

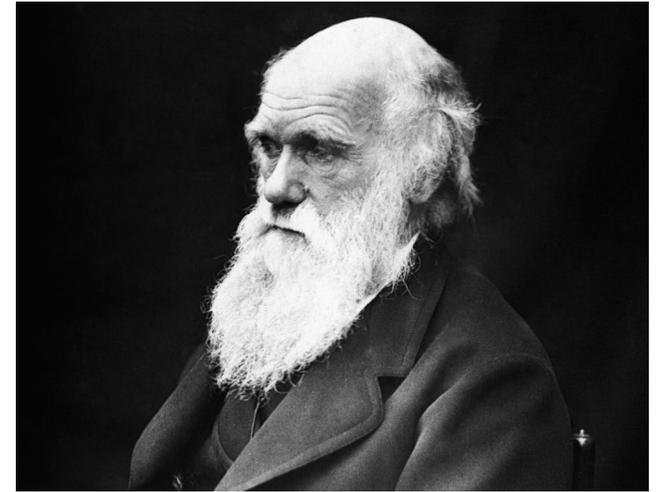


THE WAR ON SCIENCE

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HISTORY OF ANTI-SCIENCE MOVEMENT

- Evolution opposition – Darwin published *Origin of Species* in 1859
- The Vaccination Act of 1853 and 1867 (vaccine mandates for children)
- Fluoride in water began in 1940's



WHAT IS HAPPENING NOW?

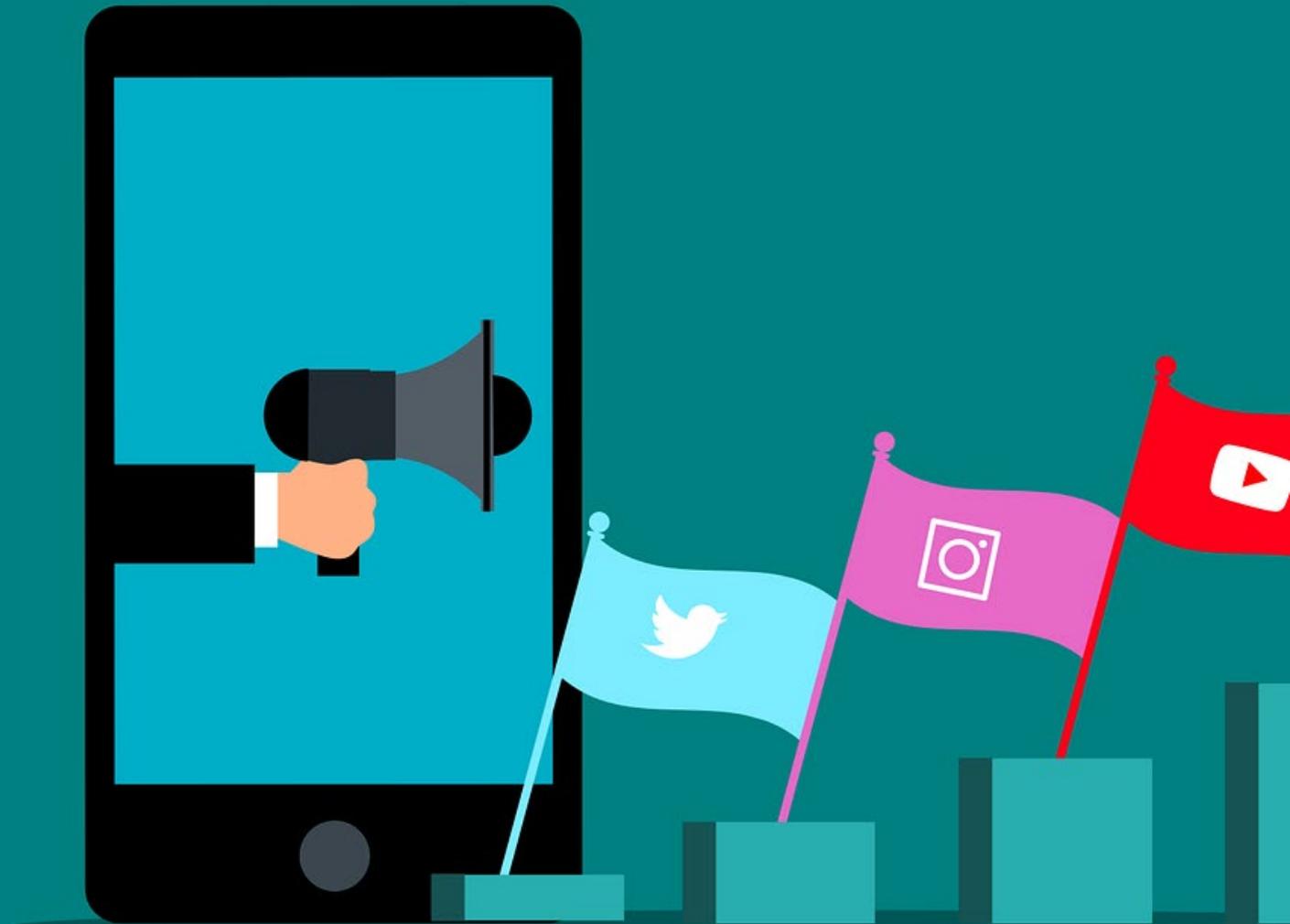
- There has been a marked increase in anti-science rhetoric in public discourse and the classroom
- Picked up speed around 2015
- Political affiliation currently defines scientific views for many people
- Nobel scientists fear we are entering a “post-truth” era

“climate change is a liberal disease”

“doctors can cure cancer but they are paid by big pharma not to. WAKE UP SHEEP!”

“Fauci is worse than the nazi doctors”

“I’m just waiting for the vaccine to kill all the libs. LOL”



SPREAD OF MISINFORMATION

- Media- 24/7 coverage, constant 'Breaking News'
- Social media!!!!
- Peer/family groups
- Political agenda



CONFIRMATION BIAS

- People tend to stick with what they know
- People seek out like-minded others to justify their beliefs
- Made worse when a lot of information is coming at once

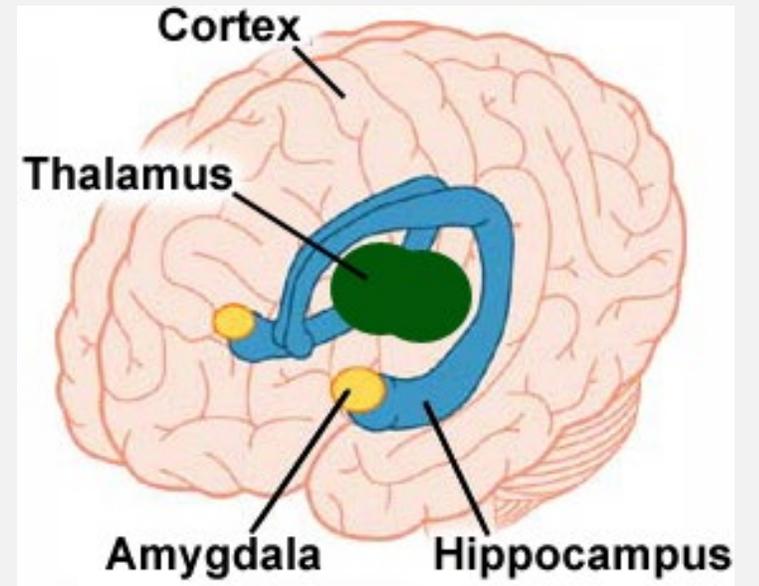
SOCIAL PRESSURE



The amygdala is activated when people disagree with others



Fear of not 'fitting in' is one of the most powerful motivators in the human brain (endangers group membership)



Why?

WHY DO SO MANY PEOPLE BELIEVE
FALSE INFORMATION POSTED ON
SOCIAL MEDIA?

GIST MESSAGING



Simple message – bottom line



Easily remembered

(Reyna, 2020)

GIST & FUZZY-TRACE THEORY

- Information is remembered on a continuum



- Gist – subjective, meaningful overall interpretation
 - Essential meaning
 - More accessible
 - We're more likely to focus on gist than verbatim facts as we age
 - Interpret data and contextualize it, based on our background knowledge

GIST MESSAGING

- Fills a void in understanding or knowledge
- Using stories helps to communicate a gist
- Each person interprets a gist differently (Broniatowski & Reyna, 2020)
- The more plausible the message, the more apt the reader is to believe it (Larson & Broniatowski, 2021)
- What's the reader's status quo? (Reyna, 2012)

HOW CAN WE SPREAD THE MESSAGE?



Get to know our
readers/listeners



Communicate how scientific
information connects to our
shared values (Reyna, 2020)



Provide a more compelling and
insightful gist
(Larson & Broniatowski, 2021)

IMPACT IN THE CLASSROOM

Incivility

Pushback on instructors

Spread of misinformation

Political bias

Confirmation bias

Creates hostility, shuts down
communication

Fear in instructors, avoidance of topics

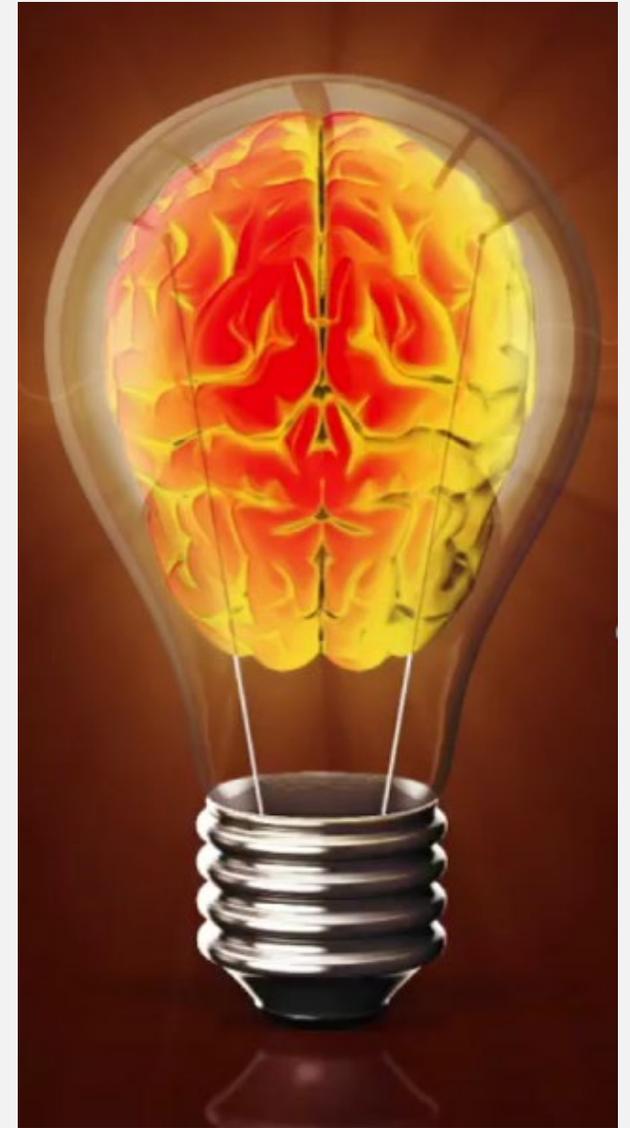


COVID-19

- The global pandemic is playing out in our classrooms on many levels.
- In science class we discuss the spread of disease, treatments, biology, and genetic engineering
- All of these and more are now impacted by discussion on COVID and vaccines
- How have these discussion impacted your classrooms and disciplines?

WHAT CAN WE DO?

- Help students develop critical thinking skills
- Start a preemptive discussion
- Discuss the misinformation
- Dispel myths
- Acknowledge opposing views without compromising scientific facts
- Emphasize credible sources
- Highlight how research is conducted
- Collaborate with colleagues



BRAINSTORM WITH COLLEAGUES – WHAT HAS WORKED FOR YOU?



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QUESTIONS?

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