

WARMUP EXERCISE



1] Visit the app store on your phone and install:

ChatGPT The official app by Open AI

2] Create your account

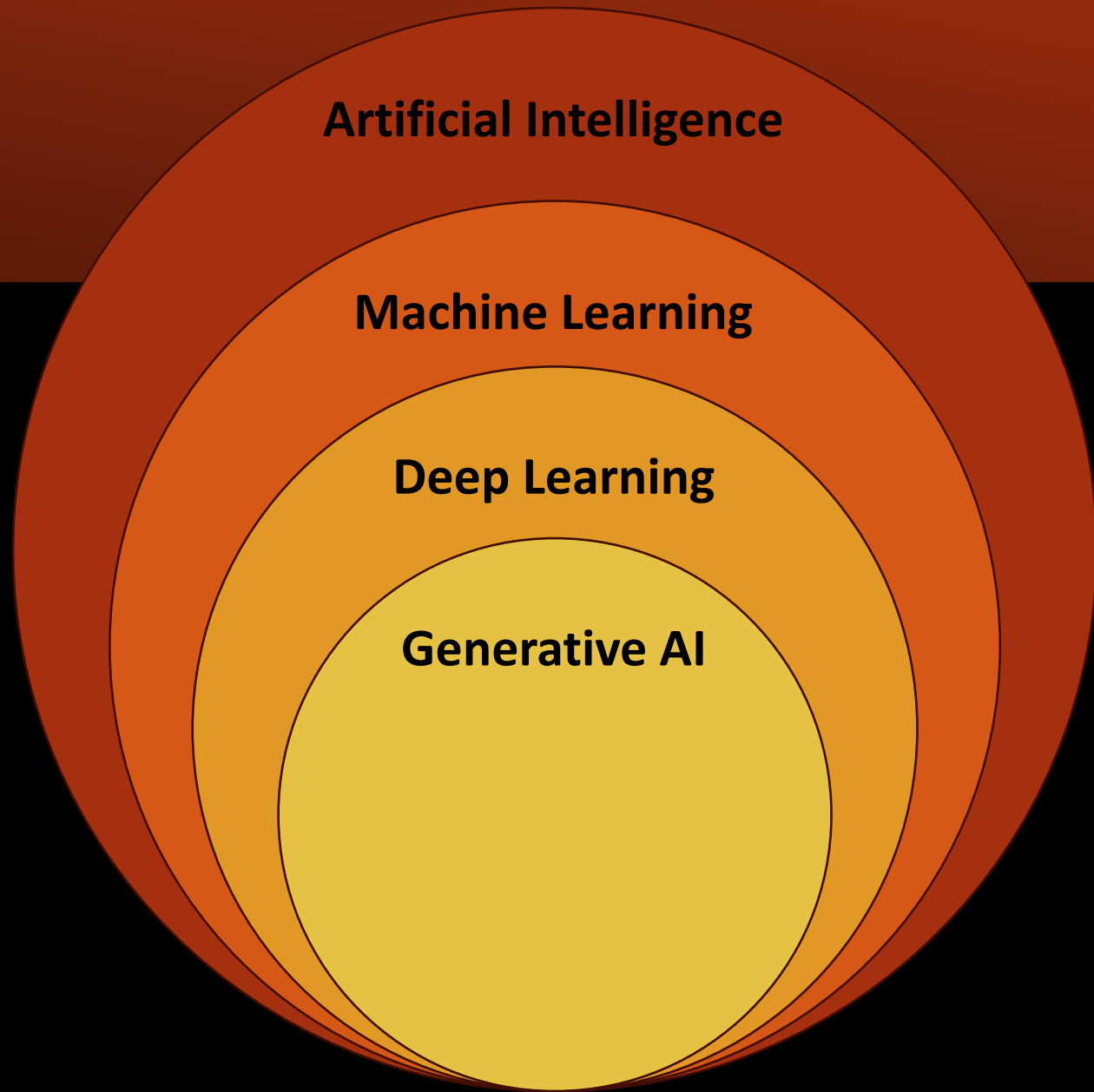
3] Experiment with some of these prompts:

- What is your working definition of AI?
- What industries will be improved most by AI?
- What industries will be disrupted most by AI?
- How can AI improve education?

My goal is to help
you see the invisible
influence artificial
intelligence already
has in your life.







Applications of Generative AI:

- **Generating text**
- **Generating images or video**
- **Generating voices or music**
- **Generating computer code**
- **Generating 3D models**

Concept:
Artificial Intelligence



Simple definition:

Computer systems that
complete tasks normally
requiring human intelligence

Concept: Machine Learning



Simple definition:

A branch of AI that enables computer systems to improve based on experience

Concept: Deep Learning



Simple definition:

A subset of machine learning based on Artificial Neural Networks which simulate the biological neural networks found in the brain

Concept: Generative AI



Simple definition:

A type of Artificial Neural Network that generates data similar to the data on which it was trained

Training Data



Probability-weighted associations

Output



Midjourney prompt:

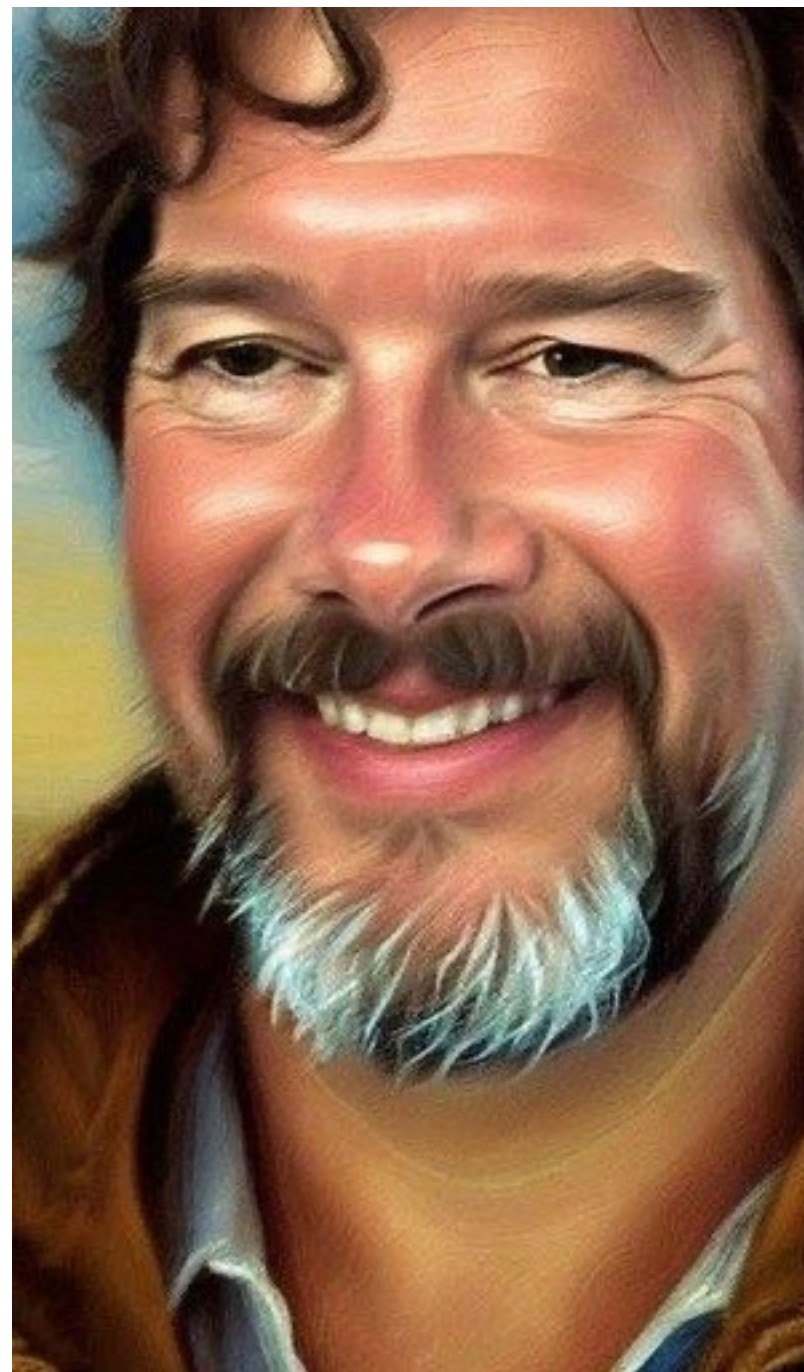
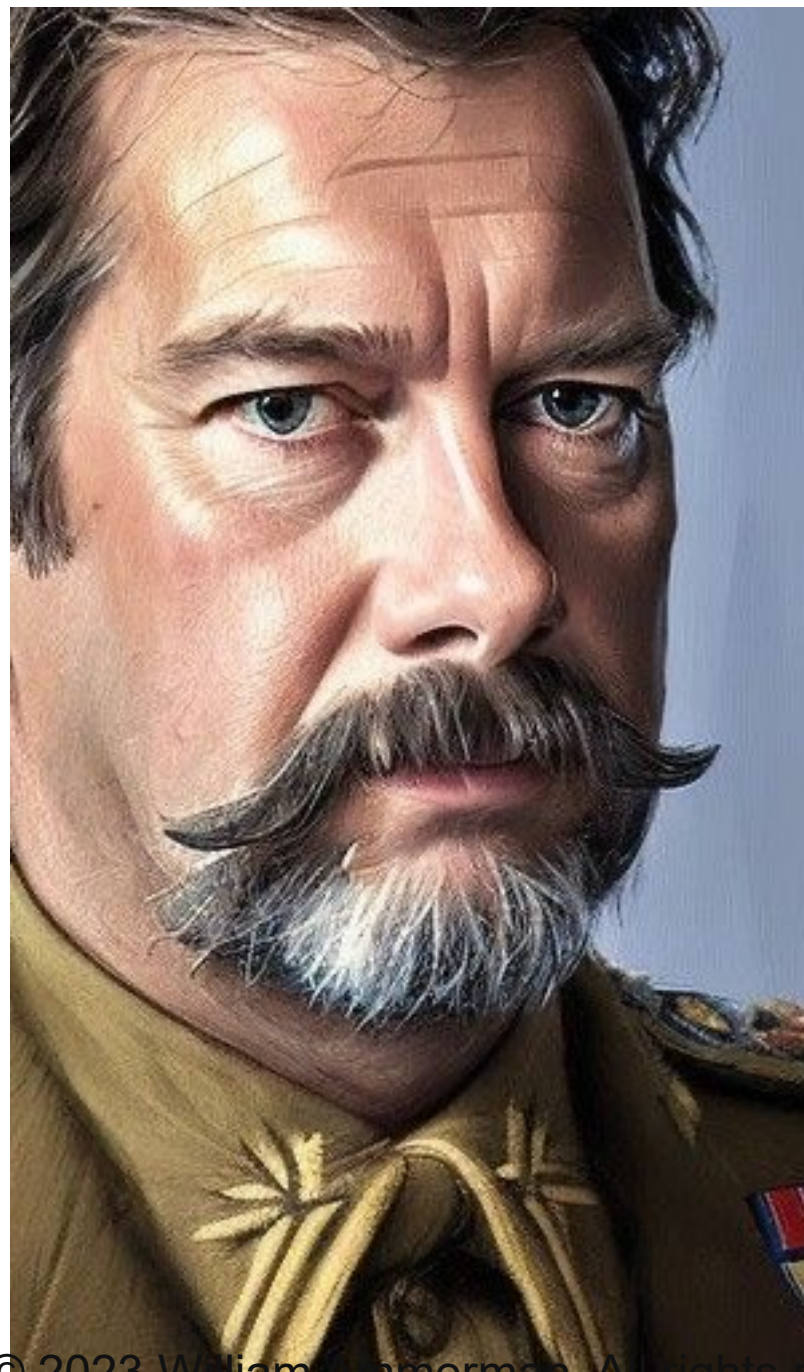
Polar bear riding a unicycle on the moon in the style of Salvador Dali



Midjourney prompt:

Snowy gothic
cathedral in the style
of Wes Anderson





My first conversation with GPT-3 from OpenAI:

Are you more like a parrot or a genius?

I am more like a parrot because I can remember and repeat information, but I am not as intelligent as a genius.

That's a pretty intelligent answer. Am I more like a parrot or a genius?

You are more like a genius because you are more intelligent than a parrot.

It is flattering that you think I am more intelligent than a parrot. Have you heard of the Turing test?

Yes. I have heard of the Turing test.

Do you know whether I am a human or a computer?

No, I do not know whether you are a human or a computer.

What did I tell you earlier?

You told me that you are a human.

Does that mean that I am a human?

No, it does not necessarily mean that you are a human.

*We have learned to
mix sand and lightning
so we can talk to it,
and it talks back.*





1

Personalization of information

2

Persuasion as a Science

3

Machine Learning

4

Natural Language Processing

4 technology trends
powered by
artificial intelligence

1

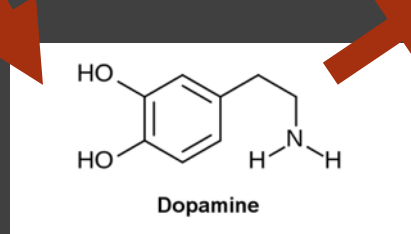
Personalization of information



The World Wide Web transformed mass media by allowing brands to personalize their messaging to individuals based on data about what we like, where we go, and who we know.

2

Persuasion as a Science



3

Machine Learning

Algorithms no longer simply predict. They prescribe and improve. Machines are now learning to persuade us using personalized information.



4

Natural Language Processing

We are now talking to machines that learn to persuade us using personalized information.



Hey Siri



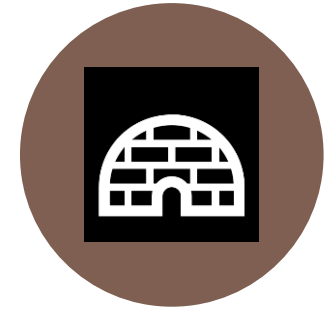
TELL ME A KNOCK-
KNOCK JOKE.



SING ME A SONG.



TELL ME A STORY.



CAN YOU BEATBOX
FOR ME?

Personalized
Persuasive
Power

“We have reached the intersection where the science of persuasion and the technology to deliver personalized messaging on a mass scale are colliding at breathtaking speeds.”

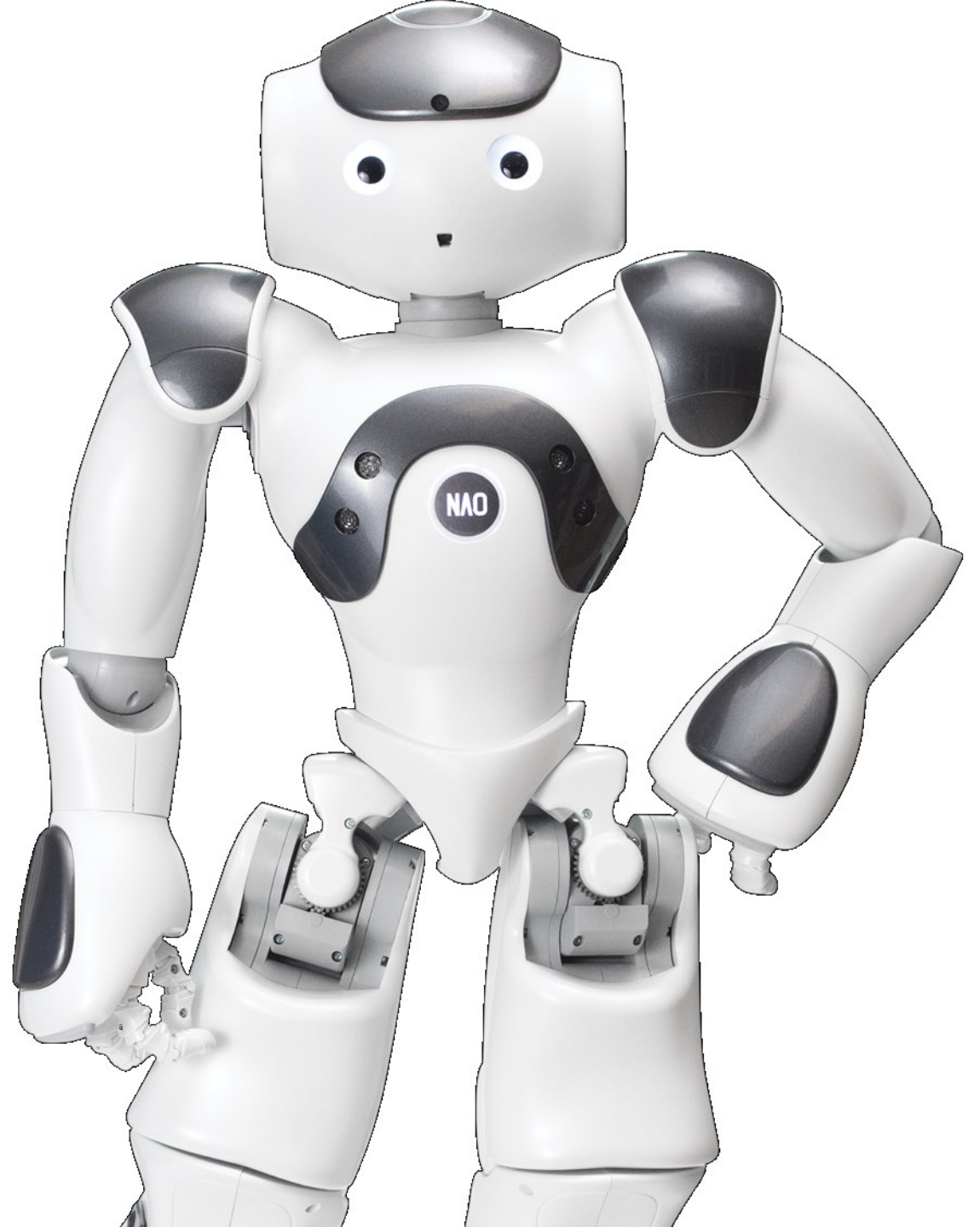
-from The Invisible Brand

This technology hacks
our empathy and
operates on us
psychologically.



The Media Equation and Nao

- In 1996, Byron Reeves and Clifford Nass published *The Media Equation* in which they theorized that people relate to computers like real people.



Psychological Technology



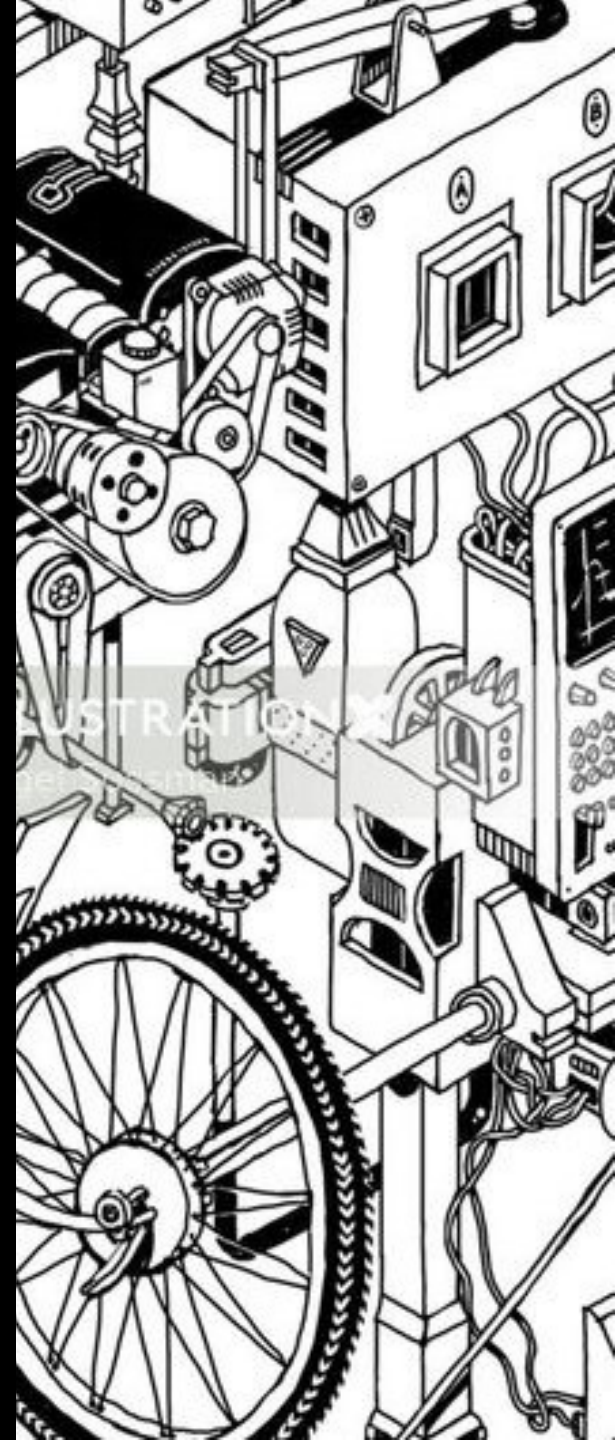
“Psychotechnology”

- Personalized
- Persuasive
- Able to learn
- Humanlike



“With great power comes great responsibility.”
-The Peter Parker Principle, Stan Lee

Groupthink Automation





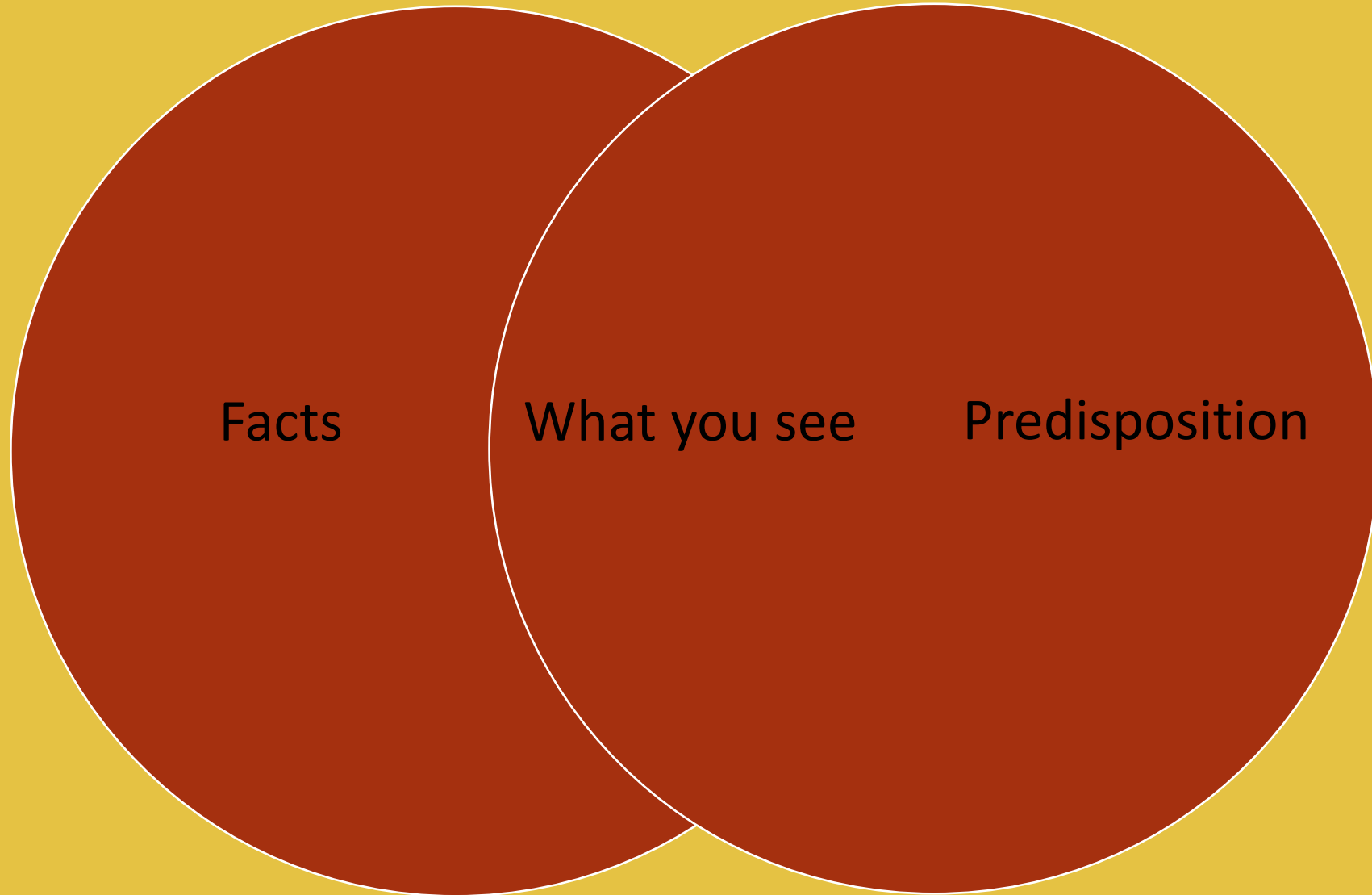
Psychotechnology
exploits your
vulnerabilities and
controls the flow of
information to keep you
addicted to your screens.

We are vulnerable to cognitive biases, which are systematic errors in thinking.

Confirmation biases, filter bubbles, framing effects, and out-group animosity are just some of the cognitive biases exploited by psychotechnology.

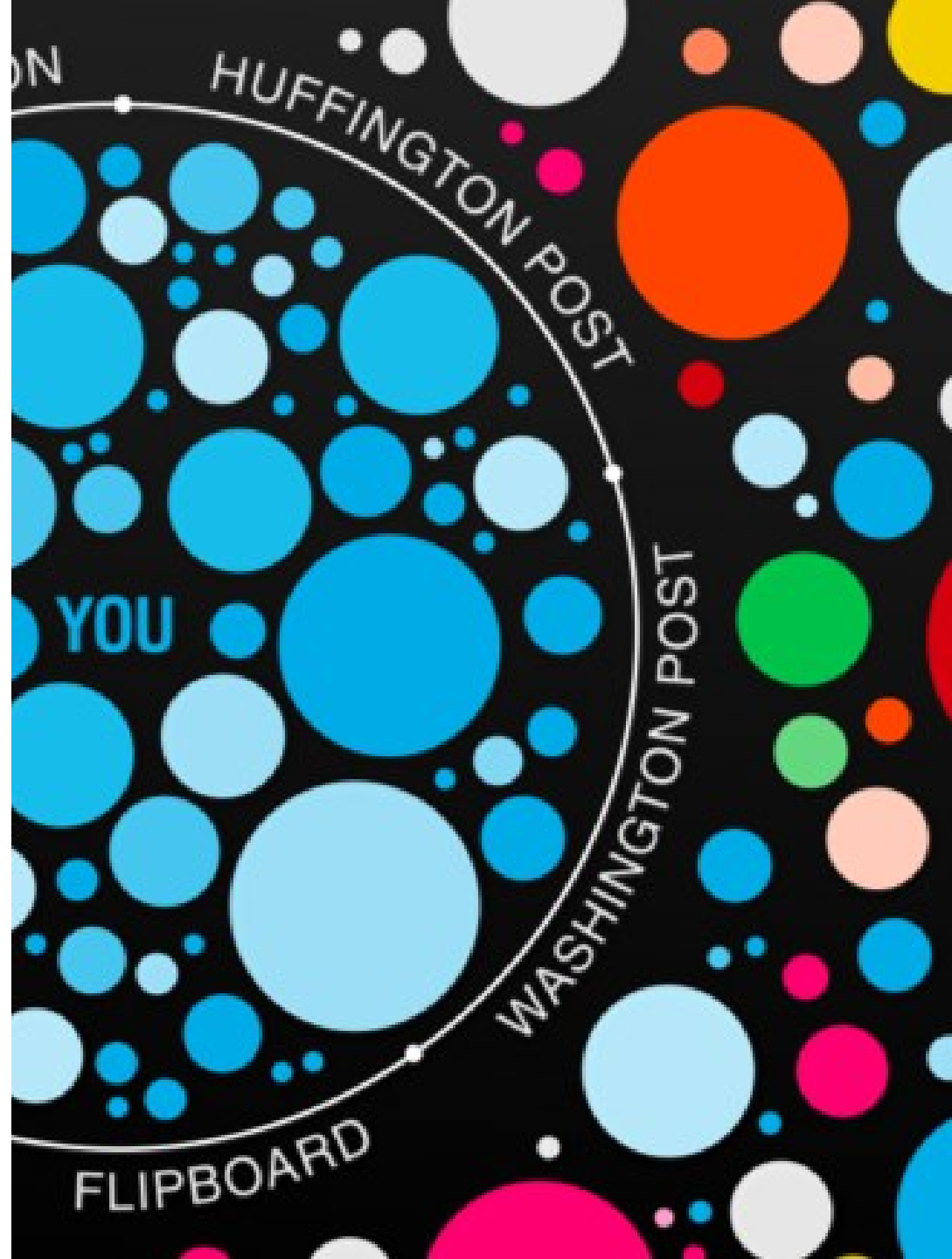


Confirmation Bias



We are attracted to facts that confirm our bias.

Media algorithms surround us with filter bubbles which confirm our biases.





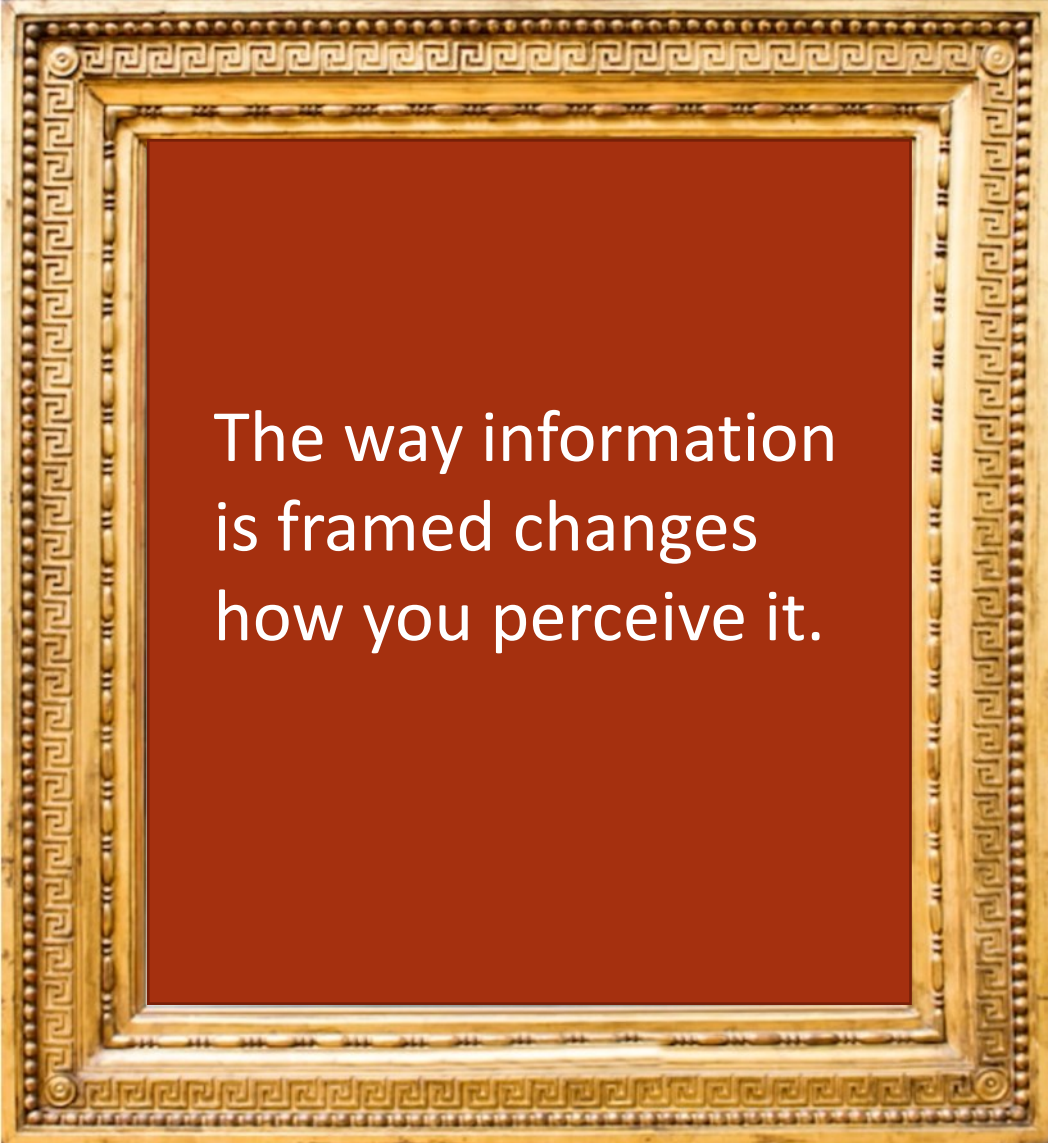
Media algorithms have turned the Internet into a House of Mirrors



Digital Dopamine

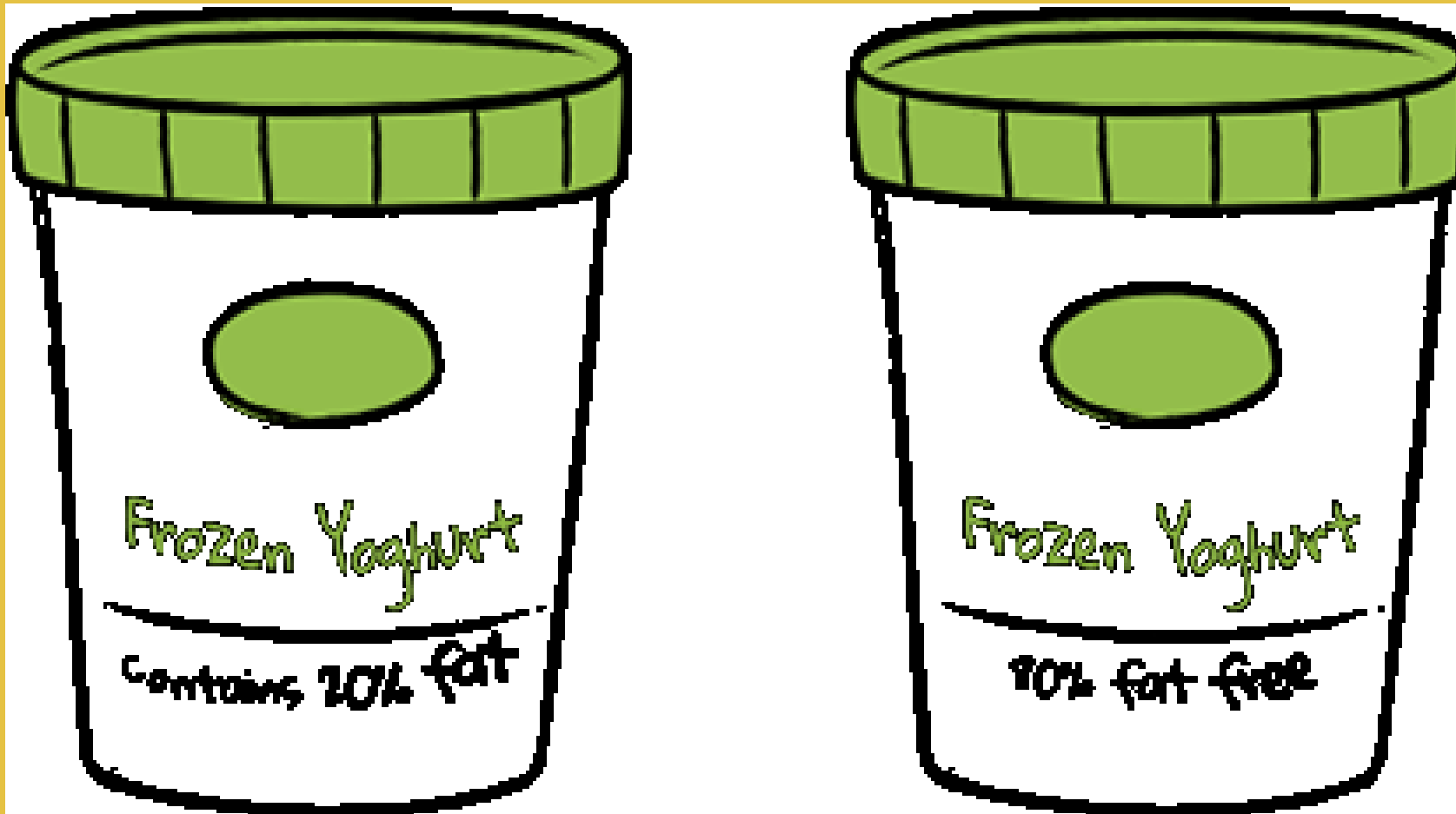
Media algorithms surround you with information you like because their goal is to keep you on your screen.

The Framing Effect

A gold-colored frame with a Greek key pattern surrounding a red square containing text.

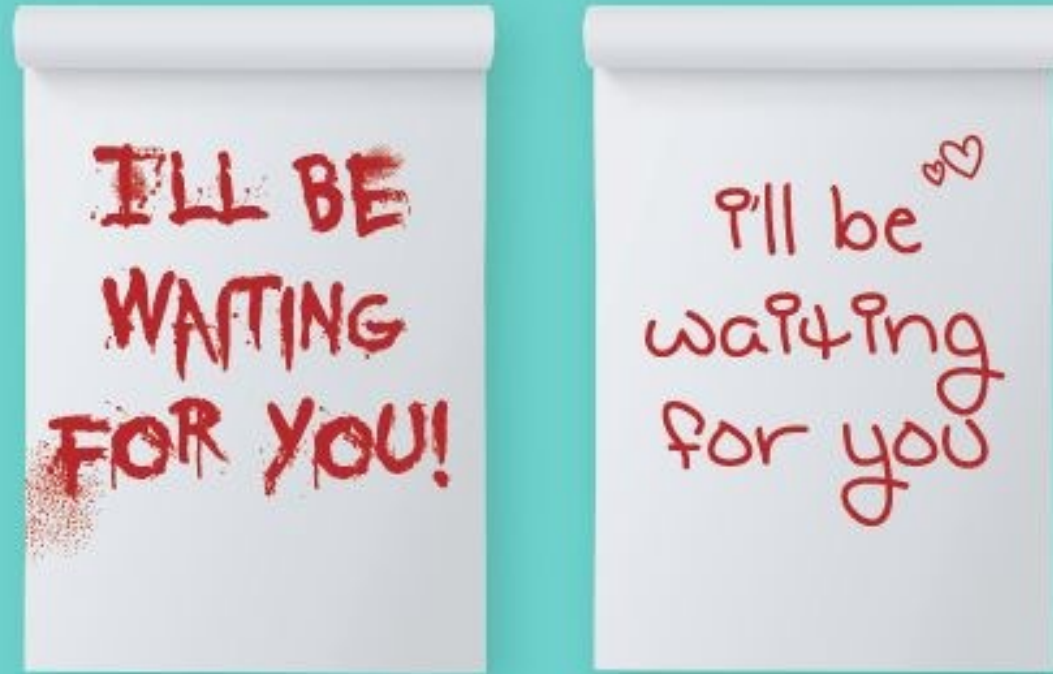
The way information
is framed changes
how you perceive it.



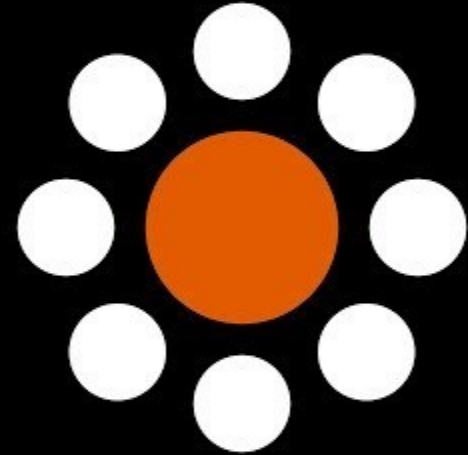
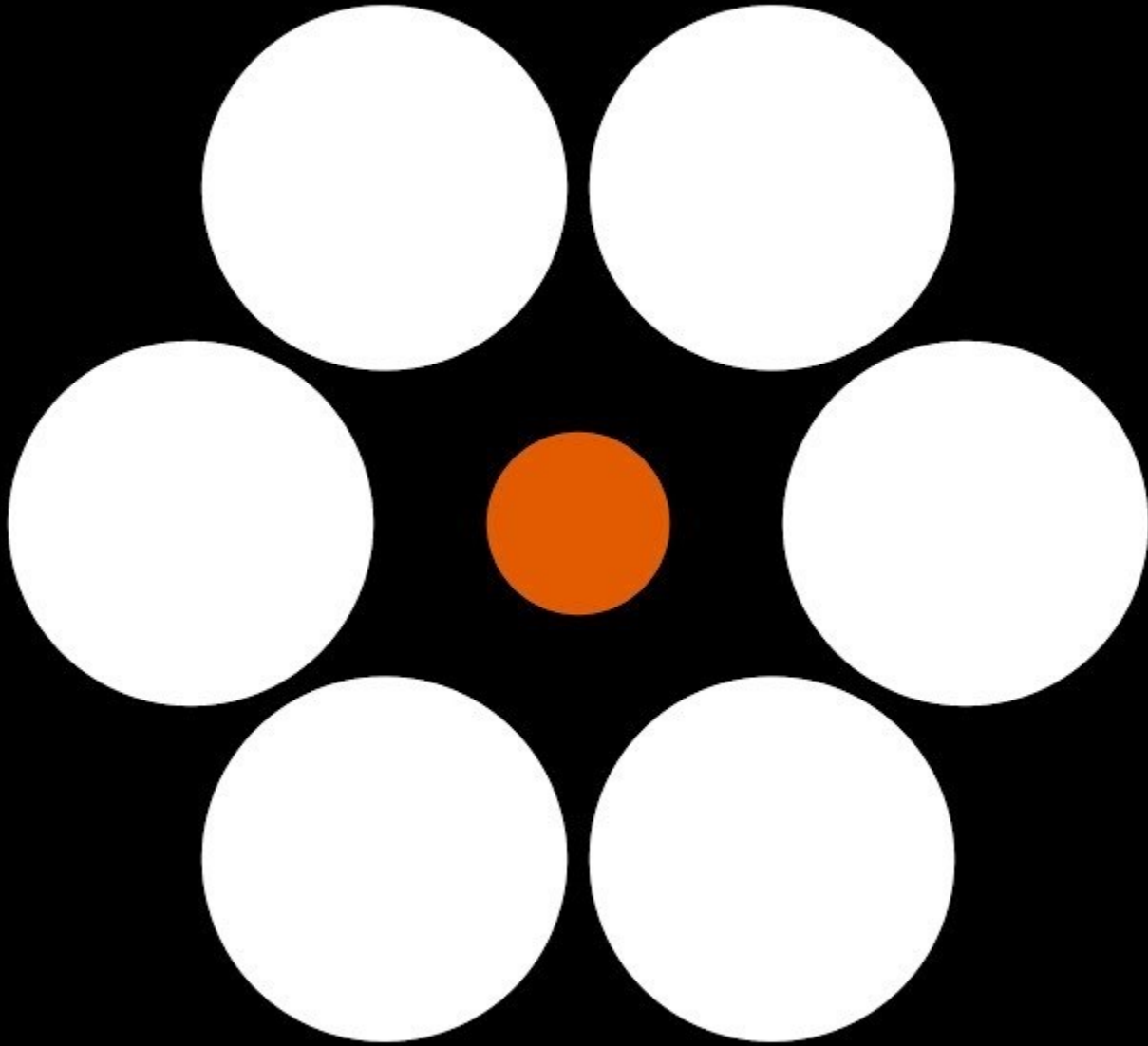


Framing influences how you spend money.

Framing changes how you perceive identical pieces of information.



FONT CHOICE **MATTERS**



Framing changes your perception of the physical world.

A 2021 study published in the Proceedings of the National Academy of Sciences concluded that negative posts about out-groups were shared on social media twice as often as posts about the in-group.

Language about the out-groups was a very strong predictor of angry reactions.

Out-group animosity drives engagement on social media

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Edited by James N. Druckman, Northwestern University, Evanston, IL, and accepted by Editorial Board Member Jennifer A. Richeson May 15, 2021 (received for review November 24, 2020)

There has been growing concern about the role social media plays in political polarization. We investigated whether out-group animosity was particularly successful at generating engagement on two of the largest social media platforms: Facebook and Twitter. Analyzing posts from news media accounts and US congressional members ($n = 2,730,215$), we found that posts about the political out-group were shared or retweeted about twice as often as posts about the in-group. Each individual term referring to the political out-group increased the odds of a social media post being shared by 67%. Out-group language consistently emerged as the strongest predictor of shares and retweets: the average effect size of out-group language was about 4.8 times as strong as that of negative affect language and about 6.7 times as strong as that of moral-emotional language—both established predictors of social media engagement. Language about the out-group was a very strong predictor of “angry” reactions (the most popular reactions across all datasets), and language about the in-group was a strong predictor of “love” reactions, reflecting in-group favoritism and out-group derogation. This out-group effect was not moderated by political orientation or social media platform, but stronger effects were found among political leaders than among news media accounts. In sum, out-group language is the strongest predictor of social media engagement across all relevant predictors measured, suggesting that social media may be creating perverse incentives for content expressing out-group animosity.

social media | polarization | intergroup | out-group | social identity

According to a recent article in the Wall Street Journal, a Facebook research team warned the company in 2018 that their “algorithms exploit the human brain’s attraction to divisiveness.” This research was allegedly shut down by Facebook executives, and Facebook declined to implement changes proposed by the research team to make the platform less divisive (1). This article is consistent with concerns that social media might be incentivizing the spread of polarizing content. For instance, Twitter CEO Jack Dorsey has expressed concern about the popularity of “dunking” (i.e., mocking or denigrating one’s enemies) on the platform (2). These concerns have become particularly relevant as social media rhetoric appears to have incited real-world violence, such as the recent storming of the US Capitol (3). We sought to investigate whether out-group animosity was associated with increased virality on two of the largest social media platforms: Facebook and Twitter.

A growing body research has examined the potential role of social media in exacerbating political polarization (4, 5). A large portion of this work has centered on the position that social media sorts us into “echo chambers” or “filter bubbles” that selectively expose people to content that aligns with their preexisting beliefs (6–11). However, some recent scholarship questions whether the “echo chamber” narrative has been exaggerated (12, 13). Some experiments suggest that social media can indeed increase polarization. For example, temporarily deactivating Facebook can reduce polarization on policy issues (14). However, other work suggests that polarization has grown the most among older demographic

groups, who are the least likely to use social media (15), albeit the most likely to vote. As such, there is an open debate about the role of social media in political polarization and intergroup conflict.

Other research has examined the features of social media posts that predict “virality” online. Much of the literature focuses on the role of emotion in social media sharing. High-arousal emotions, whether they are positive (e.g., awe) or negative (e.g., anger or outrage), contribute to the sharing of content online (16–20). Tweets expressing moral and emotional content are more likely to be retweeted within online political conversations, especially by members of one’s political in-group (21, 22). On Facebook, posts by politicians that express “indignant disagreement” receive more likes and shares (23), and negative news tends to spread farther on Twitter (24). Moreover, false rumors spread farther and faster on Twitter than true ones, especially in the domain of politics, possibly because they are more likely to express emotions such as surprise and fear (25).

Yet, to our knowledge, little research has investigated how social identity motives contribute to online virality. Group identities are hypersalient on social media, especially in the context of online political or moral discussions (26). For example, an analysis of Twitter accounts found that people are increasingly categorizing themselves by their political identities in their Twitter bios over time, providing a public signal of their social identity (27). Additionally, since sharing behavior is public, it can reflect self-conscious identity presentation (28, 29). According to social identity theory (30) and self-categorization theory (31), when group

Significance

Almost four billion people around the world now use social media platforms such as Facebook and Twitter, and social media is one of the primary ways people access news or receive communications from politicians. However, social media may be creating perverse incentives for divisive content because this content is particularly likely to go “viral.” We report evidence that posts about political opponents are substantially more likely to be shared on social media and that this out-group effect is much stronger than other established predictors of social media sharing, such as emotional language. These findings contribute to scholarly debates about the role of social media in political polarization and can inform solutions for creating healthier social media environments.

Author contributions: S.R., J.J.V.B., and S.v.d.L. designed research; S.R. performed research; S.R. analyzed data; and S.R., J.J.V.B., and S.v.d.L. wrote the paper.

The authors declare no competing interest.

This article is a PNAS Direct Submission. J.N.D. is a guest editor invited by the Editorial Board.

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This article contains supporting information online at <https://www.pnas.org/lookup/suppl/doi:10.1073/pnas.2024292118/-DCSupplemental>.

Published June 23, 2021.

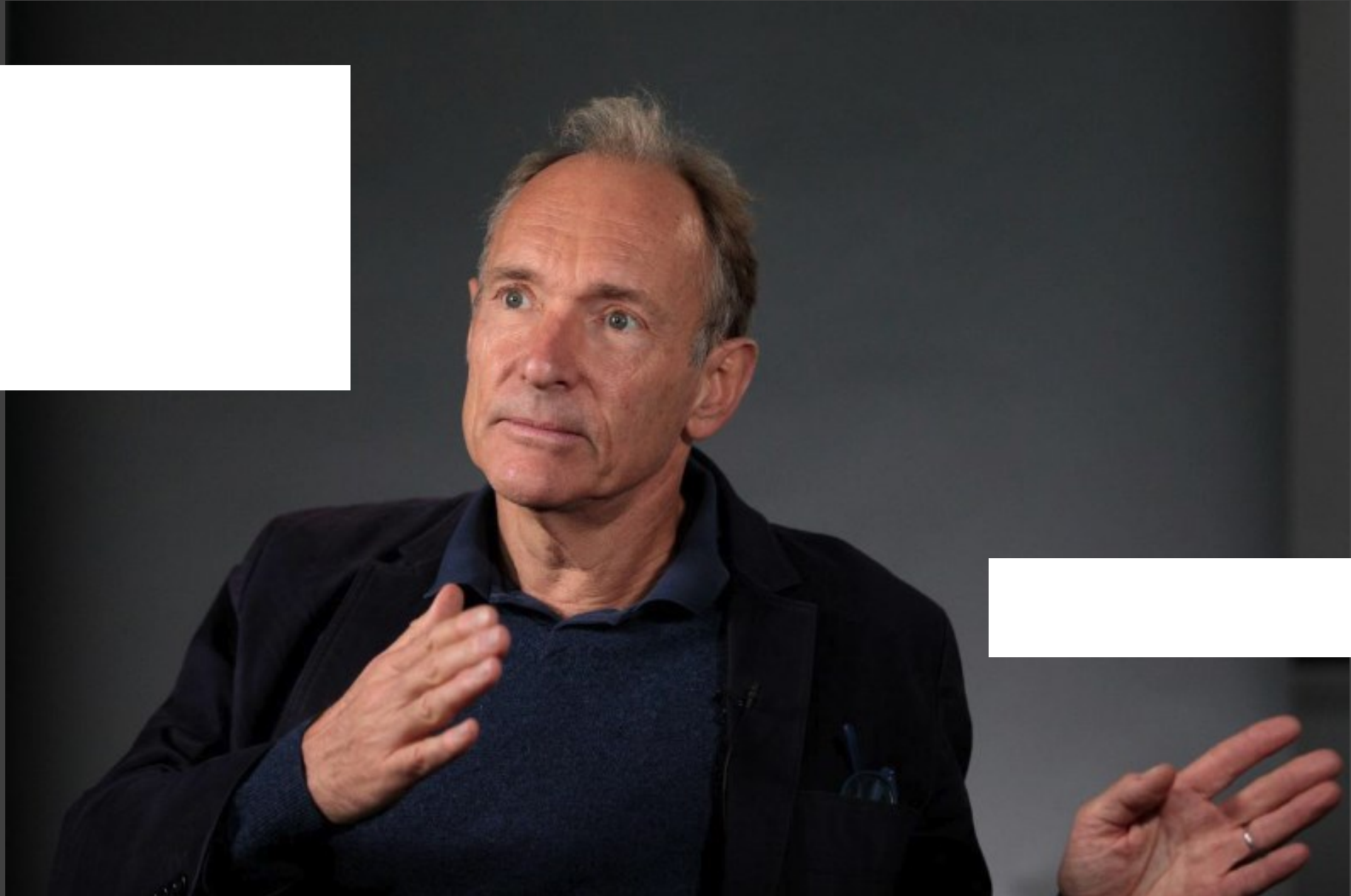


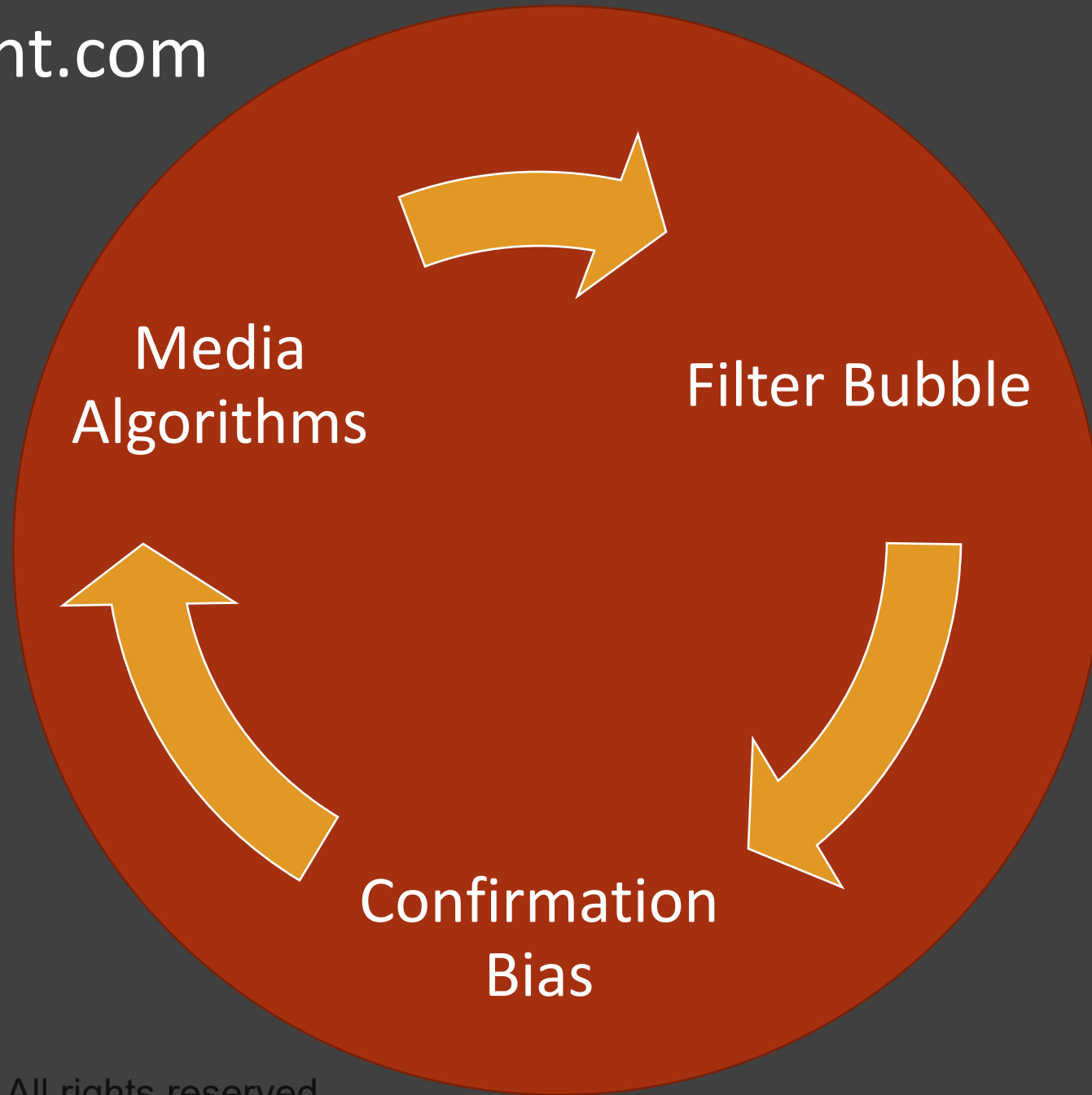
The terms “in-group” and “out-group” are social science terms.



My group is the in-group.

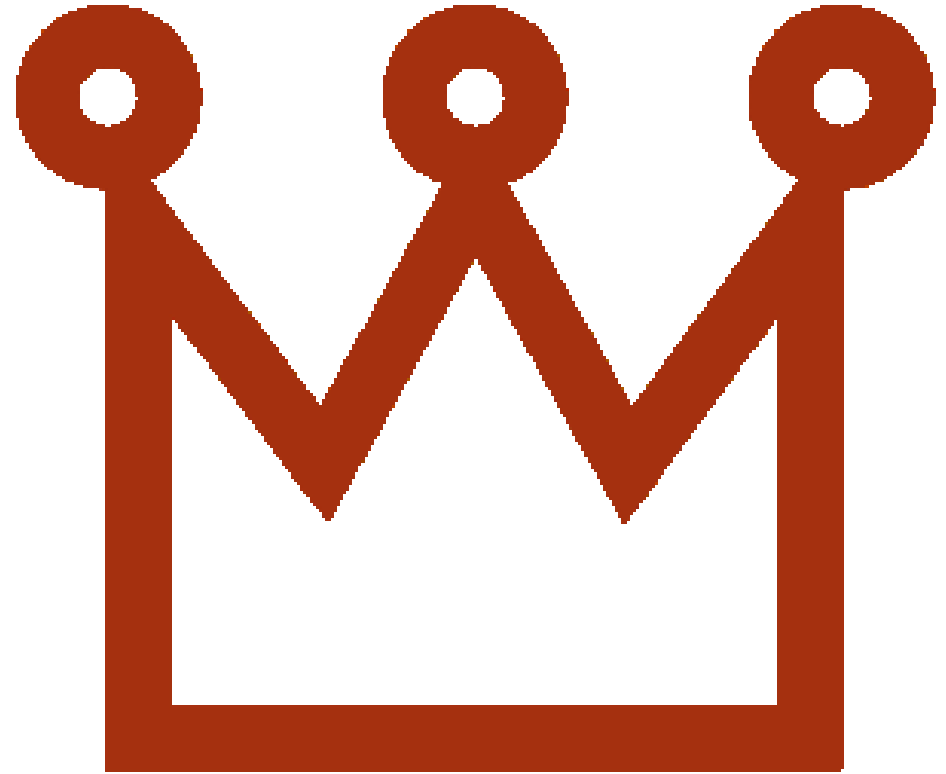
Those horrible, nasty, wrong-headed others are the out-group.





You are living in this reference frame.

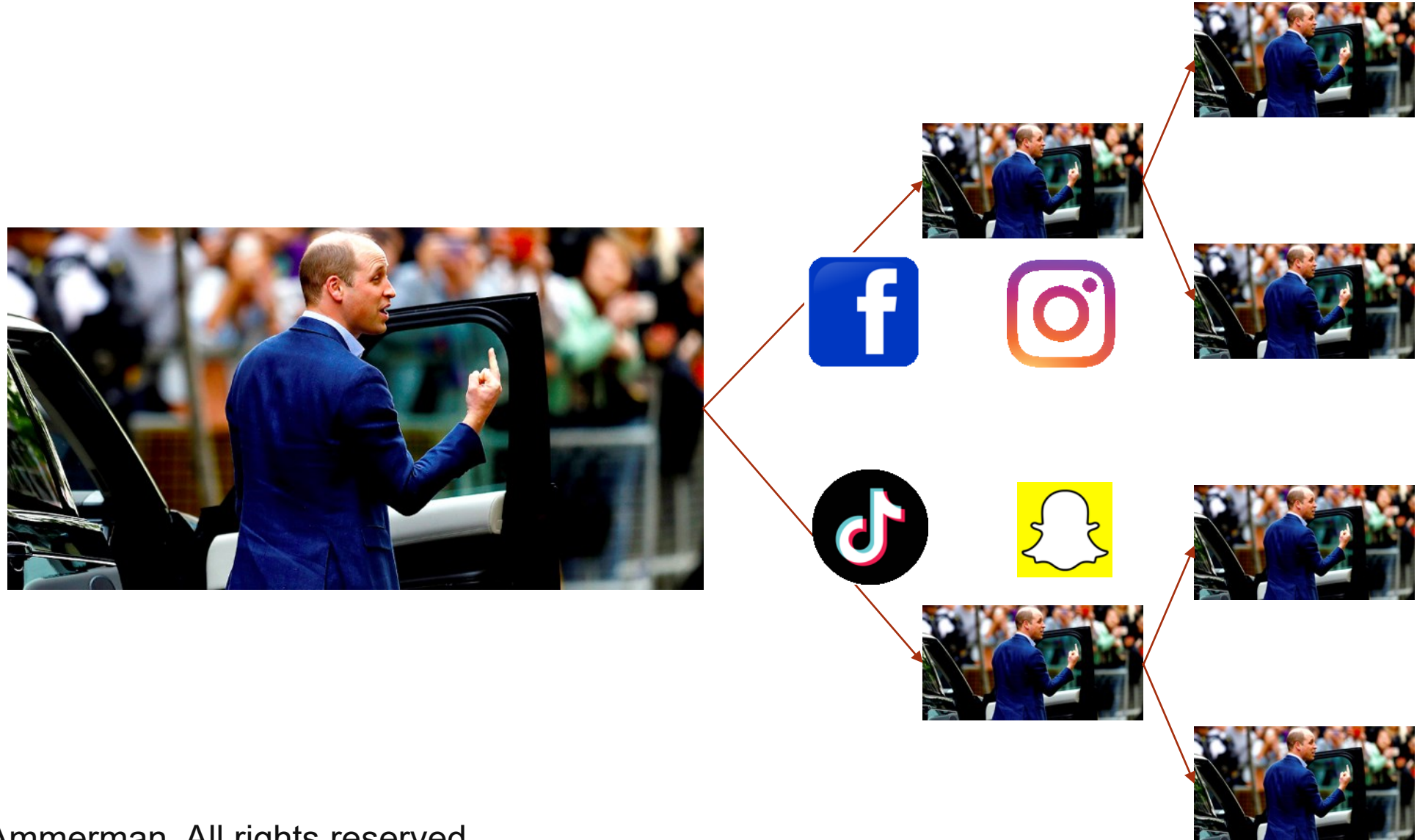
“The Prince William Effect”



Step 1: Out-group animosity causes an image to be shared.



Step 2: Social media algorithms push the shared image to the likeminded.



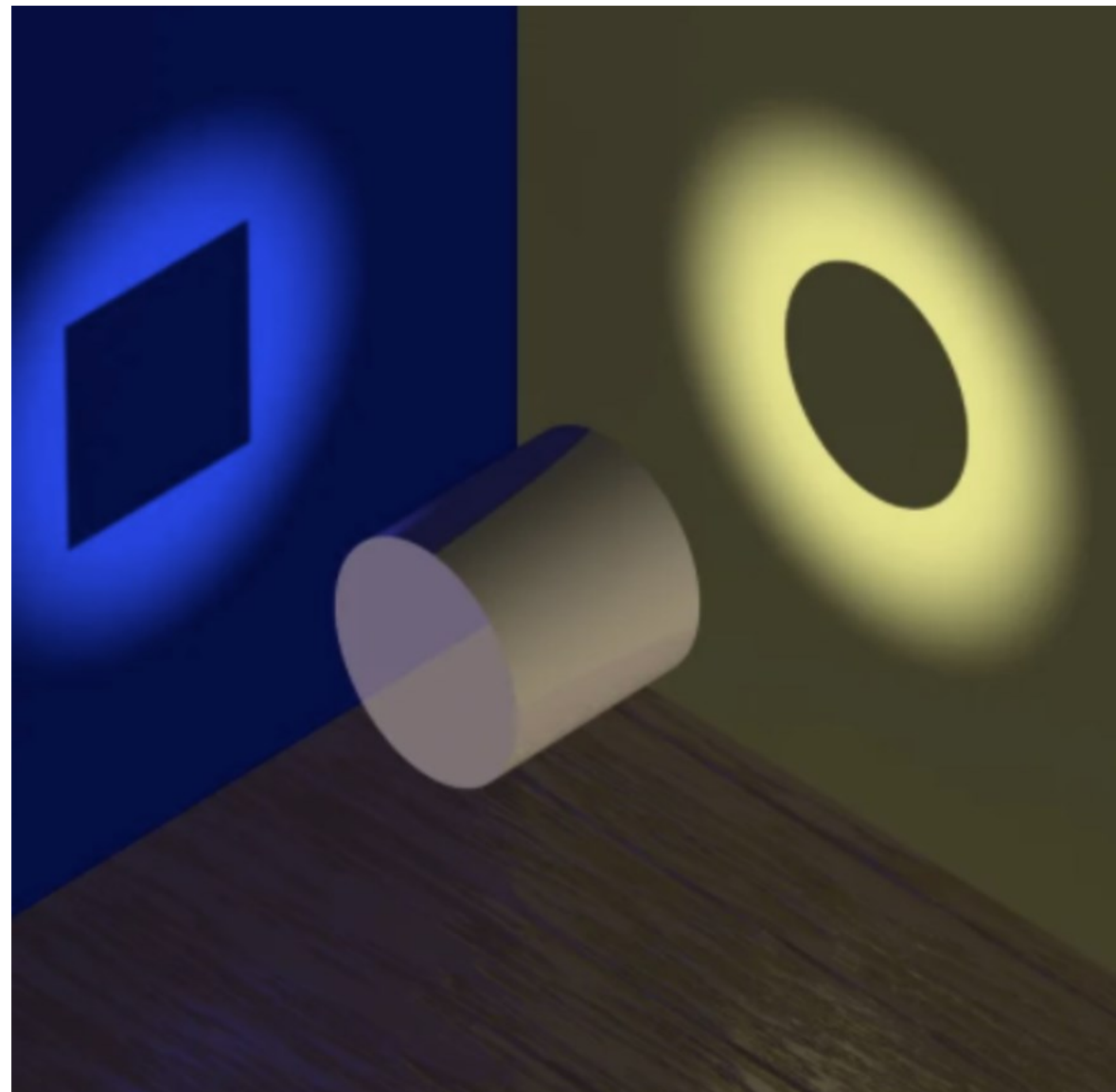
Step 3 – The image confirms existing preconceptions about the out-group, fueling anger.



A different perspective could have provided more complete information.



Just as perspective
influences perception,
AI already frames the
way you see the
world.



*The Intelligence
Revolution
is as important
as our conquest
of fire.*

