MISINFORMATION & DISINFORMATION

Why it happens
How to recognize it
How to address it

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Disclosures

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  - Merck Canada, BD Diagnostics, AMD Medical, Canadian Institute for Health Research, GenePOC

- **Speaker’s Bureau for**
  - Merck Canada, Pfizer

- **Salary Support** from the *Fonds de Recherche en Santé du Québec*
Full disclosure

I am NOT a trained in psychology

Transparency
Let’s start with an example…

https://www.youtube.com/watch?v=8bkFf7mOaU4&feature=emb_logo
1.3 million views in less than a week

CLAIMS

COVID was created by l’Institut Pasteur and transferred to Wuhan for release
The COVID vaccine will contain HIV fragments.
Vaccine they want to inject in your body contains:

ChAdOx1 n-CoV-19: Covid-19 coronavirus carried by the vector virus ChAdOx1

Nanoparticles: described in Microsoft Patent PCT / US 2019 / 038084, which will control you thanks to 5G

A disinfectant: either Thimerosal or Formaldehyde and antibiotics

... and a lot of other scary things
It will contain nanoparticles patented by Microsoft
Tracking with 5G
Definitions

TYPES OF INFORMATION DISORDER

FALSENESS

INTENT TO HARM

Misinformation
Unintentional mistakes such as inaccurate photo captions, dates, statistics, translations, or when satire is taken seriously.

Disinformation
Fabricated or deliberately manipulated audio/visual content. Intentionally created conspiracy theories or rumours.

Malinformation
Deliberate publication of private information for personal or corporate rather than public interest, such as revenge porn. Deliberate change of context, date or time of genuine content.

FAKE NEWS

Claire Wardle, Harvard Kennedy’s Shorenstein Center

https://www.motherjones.com/media/2018/08/heres-how-you-can-fight-back-against-disinformation/
Can be very difficult to identify the intent behind conveyed information

Reasons can be complex

Reasons can shift over time
Many shapes of disinformation

• False news articles
• Viral Meme
• Video
• Tweet
• Facebook post
• Etc.

Common denominator:

Designed to make you REACT
Pope Francis Shocks World, Endorses Donald Trump for President, Releases Statement

TOPICS:  Pope Francis Endorses Donald Trump

The MAIN DRIVER of Misinformation

Social media: everyone on the planet has a voice

Social media: everyone on the planet has a voice
Figure 1: Where people get online news in the US, 2017


https://www.brookings.edu/research/how-to-combat-fake-news-and-disinformation/
Who controls the conversation?
Social media and free speech
Social media

• Originally set out to be neutral platforms
  – Leaving content creation 100% to the users
  – No “editorial work”

• Now slowly coming to the conclusion that they need to moderate content
  – Becoming “editors” by
    • promoting or demoting content using algorithms
    • Providing notices on suspicious content
    • Facebook: employs 35,000 moderators (many develop post-traumatic disorder)
10x increase in 2 years

Most harassment and bullying flagged by actual users

Mainly AI
Social media and health-related misinformation
Facebook Bans Anti-Vaccination Ads, Clamping Down Again

By Mike Isaac

Ban on promoting ads that actively discourage people from getting vaccinated, or that portray vaccines as unsafe or useless

Also removes vaccine-related hoaxes flagged by global health organizations

Algorithms will promote “pro-vaccine” content from WHO and UNICEF

But user-generated content not affected by ban (free-speech)
200,000 views in 48 hours
Non non
Refusons tous

Nasopharynx

False Information
The same information was checked in another post by independent fact-checkers

Je me demande si ce qui circule en ce moment dans les médias est vraiment vrai, si c'est une simple moquerie ou si c'est une réalité pour certaines personnes. Je suis préoccupé par l'impact que cette information peut avoir sur les gens, particulièrement sur ceux qui ont un système immunitaire faible ou qui ont des comorbidités. Je suis sûr que cette situation est complexe et que les gens ont peur, mais je pense que nous devons être extrêmement prudents et que nous devons nous baser sur des informations fiables.

Donald Cwood Gareau
July 4

3
1 Share

Write a comment...
False

Fact-Check from Les Décideurs du Monde

Les Décideurs du Monde
Fact-Check

Faux: Le virus loge dans les muqueuses et contamine par l'air exhalé.

About This Notice

- The same false information was checked in another post by fact-checkers. There may be small differences.
- Independent fact-checkers say this information has no basis in fact.
- Curious how Facebook works with independent fact-checking organizations? Learn more
Misinformation still circulates in private groups
“That’s sort of like trying to nail Jello-O to the wall”

Bill Clinton, on restraining online speech
March 8, 2000
WHERE do fake news come from?

WHY do people create them?
Conspiracy theorists

- Belief that events invoke a **conspiracy** by sinister and powerful people, often for political or financial gains

  E.g. Bill Gates interview about COVID vaccine development and emphasizing safety - accused on lying by conspiracy theorists

  Retweeted by Lewis Hamilton (18M followers) before being deleted
Conspiracy theorists

Conspirator ideations may be related to paranoia and illusory pattern recognition
Conspiracy theorists

- Usually involve the opposition to mainstream consensus and opposes scientists and experts

- Conspiracy theorists see themselves as having privileged access to socially persecuted knowledge that separates them from the masses who believe the official accounts
Professional Fake News Creators

- Reporting news is lucrative (i.e. Rupert Murdoch, Péladeau, etc.)
- Copying real news is difficult (lawsuits)
- Creating FAKE outrageous news is easier and very effective!
  - More clicks
  - More shares
The spread of true and false news online

- Survey of 126,000 stories on Twitter between 2006 to 2017
- Falsehoods diffused
  - Farther
  - Faster
  - Deeper
  - More broadly
- The novelty of false news contributes to it’s wider reach

Welcome to Veles, Macedonia,
News Factory to the World.

https://www.wired.com/2017/02/veles-macedonia-fake-news/
Professional Fake News Creators

• Fake news reporting that Donald Trump slapped a man in the audience during a rally
  – Created on Fake Sites
  – Posted on Social Media to draw attention
  – Ads on Fake website make 150$ in a month

• Young men don’t really want to influence the elections – they just want to make some money
  – Over 100 fake news sites originating from this village
  – The best strategy: create fake pro-Trump news and post them on pro-Trump sites
1. Create Fake News Site

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**Marquage et une vaccination sous-cutanés encapsulés - Bill Gates**

Détails  Catégorie : Catégorie article santé  Publication : 30 août 2020  Création : 30 août 2020

Des ingénieurs du Massachusetts Institute of technology (MIT) ont inventé des nanoparticules injectables sous la peau qui émettent une lumière fluorescente invisible à l'œil nu mais étableible par un smartphone, et qui pourraient un jour servir à confirmer que la personne a bien été vaccinée.

La Fondation Gates, qui finance le projet, a aussi lancé des enquêtes d'opinion au Kenya, au Malawi et au Bangladesh pour déterminer si les populations seront prêtes à adopter ces microscopiques bollets quantiques, ou préfèrent en rester aux vieilles cartes de vaccination.
2. Steal Content

- Creating original content is hard.
- Easier to steal information
  - From clickbait sites
  - From satire sites
- Need a catchy headline to ensure clicks
3. Spread the misinformation

- Post links on social media webpages

- Profiles are fake or stolen
  - Invite friends to make them more realistic
  - Join interest groups that could be exploited (targeting)
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<td>Yes</td>
<td><a href="#">Buy Now!</a></td>
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</table>
Four types of people who are COVID-skeptical
Four types of people who are COVID-skeptical

1. The complacent: Their life is not affected much by covid; so they don’t see the threat
Four types of people who are COVID-skeptical

2. The inaccessible:

Individuals who cannot “afford” the COVID and/or the mitigation measures

- Financial
- Language barrier

They’re not “against COVID”...
They just have other things more important on their mind
Four types of people who are COVID-skeptical

3. The calculating
They engage in extensive information search for pros and cons of COVID control.

If the risk of the control measures is perceived to be greater than the risk of COVID, the decision will be against control measures.

Very knowledgeable on the topic of herd immunity
Four types of people who are COVID-skeptical

4. The unconfident
They don’t trust anyone: scientists, the government, doctors, policymakers.
Against norms
Against coercion
Figure 4: Public trust in traditional news media, 1997-2016

Why are we vulnerable?
Cognitive miserliness
Cognitive miserliness

• Humans prefer simpler, easier ways of solving problems than ones requiring more though and efforts

• We’ve evolved to use as little mental effort as possible to make our brain as efficient as possible

• We can’t think super hard about every decision we need to take
The concept that we have 2 basic ways of thinking

1) An automatic thinking process requiring little effort

2) An analytical process that requires more effort

Automatic process has many pitfalls

- Concepts that are processed more easily are more likely to be perceived as true (a gut feeling “feels right”)

- Automatic process may miss crucial considerations that would require more effort
Heuristics

- Indicators allowing of to accelerate decision-making
- Risk on social media: Social endorsement heuristic
Trust in the source

Reputable Sources
Percentage of Americans who trust the information they get from ...

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Source: Pew Research Center

https://www.wired.com/2017/02/veles-macedonia-fake-news/
Echo chambers and information silos

- Social media feeds are **personally curated** and tailored to individual beliefs, partisan bias, and identity.

- Likelihood for **exchange** of different viewpoints decreases.

- Misinformation will be **amplified** within certain networks.

Credit: Luis Delgado/Northeastern University
“Having social support, from an evolutionary standpoint, is far more important than knowing the truth.”

This article won’t change your mind. The Atlantic, March 2017
Cognitive dissonance

- A negative experience that occurs when we encounter information that contradicts our beliefs

- Can lead people to reject credible information to alleviate dissonance
Confirmation bias

• Tendency to believe information that confirms our existing beliefs, and to reject or ignore information that contradicts them
Motivated reasoning

- When people use their reasoning skills to believe what they want to believe, rather than to seek the truth
- The opposite of a reasoning shortcut; reasoning is deeply motivated
- Rationalization of thinking that is highjacked by our convictions
Fluency

• How easily people process information

• The easier to process, the more likely to believe it is true

• Corollary: repeating over and over increases its familiarity, leading to greater fluency and believable
Bullshit receptivity

• How receptive an individual is to information that has little interest in the truth

• Individuals who are more receptive are more susceptible to false news (insufficient analytical thinking)
“Hidden meaning transforms unparalleled abstract beauty”
How to spot it?

• Intent is to disseminate disinformation
  – Misinformation will try to pull emotional strings and vulnerabilities

– Goals:
  • Strong emotional reaction makes the reader less critical
  • Ensures the disinformation is shared
How to prevent misinformation
Develop Healthy Skepticism

- Awareness of the potential for manipulation and a desire to accurately understand the truth

- Different from cynicism (a distrust in everything)

- Prevents “bullshit receptivity”
Emotional skepticism

- Awareness of potential manipulation through your emotions
- Emotions are a strong driver of content sharing on social media
Inoculation

- Build pre-emptive resistance to misinformation
- “Prebunking”
- Exposing people to misinformation (and misinformation techniques) to help them recognize them
Former Presidents Obama, Bush and Clinton volunteer to get coronavirus vaccine publicly to prove it's safe

By Jamie Gangel and Shelby Lin Erdman, CNN
Updated 11:23 PM ET, Wed December 2, 2020

Former Presidents Obama, George W. Bush, and Bill Clinton pose for cameras during the 2017 Presidents Cup at Liberty National Golf Club in Jersey City, New Jersey.

(CNN) — Former Presidents Barack Obama, George W. Bush and Bill Clinton are volunteering to get their Covid-19 vaccines on camera to promote public confidence in the vaccine's safety once the US Food and Drug Administration authorizes one.
How to combat misinformation

- Everyone has a responsibility to combat the scourge of fake news
What to do with misinformation?

1. Don’t share it
Stop the misinformation epidemic

This person didn’t send a rumour to the group chat

This person double checked their facts

This person got their news from trusted sources

This person asked ‘how do you know that’s true?’

https://www.who.int/news-room/spotlight/let-s-flatten-the-infodemic-curve?fbclid=IwAR3tLg4bfA3ztsy4LyVInRXUESiiL_GszCBOVJgOhpVX-vS2OJdoX2O1U
What to do with misinformation?

1. Don’t share it
2. Report dubious content
What to do with misinformation?

1. Don’t share it
2. Report dubious content
3. Support reputable media
Newspaper Advertising Revenue: Adjusted for Inflation, 1950 to 2014

Billions of 2014 Dollars

Source: Newspaper Association of America

Including Digital: $67B
Newspaper Print Only: $17.9B
Facebook Revenue: $16.4B

Google Revenue: $19.9B

Added by @baekdal

www.stratechery.com
What to do with misinformation?

1. Don’t share it
2. Report dubious content
3. Support reputable media
4. Reduce the financial incentives for fake news
What to do with misinformation?

1. Don’t share it
2. Report dubious content
3. Support reputable media
4. Reduce the financial incentives for fake news
5. Improve digital literacy
"The antidote to this pandemic of misinformation is fact-based news and analysis. It depends on media freedom and independent reporting."

Anthonio Guterres
Secretary-General United Nation
How to communicate to someone that they’re sharing misinformation?
Evaluate if it’s worth it

• Physicians cannot tackle the totality of misinformation

• Ask yourself:
  – Is it worth engaging?
  – Is there enough time?
  – Do you have a personal connection?
Don’t patronize

• Remain civil; don’t lecture
• Treat the other one as a partner

Stay humble

- We all have cognitive biases. Some are just better at hiding them or justifying them.
Foster a dialogue to show you care about their opinion

- Acknowledge
  - difficulty in finding accurate information;
  - own past misinformations;
  - that it may be easy to get tricked

- Emphasize that science is in constant flux to help accept new information and change opinion

- Ask questions, show interest in their beliefs: “what was the source for that information?”

[Links to additional resources]
Offer to trade information

• Exchange and read each other’s information
• Post a link showing why the information isn’t true

• Refer to fact-checking sites
  – Snopes

Don’t challenge core beliefs

• If the belief stems from political or ideology, difficult to change

Educate about scientific method

• Often misunderstood or misinterpreted as error-prone

• Conflicting results is part of the game

• Distinguish scientific consensus and the opinion of a single expert or the results of a single study

https://newmr.org/blog/what-is-the-scientific-method-and-how-does-it-relate-to-insights-and-market-research/
Embrace your role

- Embrace your role with journalists
- On social media: Focus on sound advice, not your follower count
- Be careful
  - You represent the entire scientific community
  - Your answers can help – or hinder – the cause

• Infectious diseases specialist giving his opinion about a new policy requiring the use of face mask in outdoor public spaces

https://www.youtube.com/watch?v=QJF93JnMYIM
Helpful references

- [https://firstdraftnews.org/latest/the-psychology-of-misinformation-why-were-vulnerable/](https://firstdraftnews.org/latest/the-psychology-of-misinformation-why-were-vulnerable/)
- [https://www.cits.ucsb.edu/fake-news/where](https://www.cits.ucsb.edu/fake-news/where)
- [https://www.brookings.edu/research/how-to-combat-fake-news-and-disinformation/](https://www.brookings.edu/research/how-to-combat-fake-news-and-disinformation/)