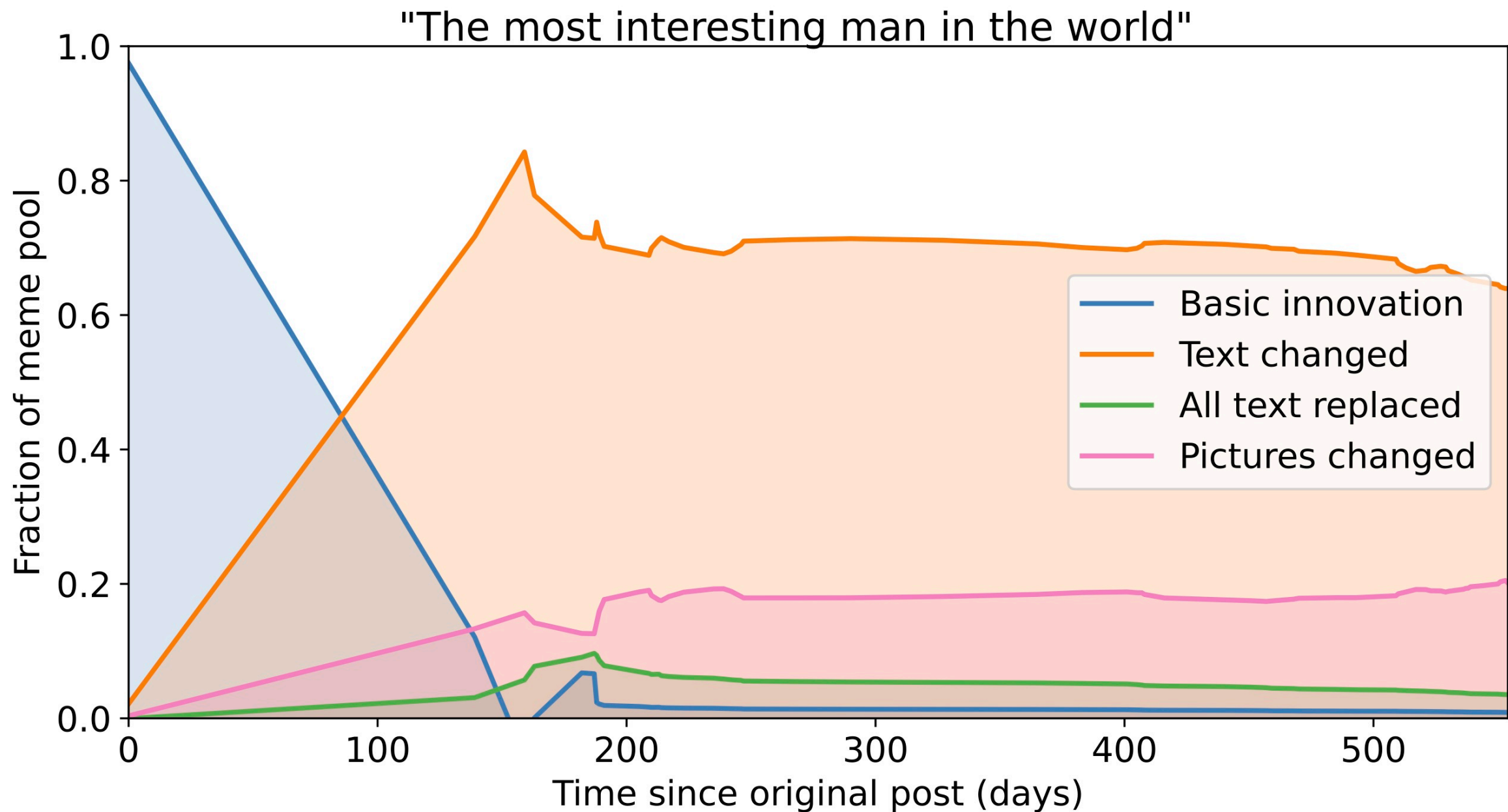
Staredad



Staredad



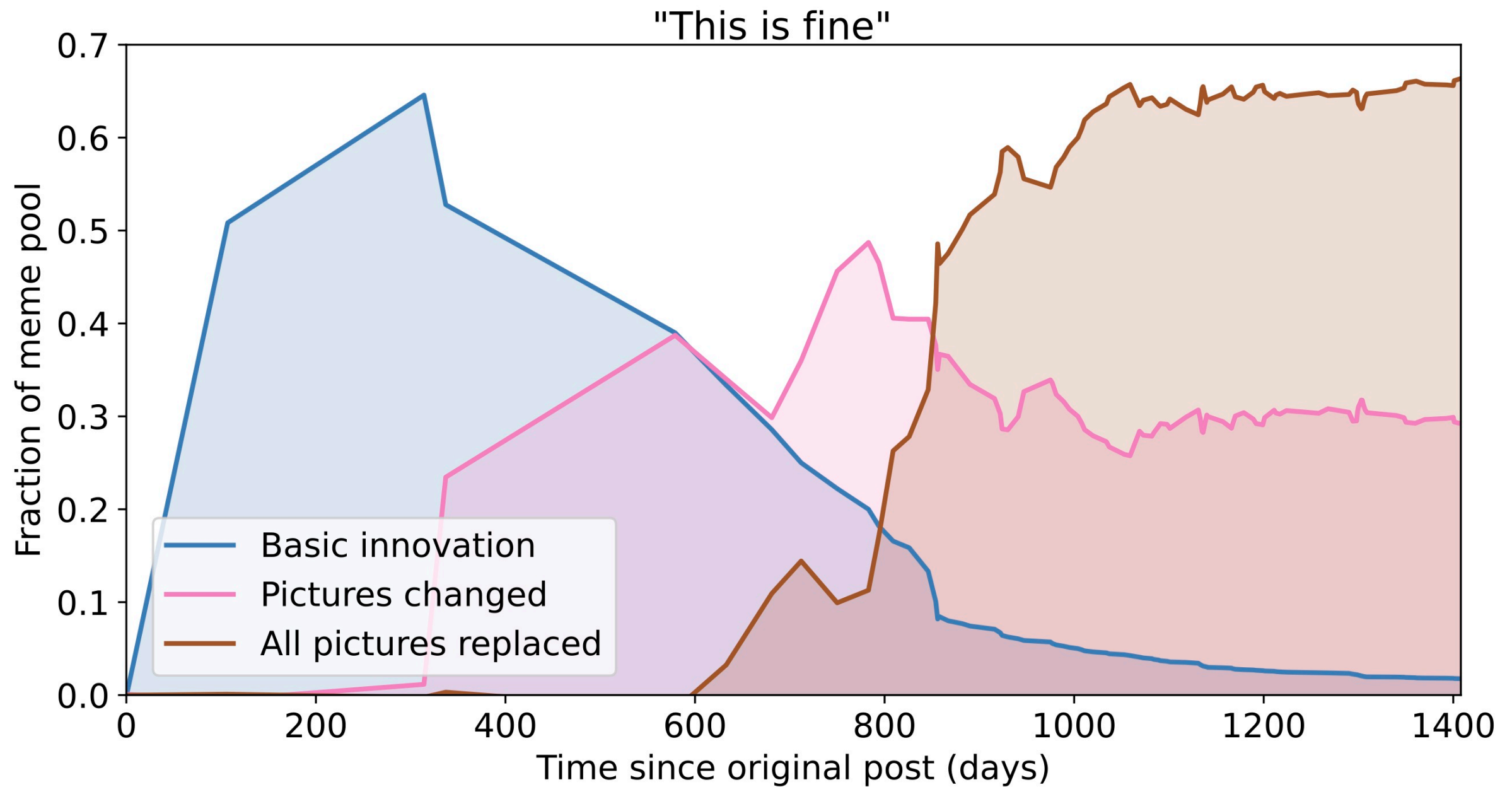
The most interesting man in the world



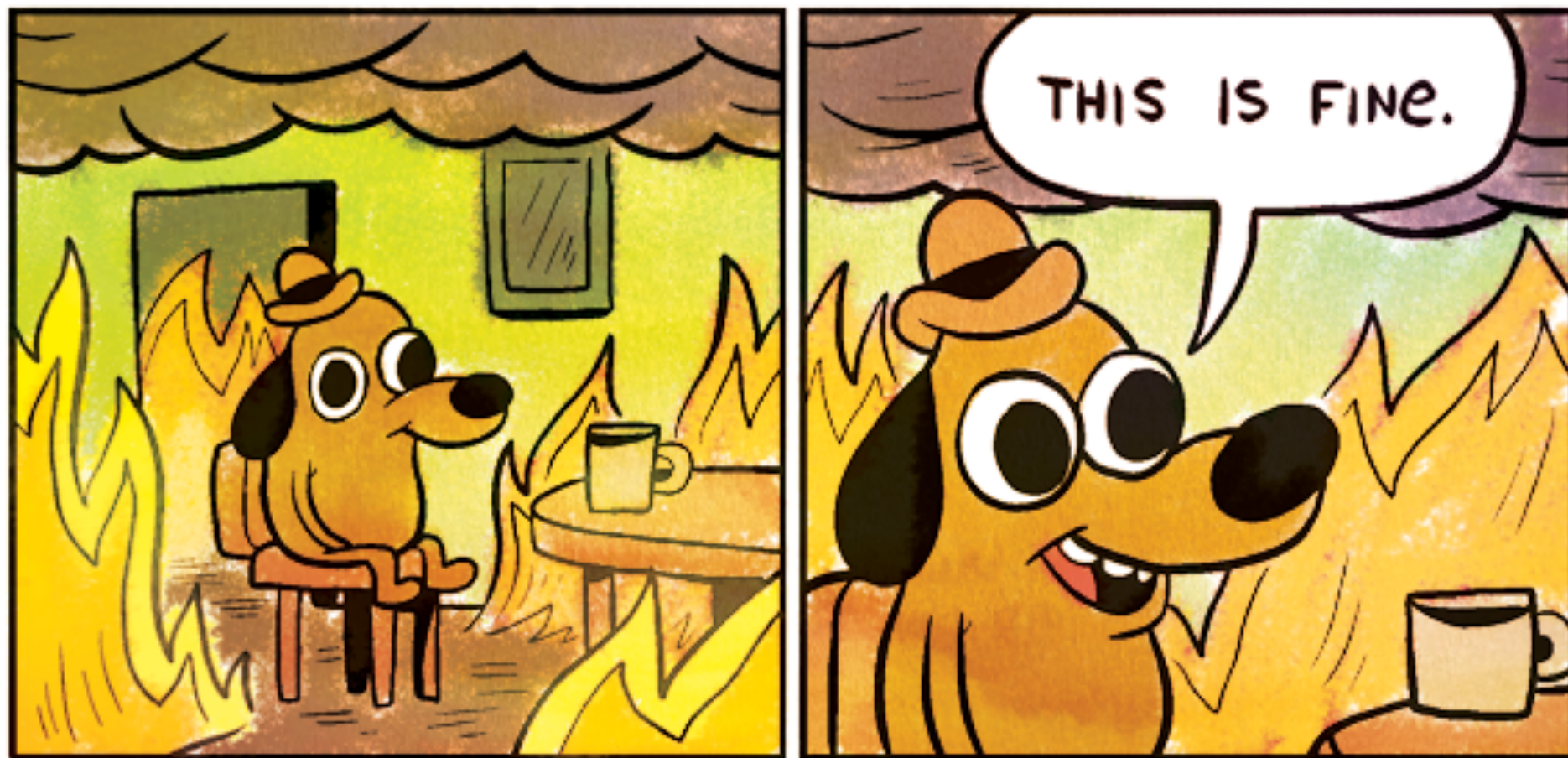
The most interesting man in the world



This is fine



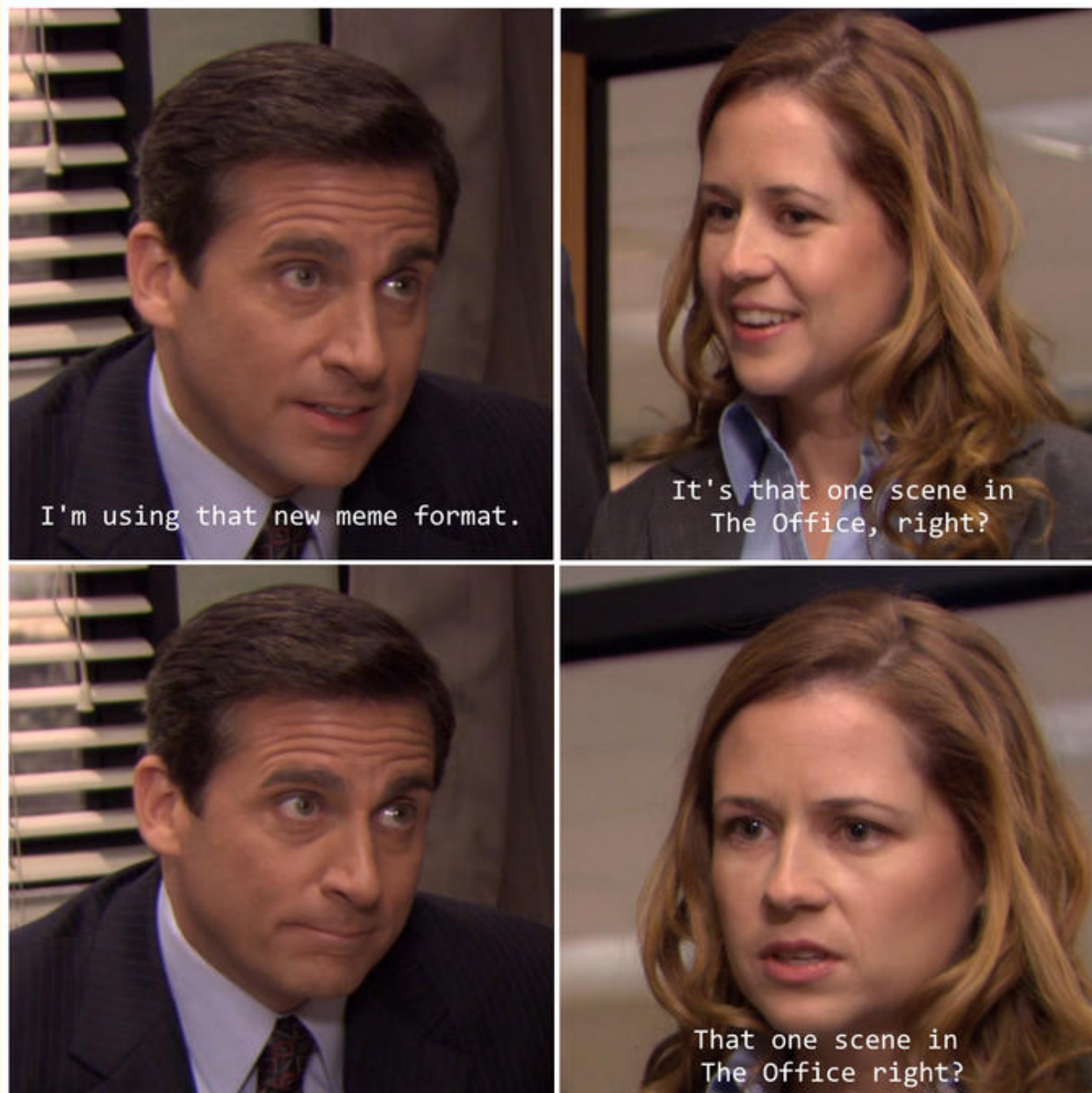
This is fine



Classification

0. Source material
1. Innovation
2. Add text/images to template text
3. Change template text
4. Change text and image order
5. All text changed
6. Change pictures (can still see original)
7. All pictures replaced, same context
8. All pictures replaced, new context
9. New meme

From iconic to abstract



ICONIC
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+ABSTRACT

Erosion of the original text and picture
(meaning based on the knowledge of the meme)