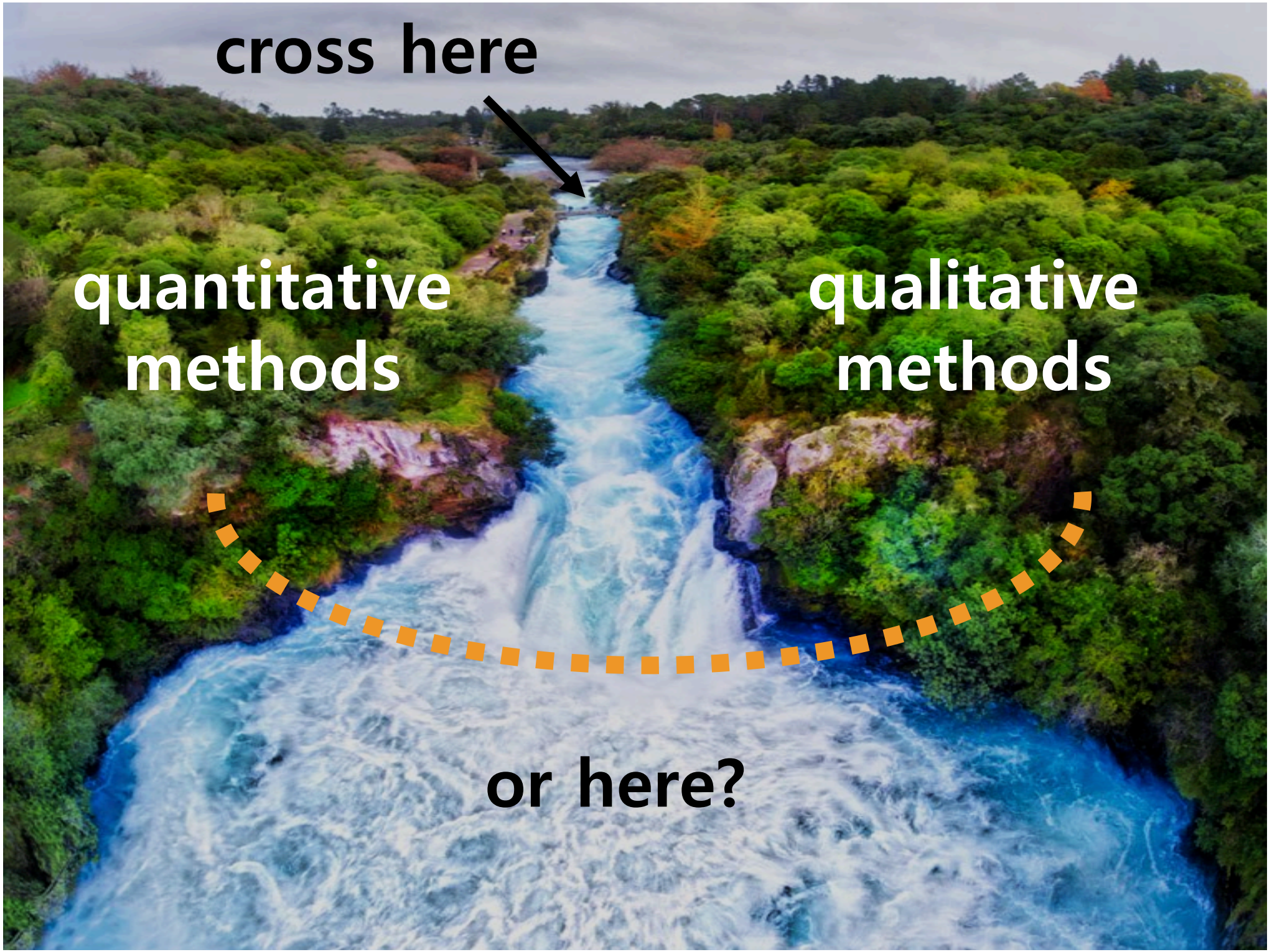
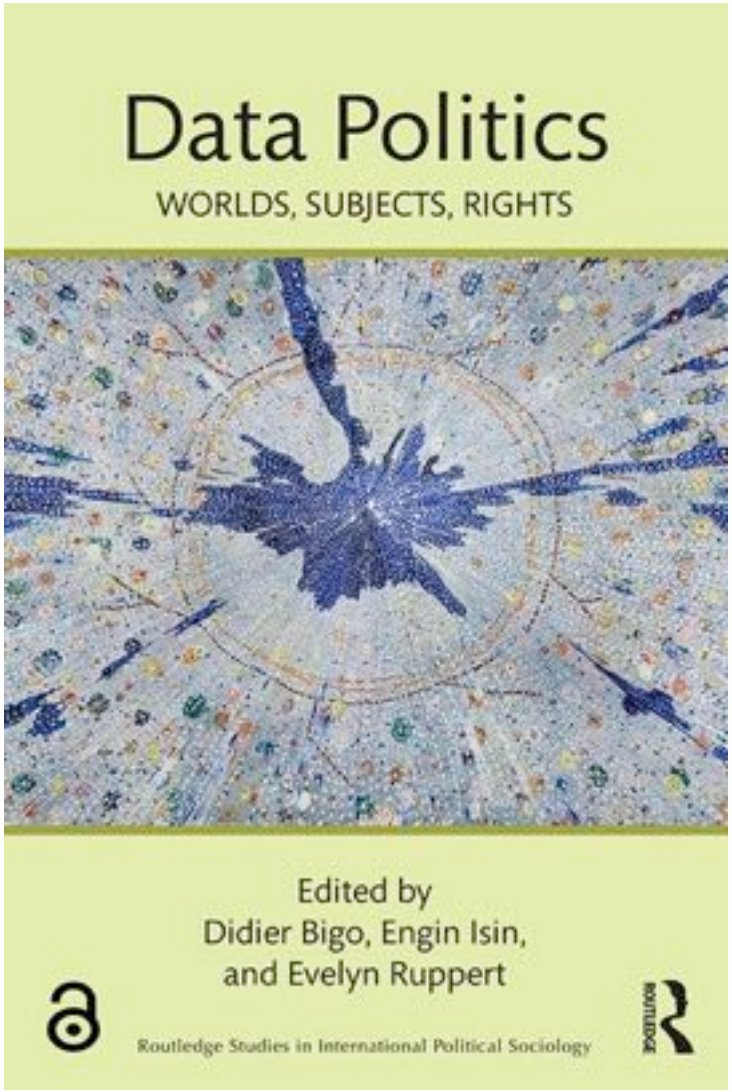
On Biting Off More than You can Chew

a question, an example and the beginning of an answer

Tommaso Venturini (CNRS Centre Internet et Société)
www.tommasoventurini.it


cross here
quantitative methods
qualitative methods
or here?



FROM FAKE TO JUNK NEWS

The data politics of online virality

Tommaso Venturini

"Fake news" is a key subject of data politics, but also a tricky one. As this chapter aims to show, the various phenomena signified by this misleading label have little in common, except being opposite to the kind of algorithmic intelligence that most other chapters present as the main concern of data politics. This does not mean that "fake news" is not related to computational analytics or political intentions, but it does mean that this relation is not straightforward.

To discuss this relation, I will go through a three-stage argument. First, I will criticise the notion of "fake news", dismissing the idea that this type of misinformation can be defined by its relationship to truth. Second, I will propose a different definition of this phenomenon based on its circulation rather than of its contents. Third, I will reintroduce the connection to data politics, by describing the economic, communicational, technological, cultural and political dimensions of junk news.

Junk news is not about algorithmic persuasion

"From Fake to Junk News."
In D. Bigo, E. Isin, and E. Ruppert (eds.)
Data Politics: Worlds, Subjects, Rights

McLuhan, Marshall. 1964.
Understanding Media: The Extensions of Man

What we are considering here, however, are the psychic and social consequences of the designs or patterns as they amplify or accelerate existing processes.

For the "message" of any medium or technology is the change of scale or pace or pattern that it introduces into human affairs.

The railway did not introduce movement or transportation or wheel or road into human society, but it accelerated and enlarged the scale of previous human functions, creating totally new kinds of cities and new kinds of work and leisure.

McLuhan, Marshall, and Quentin Fiore. 1967.
The Medium Is the Massage

"It isn't that I don't like current events. There have just been so many of them lately."

Media acceleration-amplification

1
hits & likes
economy

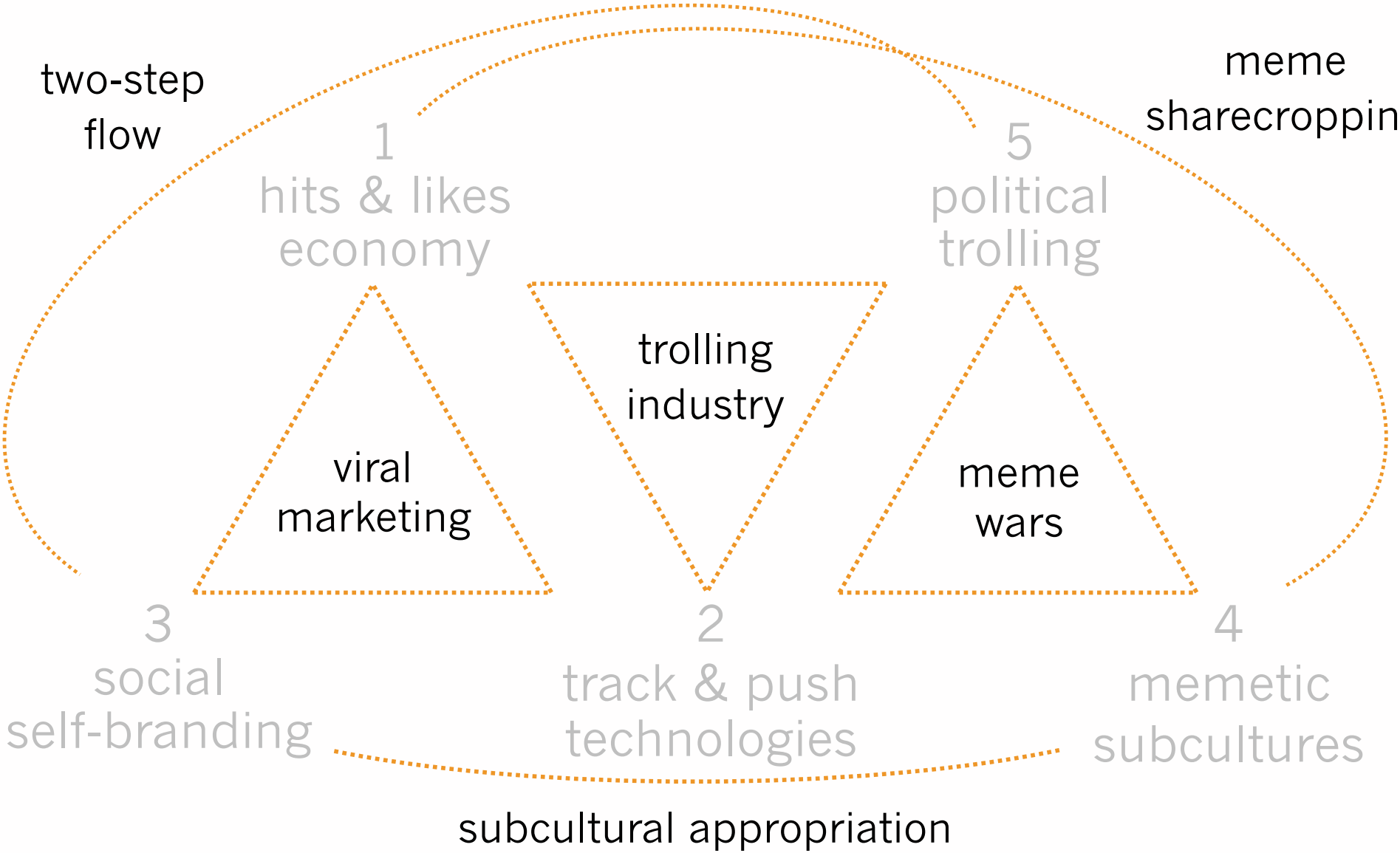
5
political
trolling

3
social
self-branding

2
track & push
technologies

4
memetic
subcultures

Five sources of attention acceleration



Five sources of attention acceleration

McLuhan, Marshall. 1964.
Understanding Media: The Extensions of Man

The psychic and social consequences of the designs or patterns as they amplify or accelerate existing processes.

The psychic and social consequences of the designs or patterns as they amplify or accelerate existing processes.

Media acceleration–amplification and its consequence

Media acceleration–amplification and its consequence

The psychic and social consequences of the designs or patterns as they amplify or accelerate existing processes.

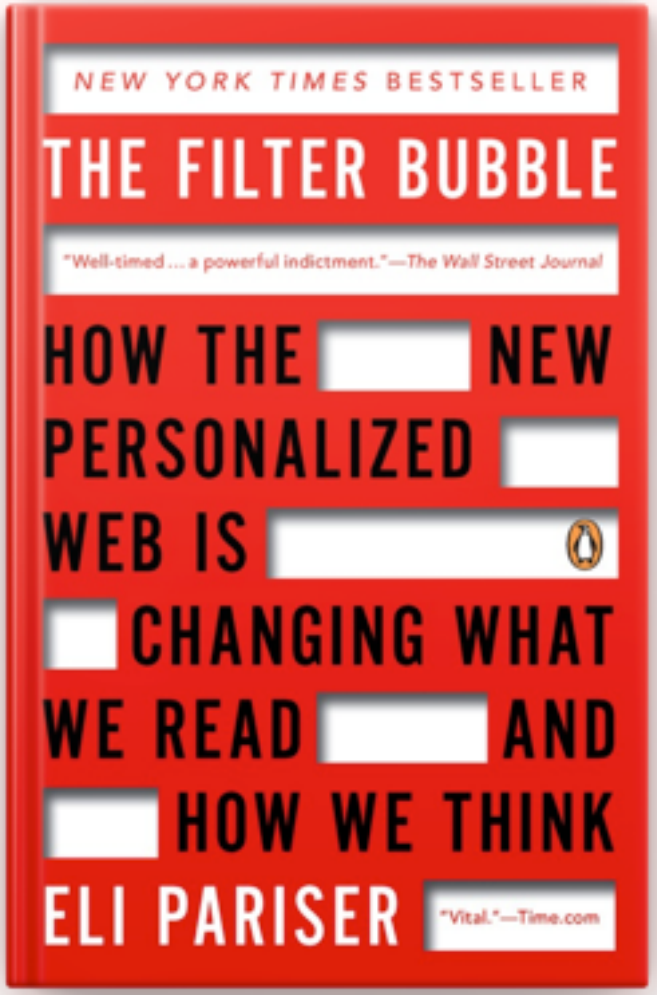
The psychic and social consequences of the designs or patterns as they amplify or accelerate existing processes.

trendiness hype &
junk news bubble bubbles

media ephemerality
& secondary orality

Media acceleration–amplification and its consequence

Eli Pariser. 2011. The Filter Bubble



The trending bubble of junk contents

arXiv.org > cs > arXiv:2004.08863

Search... All fields Search

Help | Advanced Search

Computer Science > Social and Information Networks

[Submitted on 19 Apr 2020]

Junk News Bubbles: Modelling the Rise and Fall of Attention in Online Arenas

Maria Castaldo, Tommaso Venturini, Paolo Frasca

In this paper, we present a type of media disorder which we call "`junk news bubbles" and which derives from the effort invested by online platforms and their users to identify and share contents with rising popularity. Such emphasis on trending matters, we claim, can have two detrimental effects on public debates: first, it shortens the amount of time available to discuss each matter; second it increases the ephemeral concentration of media attention. We provide a formal description of the dynamic of junk news bubbles, through a mathematical exploration the famous "public arenas model" developed by Hilgartner and Bosk in 1988. Our objective is to describe the dynamics of the junk news bubbles as precisely as possible to facilitate its further investigation with empirical data.

Comments: Submitted as journal publication
Subjects: **Social and Information Networks (cs.SI)**
Cite as: arXiv:2004.08863 **[cs.SI]**
(or arXiv:2004.08863v1 **[cs.SI]** for this version)

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arxiv.org/abs/2004.08863

Junk News Bubbles

an attention regime in which

- few items attracts large shares of collective attention
- but are incapable of sustaining it for a long time

The Rise and Fall of Social Problems: A Public Arenas Model[1]

Stephen Hilgartner
Columbia University

Charles L. Bosk
University of Pennsylvania

This paper develops a model of the process through which social problems rise and fall. Treating public attention as a scarce resource, the model emphasizes competition and selection in the media and other arenas of public discourse. Linkages among public arenas produce feedback that drives the growth of social problems. Growth is constrained by the finite "carrying capacities" of public arenas, by competition, and by the need for sustained drama. The tension between the constraints and forces for growth produces successive waves of problem definitions, as problems and those who promote them compete to enter and to remain on the public agenda. Suggestions for empirical tests of the model are specified.

In its most schematic form, our model has six main elements:

2. the institutional arenas that serve as "environments" where social problems compete for attention and grow;
3. the "carrying capacities" of these arenas, which limit the number of problems that can gain widespread attention at one time;

4. the "principles of selection," or institutional, political, and cultural factors that influence the probability of survival of competing problem formulations;

1. a dynamic process of competition among the members of a very large "population" of social problem claims;[5]

5. patterns of interaction among the different arenas, such as feedback and synergy, through which activities in each arena spread throughout the others; and
6. the networks of operatives who promote and attempt to control particular problems and whose channels of communication crisscross the different arenas.

Hilgartner, S. & Bosk, C. 1988
The Rise and Fall of Social Problems: A Public Arenas Model
American Journal of Sociology 94 (1)

$$\hat{\pi}^i_{t+1} = \max(\pi^i_t + \alpha(\pi^i_t - \pi^i_{t-1}) + x, 0)$$

$$\pi^i_t = \frac{\hat{\pi}^i_t}{\sum_j \hat{\pi}^j_t}$$

A junk news bubble toy-model

Popularity (π) of each item (i) is incremented at each time (t) by

$$\hat{\pi}^i_{t+1} = \max(\pi^i_t + \alpha(\pi^i_t - \pi^i_{t-1}) + x, 0)$$

$$\pi^i_t = \frac{\hat{\pi}^i_t}{\sum_j \hat{\pi}^j_t}$$

A junk news bubble toy-model

Popularity (π) of each issues (i) is incremented at each time (t) by

its increment of t-1 multiplied by α

$$\hat{\pi}^i_{t+1} = \max(\pi^i_t + \alpha(\pi^i_t - \pi^i_{t-1}) + x, 0)$$

1. Boost of trending topics

$$\pi^i_t = \frac{\hat{\pi}^i_t}{\sum_j \hat{\pi}^j_t}$$

A junk news bubble toy-model

Popularity (π) of each issues (i) is incremented at each time (t) by

its increment of t-1 multiplied by α

$x \sim \mathcal{N}(0, 1/2n)$

plus a random factor (x)

$$\hat{\pi}^i_{t+1} = \max(\pi^i_t + \alpha(\pi^i_t - \pi^i_{t-1}) + x, 0)$$

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1. Boost of trending topics

If negative, the new popularity is set to zero

2. No negative attention

$$\pi^i_t = \frac{\hat{\pi}^i_t}{\sum_j \hat{\pi}^j_t}$$

A junk news bubble toy-model

Popularity (π) of each issues (i) is incremented at each time (t) by

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$x \sim \mathcal{N}(0, 1/2n)$

plus a random factor (x)

$$\hat{\pi}^i_{t+1} = \max(\pi^i_t + \alpha(\pi^i_t - \pi^i_{t-1}) + x, 0)$$

1. Boost of trending topics

If negative, the new popularity is set to zero

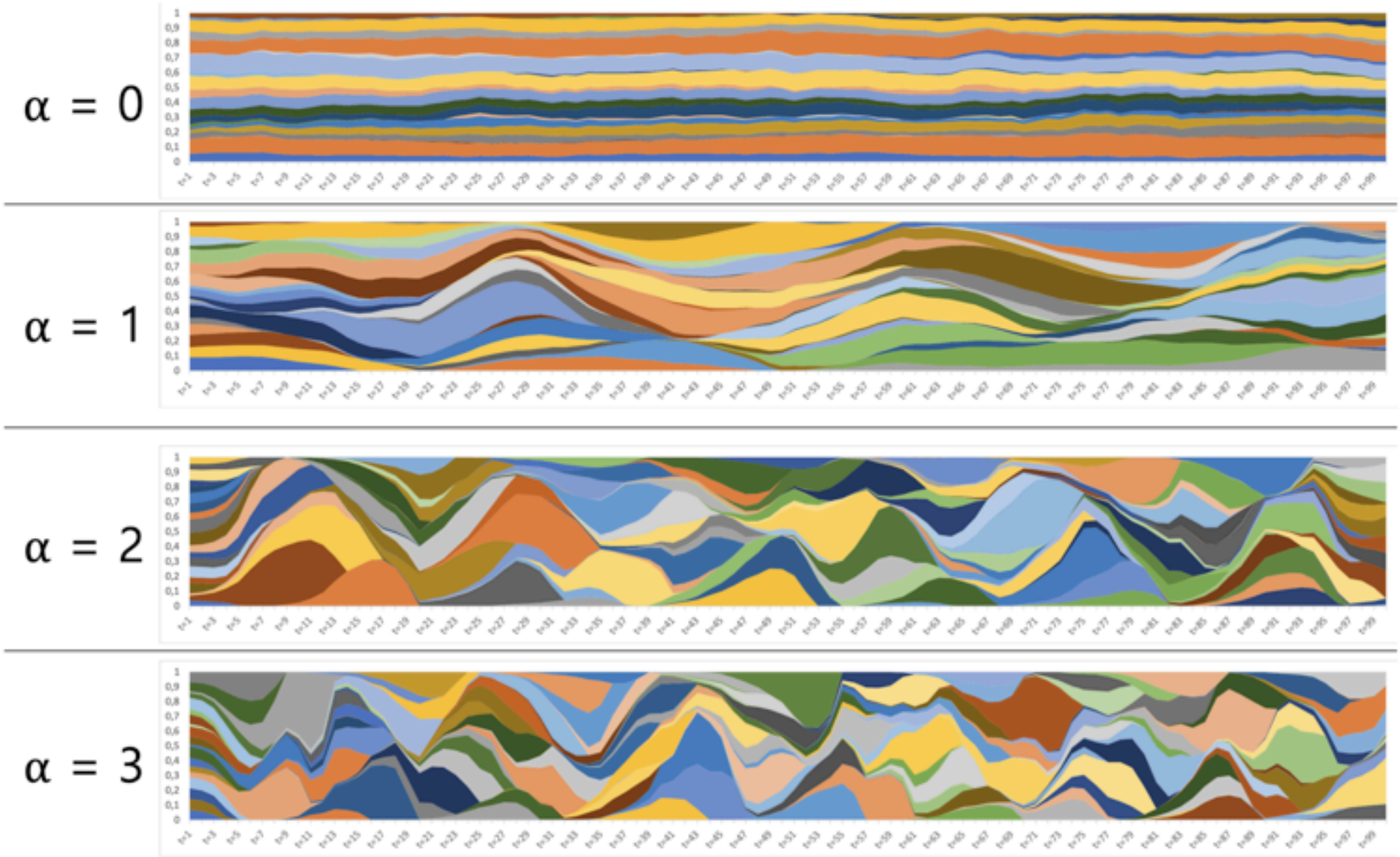
2. No negative attention

$$\pi^i_t = \frac{\hat{\pi}^i_t}{\sum_j \hat{\pi}^j_t}$$

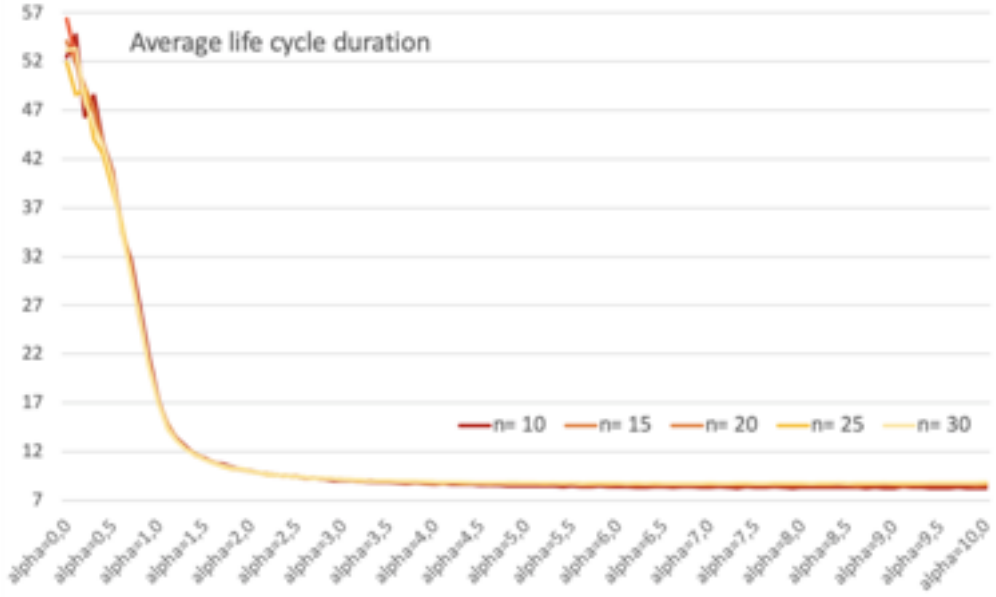
After increment, the popularity (π) of each item (i) is divided by the sum of all popularities so that they sum is always 1

3. Inelasticity of total attention

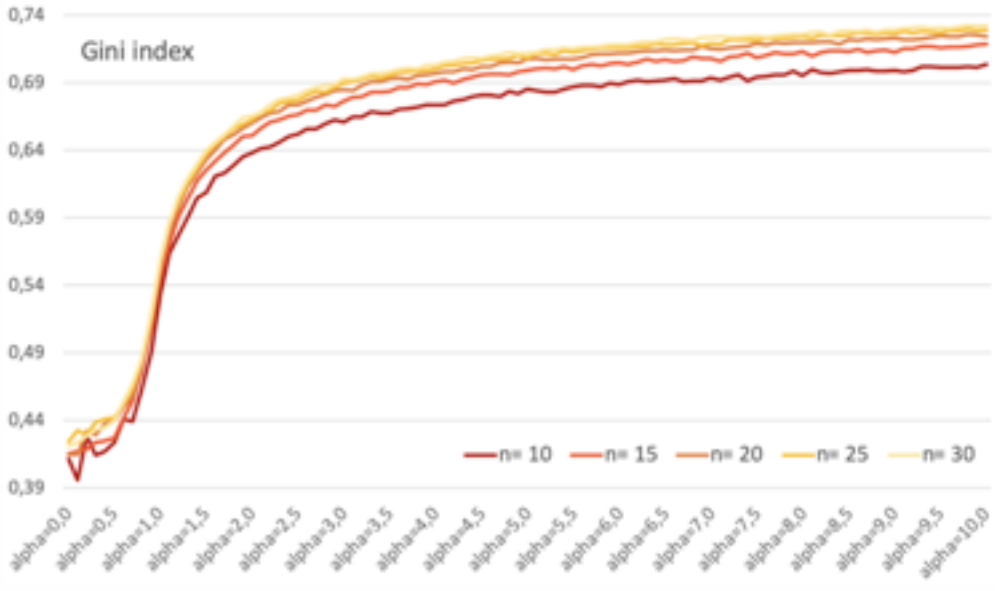
A junk news bubble toy-model



The consequences of trendiness

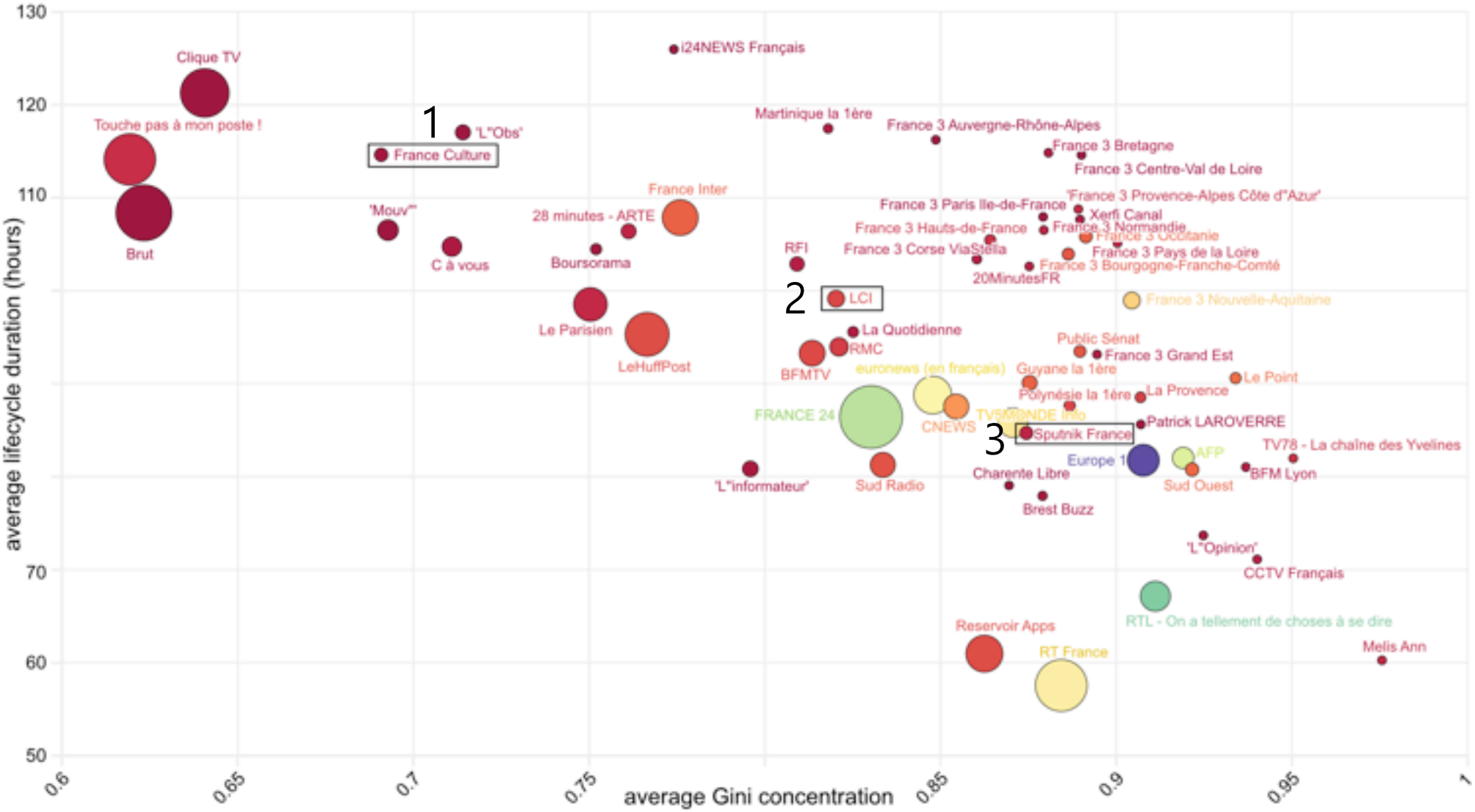


more ephemerality

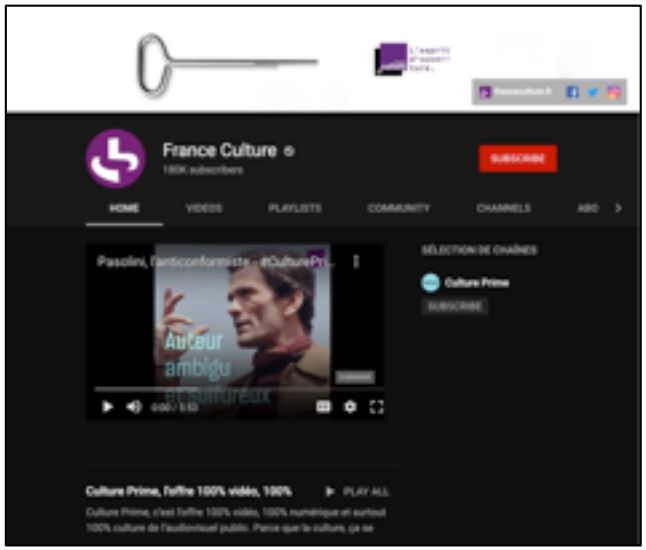


more concentration

The consequences of trendiness



Some empirical evidence

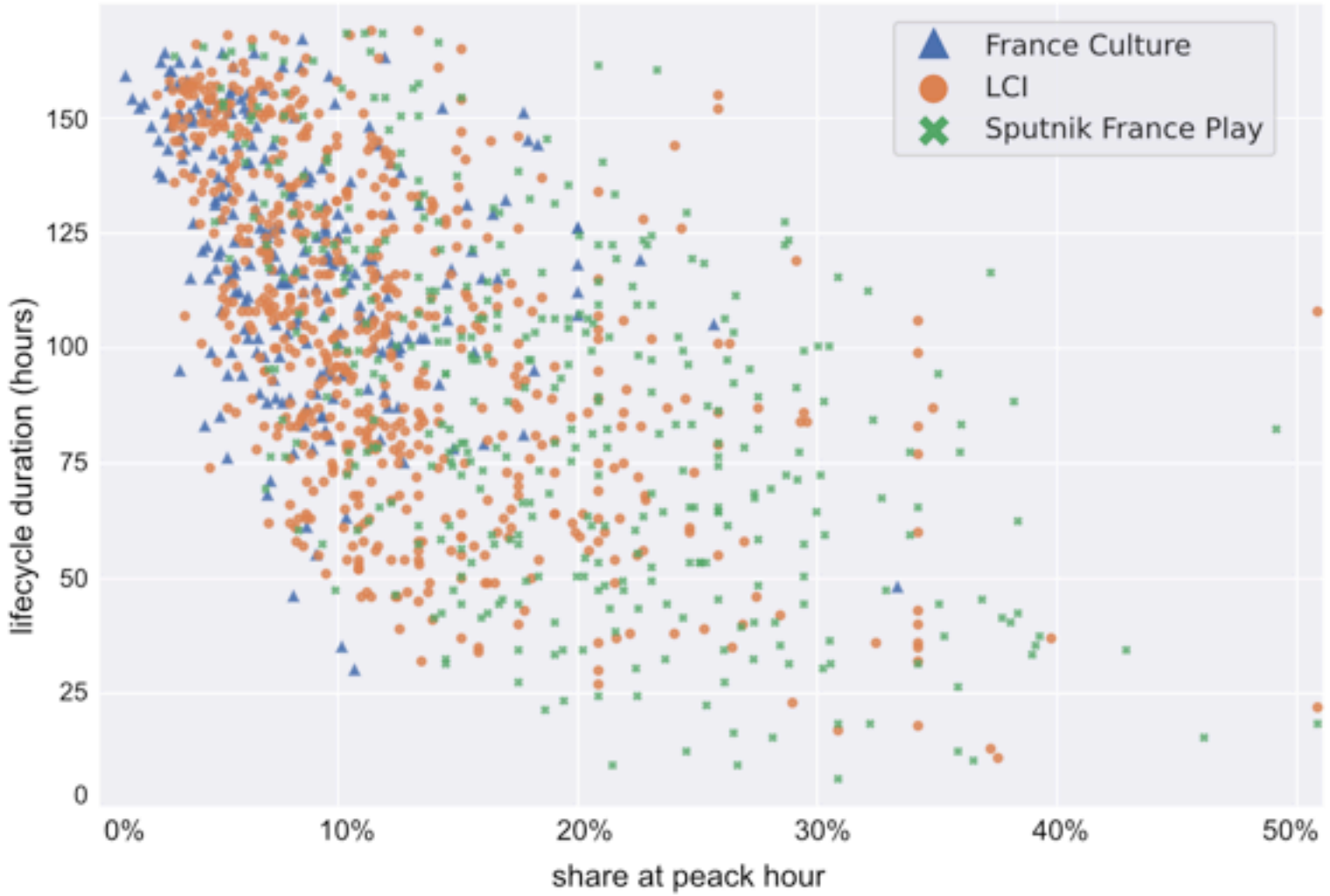


1 France Culture

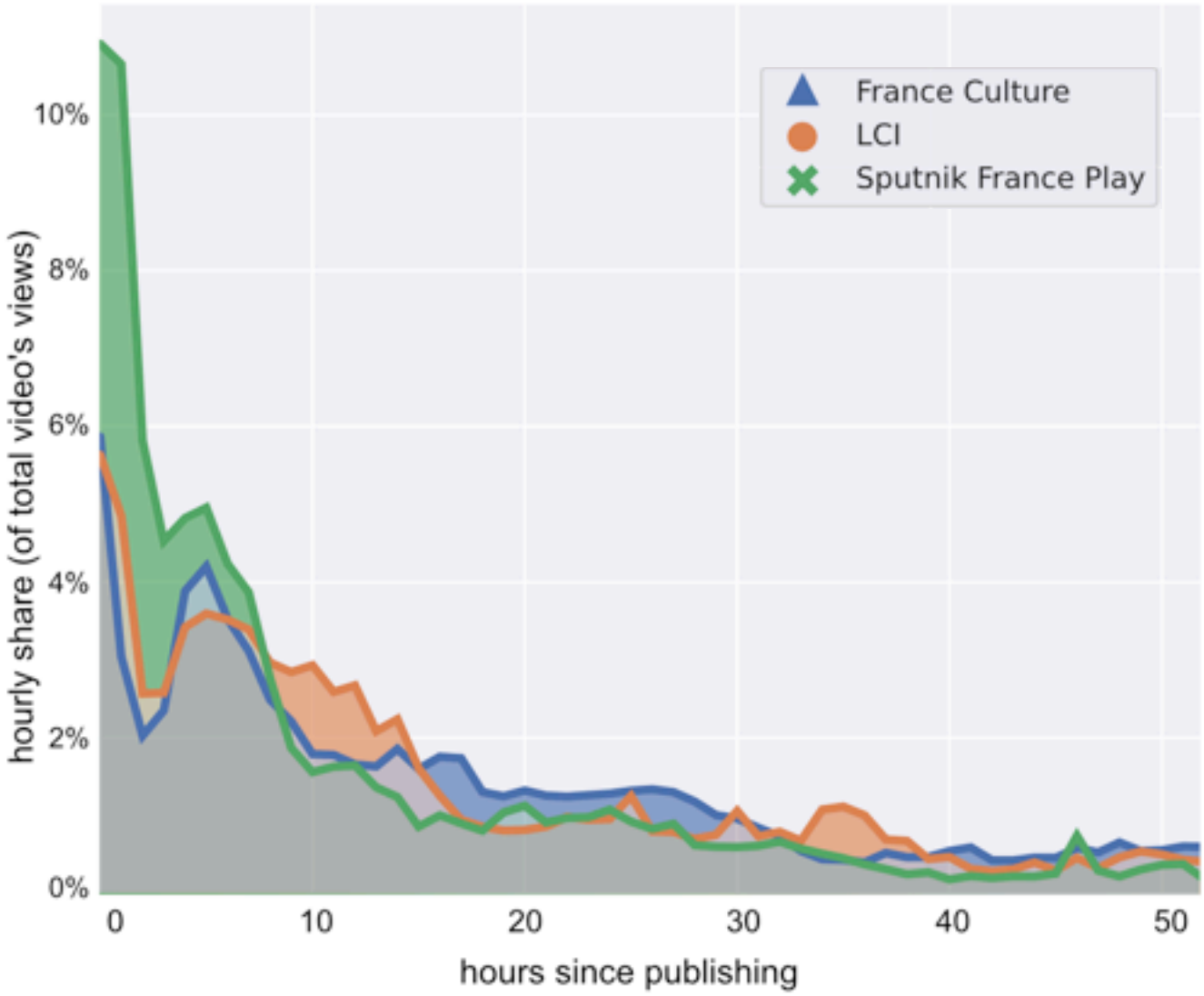
2 La Chaine Info

3 Sputnik France

Three cherry-picked channels



Three cherry-picked channels compared



Three cherry-picked channels compared

The psychic and social consequences of the designs or patterns as they amplify or accelerate existing processes.

The psychic and social consequences of the designs or patterns as they amplify or accelerate existing processes.

trendiness hype &
junk news bubble bubbles

media ephemerality
& secondary orality

Media acceleration–amplification and its consequence

"This conception and organization [contemporary attention economy] has caused the processes of individuation that connect psychic and social life to be short-circuited, resulting in the destructive hegemony of the short term over the long term" (p. 12)

Terranova, Tiziana. 2012.
"Attention, Economy and the Brain."
Culture Machine 13: 1–19.

attention economy and the curse of ephemerality

Goody, Jack, and Ian Watt. 1963. "The Consequences of Literacy" *Comparative Studies in Society and History* 5(3): 304–345.

"as Oswald Spengler put it, 'writing... implies a complete change in the relations of man's waking-consciousness, in that it liberates tyranny of the present ... the activity of writing and reading is in abstract than that of speaking and hearing' " (p. 330)

Ong, Walter S. J. 1982.
Orality and Literacy - The Technologizing of the Word. London: Methuen.

"Sound exists only when it is going out of existence. It is not simply perishable but essentially evanescent, and it is sensed as evanescent. When I pronounce the word 'permanence', by the time I get to the '-pence', the 'perma-' is gone, and has to be gone." (pp. 31, 32).

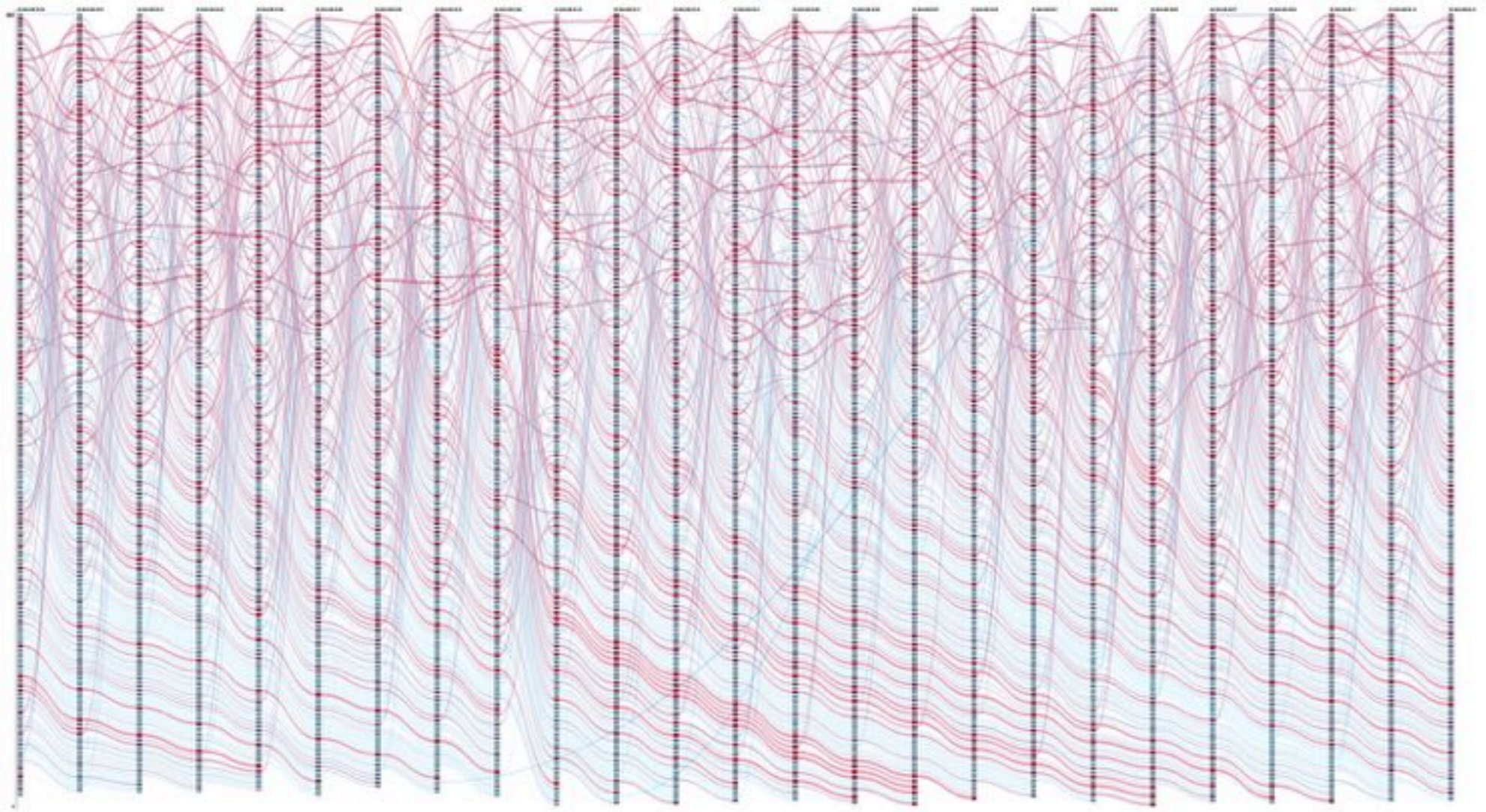
Oral cultures and the curse of ephemerality

OIL

open intelligence lab

Deep vernacular web

(cf. https://oilab.eu)



https://oilab.eu/rendering-legible-the-ephemerality-of-4chanpol

4chan or the ephemerality by design

Ong, Walter S. J. 1982.
Orality and Literacy - The Technologizing of the Word. Methuen.

"Our understanding of the differences between orality and literacy developed only in the electronic age, not earlier. Contrasts between electronic media and print have sensitized us to the earlier contrast between writing and orality. The electronic age is also an age of 'secondary orality', the orality of telephones, radio, and television, which depends on writing and print for its existence." (p. 2)

"Telephone, radio, television and various kinds of sound tape, electronic technology has brought us into the striking age of 'secondary orality'." (p. 133)

"Various kinds of residual orality as well as the 'literate orality' of the secondary oral culture induced by radio and television await in-depth study." (p. 156)

Secondary orality

Ong, Walter S. J. 1982. Orality and Literacy.

This new orality has resemblances to the old in its [3] participatory mystique, communal sense, its concentration on the present moment, and even its [2] use of formulas. (p. 133)

- [1] Redundant or 'copious'
- [4] Agonistically toned
- Empathetic and not objectively distanced
- [5] Aggregative rather than analytic
- Additive rather than subordinate
- Close to the human lifeworld
- Situational rather than abstract
- Homeostatic
- Conservative or traditionalist

McLuhan, Marshall. 1964. Understanding Media: The Extensions of Man.

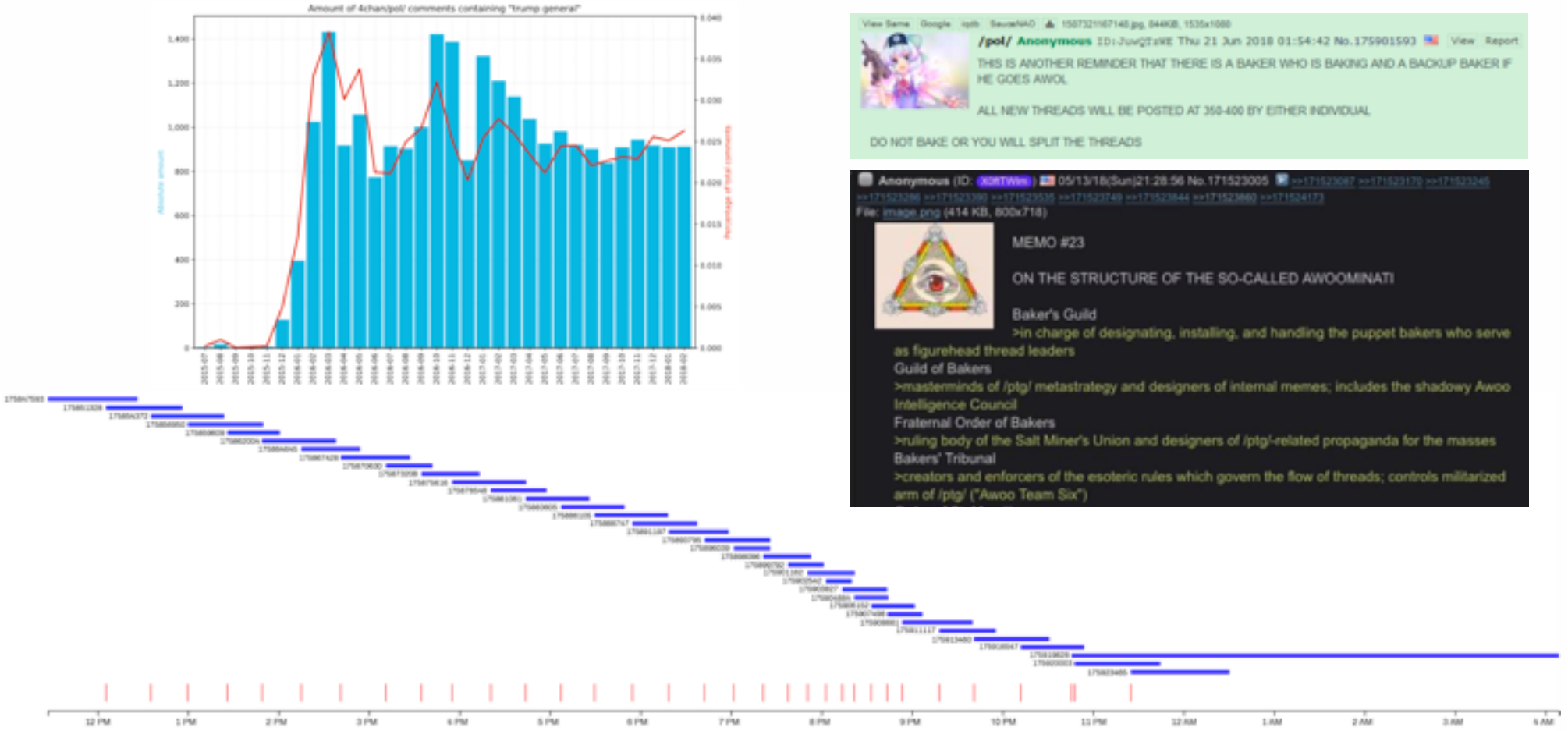
Radio provides a speed-up of information that also causes acceleration in other media. It certainly contracts the world to village size, and creates

[4] insatiable village tastes for gossip, rumor, and personal malice (p. 306)

Five among the features of secondary orality

OILAB., 2018. The Baker's Guild: The Secret Order Countering 4chan's Affordances

https://oilab.eu/the-bakers-guild-the-secret-order-countering-4chans-affordances/



(1) Redundant or copious

Hagen, Sal., 2018.
4chan/pol/ Image Walls: Memes

Pepe the Frog

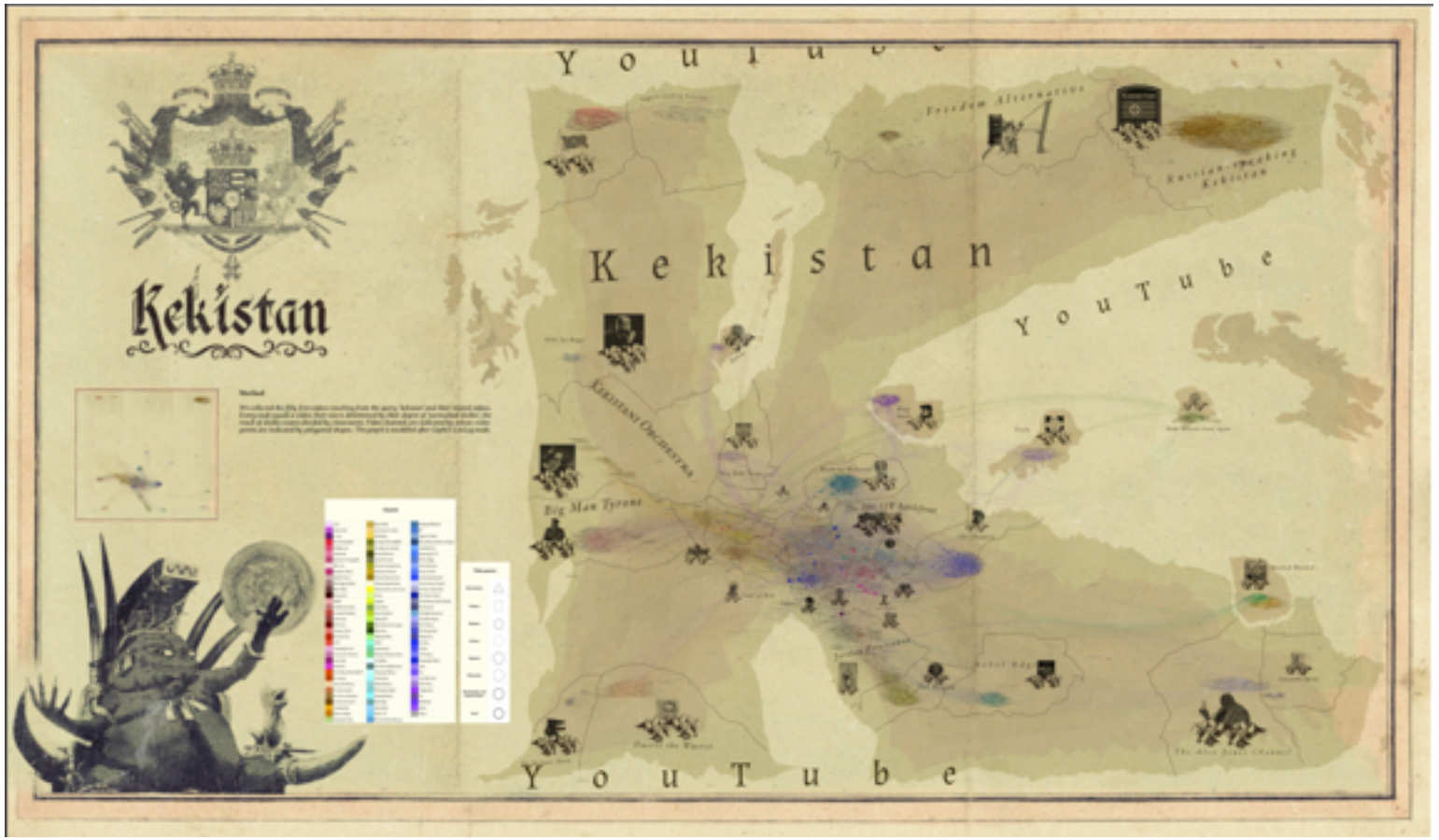
Tuters M., Hagen, S., 2018. Who are (((they)))?: On Online Hate, Tasteless Transgression, and Memetic Versatility

https://oilab.eu/who-are-they-on-online-hate-tasteless-transgression-and-memetic-versatility/

[2] Use of formulas

De Keulenaar, Emillie V., 2018. The Rise and Fall of Kekistan: A Story of Idiomatic Animus as Told Through Youtube's Related Videos

https://oilab.eu/the-rise-and-fall-of-kekistan-a-story-of-idiomatic-animus-as-told-through-the-youtube-recommender-system



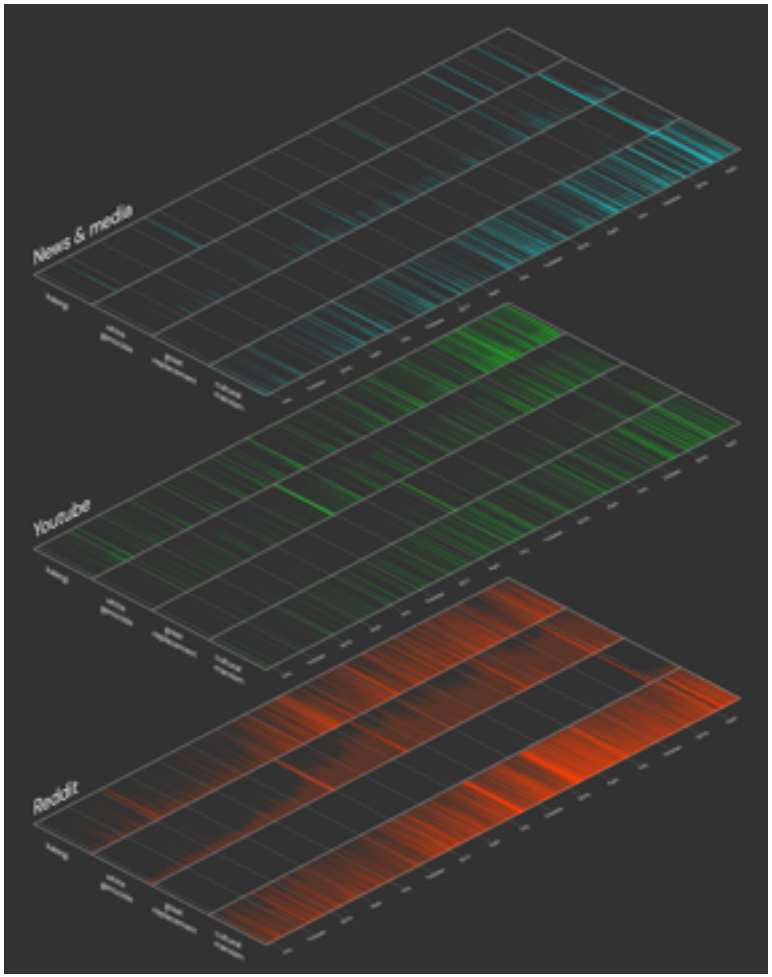
[3] participatory mystique & communal sense

Muirhead, Russel & Nancy Rosenblum. 2019.
A Lot of People Are Saying. Princeton: University Press.

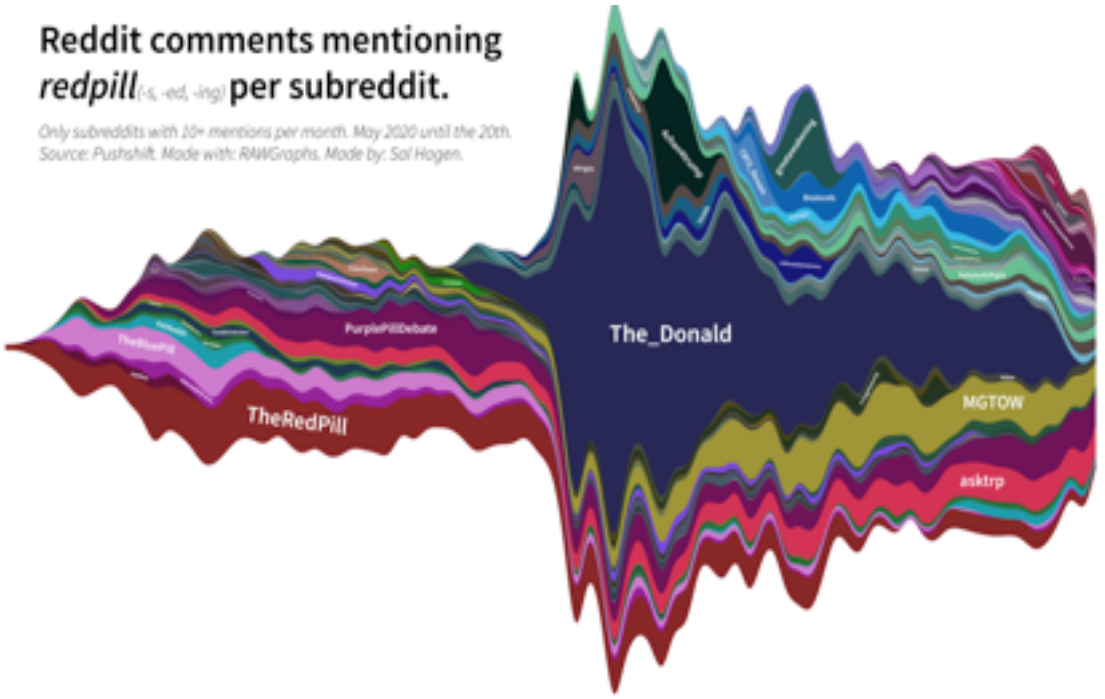
The new conspiracism is something different. There is no punctilious demand for proofs, no exhaustive amassing of evidence, no dots revealed to form a pattern, no close examination of the operators plotting in the shadows…

This is conspiracy without the theory. What validates the new conspiracism is not evidence but repetition

[4] Conspiracy [5] without the theory

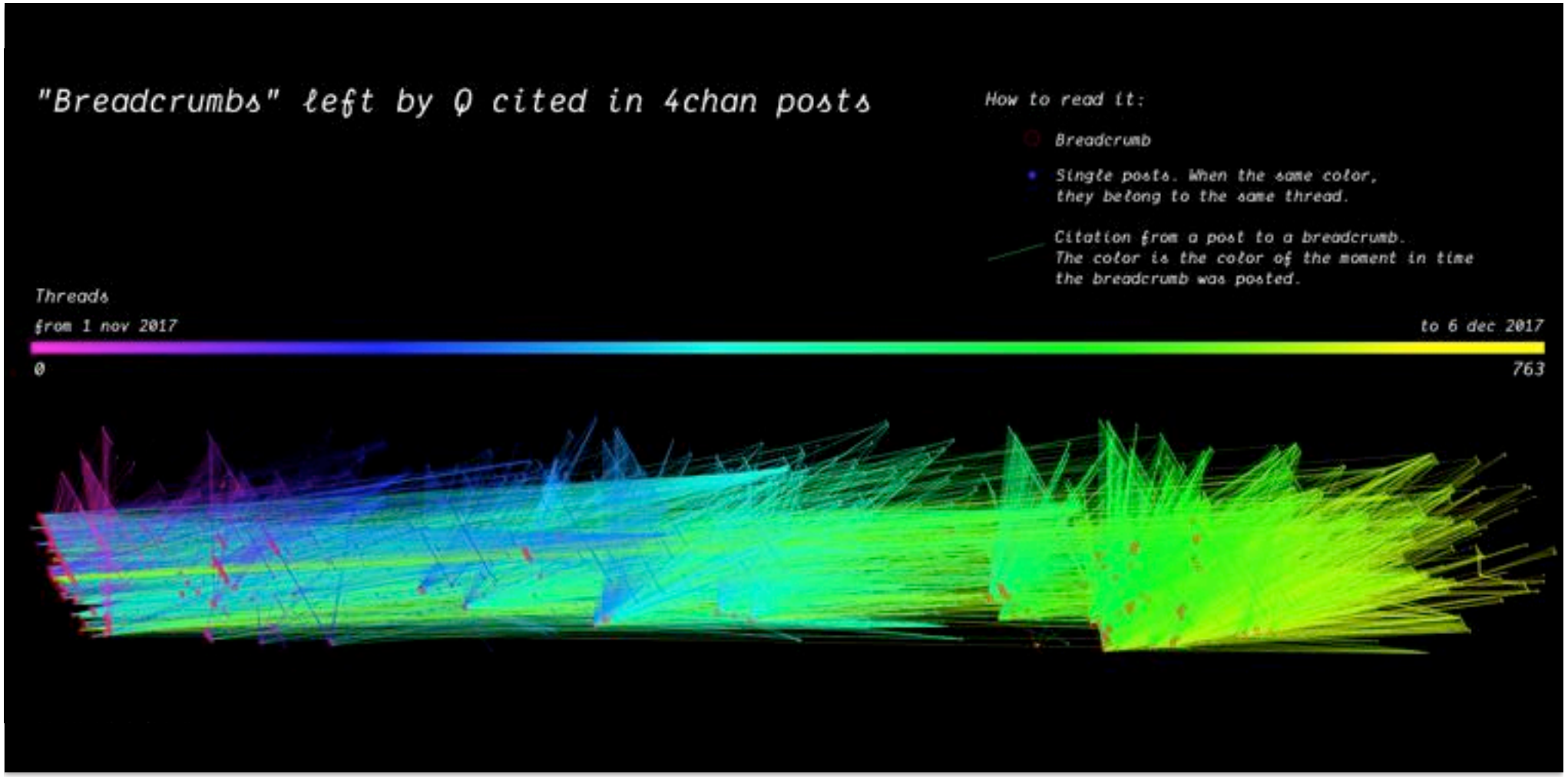


Stijn Peeters, 2020. Normiefication of extreme speech and the widening of the Overton window
https://oilab.eu/normiefication-of-extreme-speech-and-the-widening-of-the-overton-window/



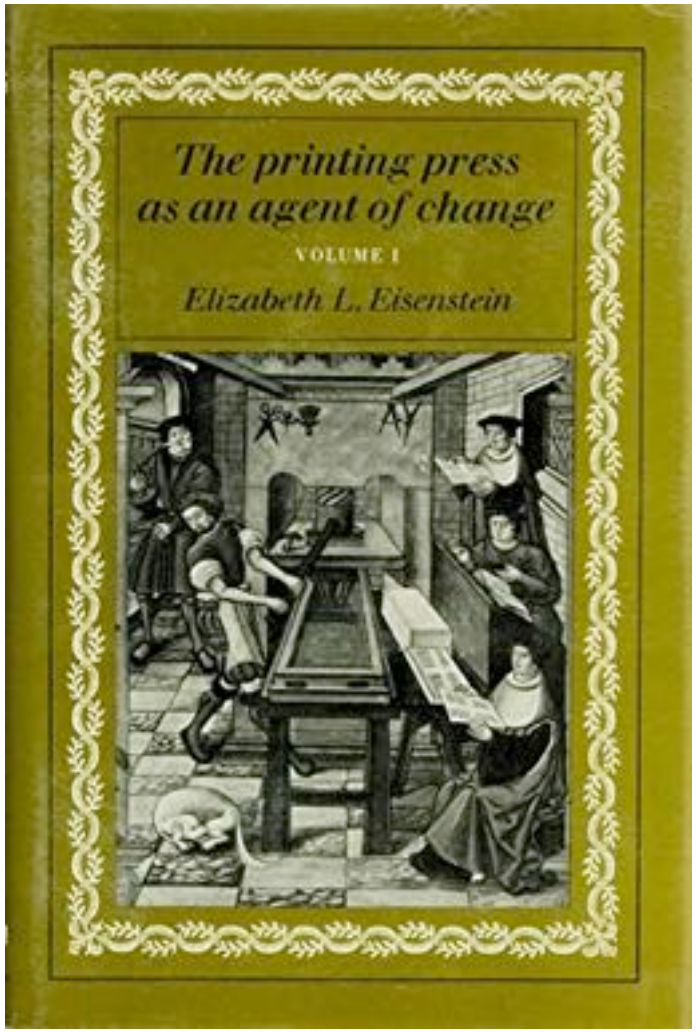
Hagen S., Tuters M. & Wilson, J., 2020. Reactionary Wokeness: How Redpilling Became a Thing on Reddit
https://oilab.eu/reactionary-wokeness-how-redpilling-became-a-thing-on-reddit/

[4] Agonistic tone (⇢ conspiracy)



Marc Tuters, 2020. The Birth of QAnon: On How 4chan Invents a Conspiracy Theory
https://oilab.eu/the-birth-of-qanon-on-how-4chan-invents-a-conspiracy-theory/

[5] Aggregative rather than analytic
(---› without theory)



Eisenstein, Elizabeth L. 1980. *The Printing Press as an Agent of Change*. Cambridge: University Press.

A disorder previously concealed by oral presentation and piecemeal copying, became more visible to copy-editors and indexers and more offensive to publishers who valued systematic routines. Classical criteria of unity, internal consistency and harmony were extended beyond orations, poems, and paintings to encompass the rearrangement of large compilations and of entire fields of study (p. 102)

By making more room for new features introduced by typography we would also be better situated to explain the timing of the application of mathematics to the problems of the natural world … By paying more attention to the duplication of pictorial statements, we might see more clearly why the life sciences no less than the physical ones were placed on a new footing (p. 686)

Theory and the printing press

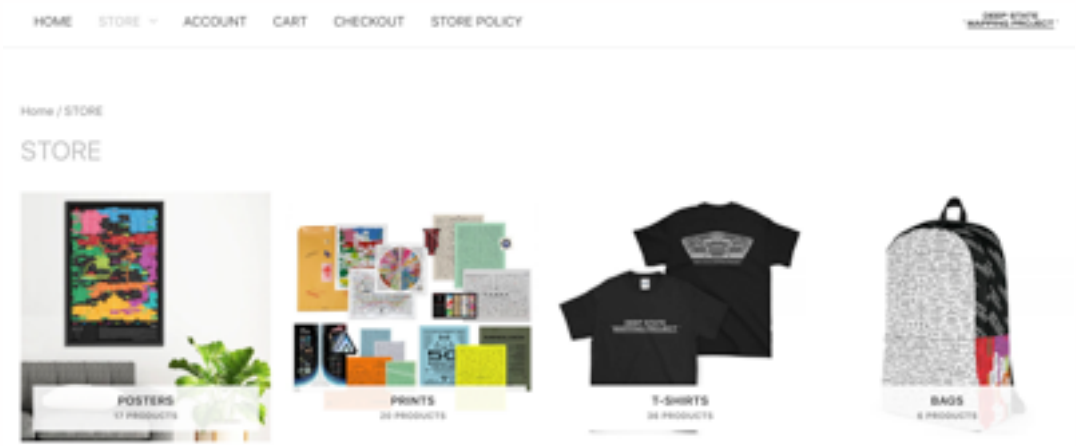
Assman, Aleida. 2006. "The Printing Press and the Internet: From a Culture of Memory to a Culture of Attention" In *Globalisation, Cultural Identities and Media Representations*, eds. Natasha Gentz and Stefan Kramer. , 11–22.

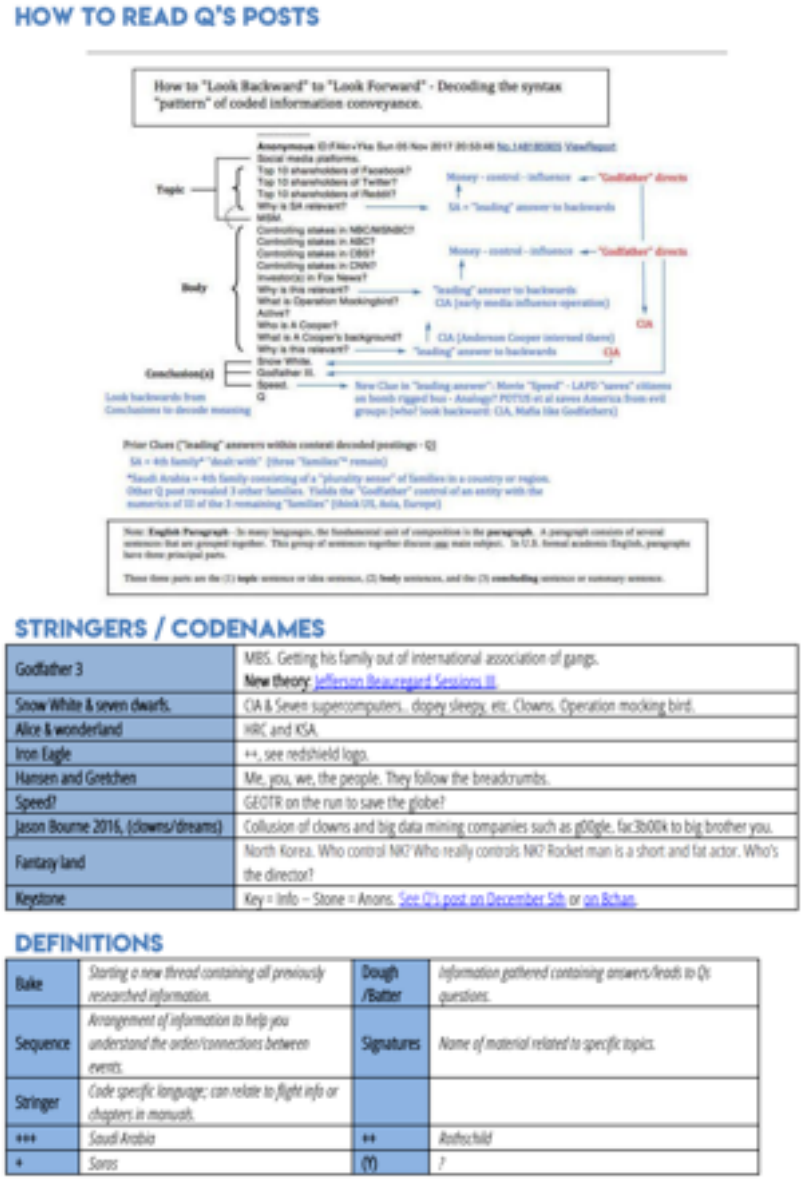
What the process of canonization was to the print culture, the intensification of attention is to the internet culture. The clusters of attention, however, are short-lived. They are whirls in the rapid flow of information, media effects that may implode at any moment. They are generated on a surface, disconnected from the material support and institutional infrastructure of a cultural memory. (p.16)

Conspiracy without the theory

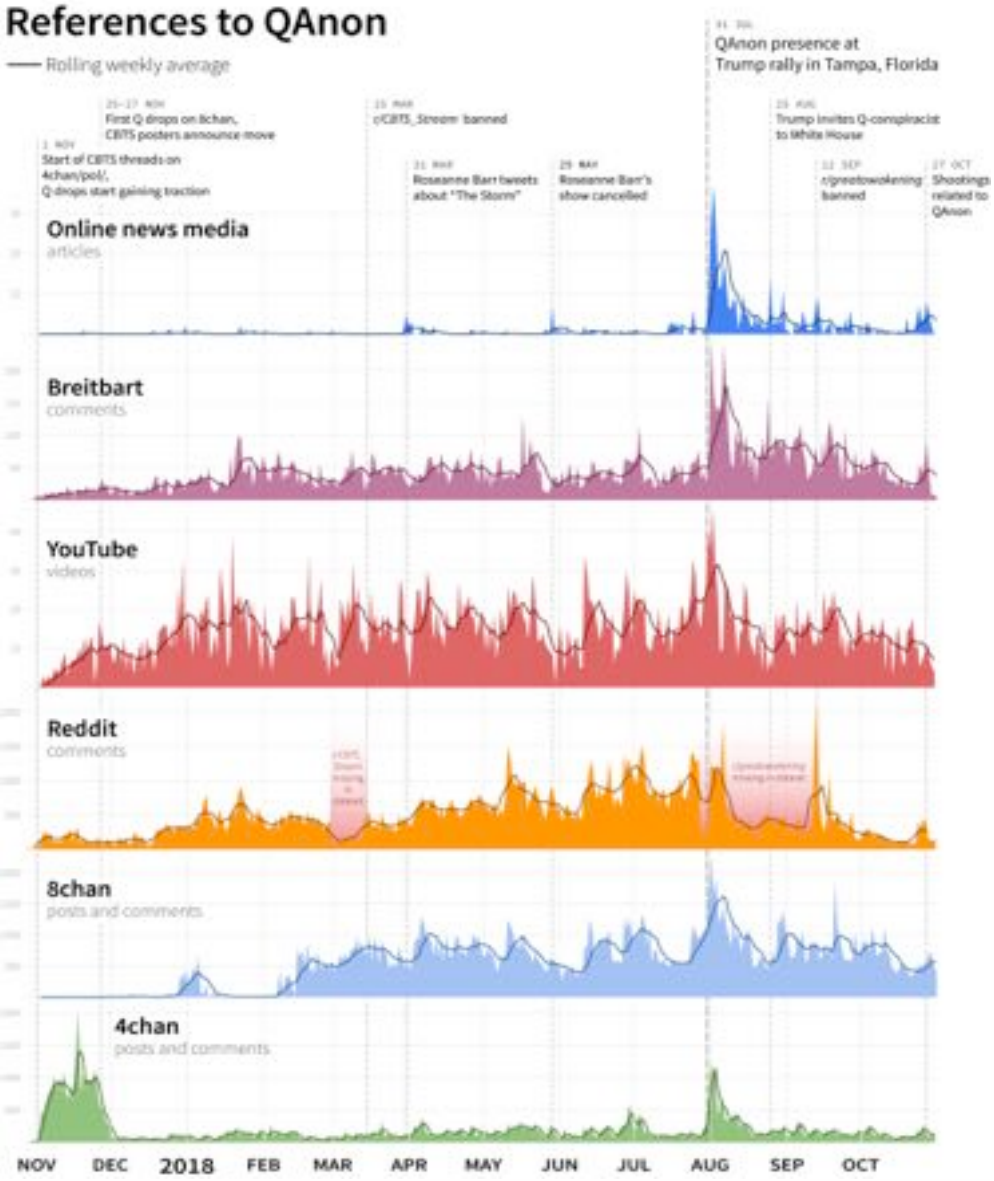
Ong, Walter S. J. 1982. Orality and Literacy.

I style the orality of a culture totally untouched by any knowledge of writing or print, 'primary orality'. It is 'primary' by contrast with the 'secondary orality' of present-day high-technology culture, in which a new orality is sustained by telephone, radio, television, and other electronic devices that depend for their existence and functioning on writing and print.





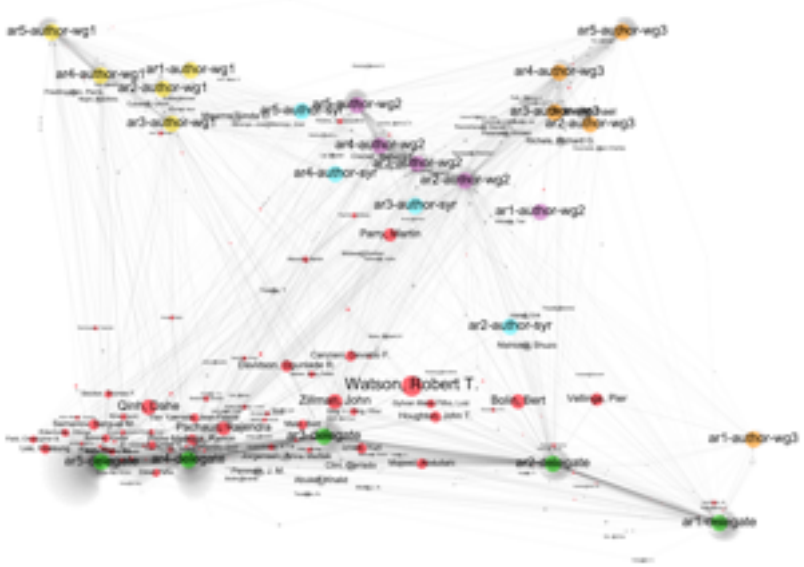
Secondary orality folklore & translation to written cultures



De Zeeuw, Da., S. Hagen, S. Peeters, & Jokubauskaite E. Tracing Normiefication: A Cross-Platform Analysis of QAnon Conspiracy Theory *First Monday* (forthcoming)

Thriving on ephemerality
(not instead of, but by means of)

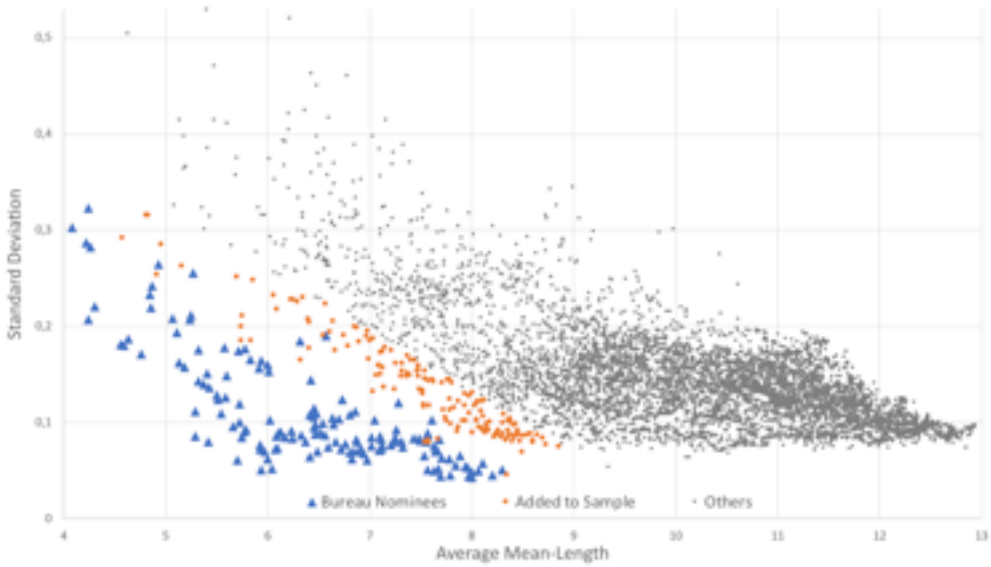
Venturini, Tommaso, Kari De Pryck, and Robert Ackland. 2020. "Bridging in Network Organisations the Case of International Panel on Climate Change (IPCC)" Under review at *Social Networks*



$$BB(n) = \sum_{i,j} \frac{|\,neighbours(i) \cup neighbours(j)\,|}{|\,neighbours(i) \cap neighbours(j)\,|}$$

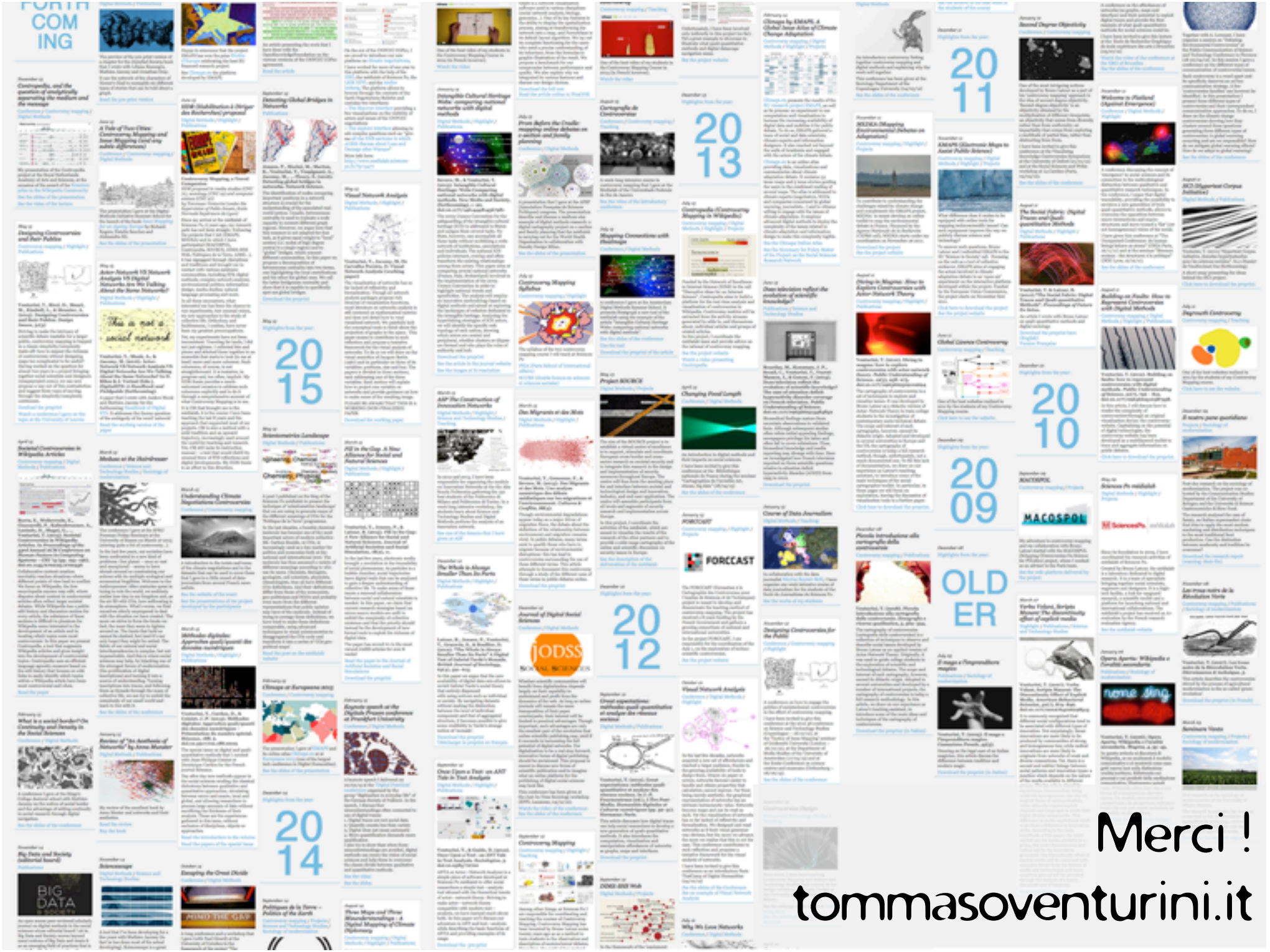
$$= \sum_{i,j} \frac{1}{Jaccard(neighbours(i), neighbours(j))}$$

Venturini, Tommaso, Tobias Blanke, and Kari De Pryck. "Similarity Sampling by Machine Learning A Social Science Experiment with Artificial Intelligence and IPCC Leadership" Under review at *Social Science Computer Review*



Two more examples of crossing in high water

I regret nothing.
Nothing.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