

Introduction

Two stylized facts of the Internet:

- 1) Great diversity of news sources.
- 2) Proliferation of disinformation.

I study a **model of information design** that connects these observations.

I show that media pluralism reduces the quality of information: the presence of many news sources and the widespread existence of misleading news are concurrent.

The reason is the endogenous formation of **echo chambers**.

Model

Bayesian persuasion model.

Three assumptions:

- 1) **Biased media:**
Information is designed to mislead news consumers.
- 2) **Heterogeneous beliefs:**
There are sceptics and believers.*
- 3) **Limited attention:**
News consumers cannot consume all information.

* All news consumers seek the most informative news.


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Results

A media solves a trade-off between persuading sceptics and retaining believers.  It designs either **hard news** or **soft news**.


Hard news have higher quality than soft news, but the media prefers soft news if either a) beliefs polarization is sufficiently strong or b) the media is not sufficiently confident to be right.

 *During the COVID-19 pandemic, communication has widely relied on weak statements such as “benefits are higher than risks” (soft news).*

In a competitive environment:

- 1) Each media designs information.
- 2) News consumers allocate their limited attention to one media.


In any equilibrium, there is at most one informative media (i.e., supplying either hard news or soft news)

 In any equilibrium there is at least one media supplying confirmatory news, that is, useless information. The audience of such a media is an echo chamber.

News consumers who cluster into an echo chamber are those with the most extreme beliefs among believers.

News consumers who cluster in an echo chamber receive **information of lower quality than in a monopoly**.

A pro-science media produces hard news, whereas a no-vax media supplies confirmatory news within its echo chamber.

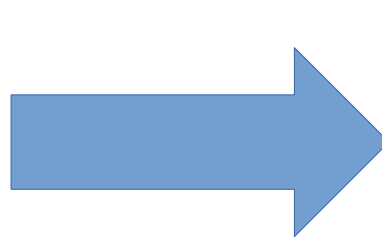
 *The existence of a large no-vax echo chamber can help explaining why herd immunity is difficult to reach.*

Conclusions

Media pluralism backfires because of limited attention.

 Support media diversity only if news consumers are sufficiently attentive to process information from diverse sources.

Echo chambers can arise even with unbiased news consumers.

 The standard narrative - that echo chambers arise because news consumers are subject to confirmation bias - could be wrong.

My model offers a rational foundation of confirmation bias.