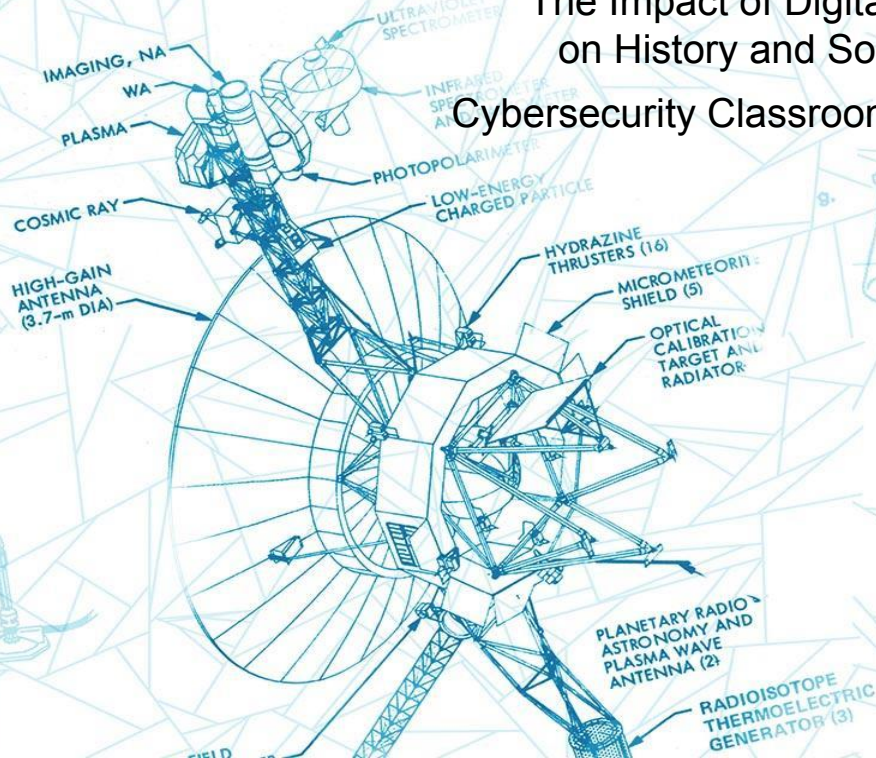


# Media Literacy in Social Sciences

The Impact of Digital Technologies  
on History and Social Sciences

Cybersecurity Classroom Training Program





# Module purpose

This module has been created to help students and teachers explore the influence of new technologies on social sciences through media literacy activities.

A goal of the module is to explore these new technologies through different subjects, references, and activities. The module should help students recognize the ever-changing opportunities that technologies bring to historical events.

Finally, students and teachers are encouraged to select the most relevant sections and activities of this module to accompany their in-class learning tasks.

“All this requires ‘knowing the facts’, but ‘knowing the facts’ is not enough. Historical thinking does not replace historical knowledge: the two are related and interdependent.  
Peter Seixas” Ontario Curriculum

Information bias warning. The authors of this module enjoy and believe in the benefits of technology. The goal of the module is not to influence the reader to our point of view. Our intention is to simply discuss the influence of technology on our lives (some positive and some negative).



# Module activities

- Activity 1 - Historical Significance
- Activity 2 - Cause and Consequence
- Activity 3 - Continuity and Change



# Being human

We all have our blind spots when sorting through information. Whether it is from a lack of experience, our upbringing, our culture, cognitive bias are a part of being human.

You are not smarter than your bias, even individuals that are aware of them can be influenced by them. This presents many pitfalls when exploring history. Like previously stated, even when the intention is educational and planned out, it is sometimes important to reassess and reevaluate the contents' perspective. Care and attention should be taken when exploring social studies.

## [A Note on CC Human Geography](#)

by Crash Course



# Learn from history

Are there ways people learn about history after school?

Make suggestions.

What are some of the ways to engage with people?

Ways to make history relatable.

Is it important to learn more about history throughout our lives?

Describe importance.

Here is one solution to answer all the questions above. Technology has created new ways of exploring history. An example of technology making history more approachable to a wider audience would be something like [“World War 2 In Colour”](#). Audiences could find this content more engaging.

A recent take on this strategy to make history more engaging, is the game “Tank Mechanic Simulator”. In this game, the player needs to find abandoned or buried tanks from the Second World War. From there the player needs to restore the tank or vehicle to sell it for a profit.



# Explore and play history

DISCOVER: The game has potential as a history communication device. Visit these sources to learn more about it. Take notes from each site.

Source 1: [Tank Mechanic Simulator](#) (Steam)

Source 2: [Tank Mechanic Simulator](#) (Facebook)

Source 3: [Tank Mechanic Simulator](#) (Degenerals)

Source 4: [I Found A Buried Tank & Repaired It For Major Profits In Tank Mechanic Simulator](#) (Youtube)

# Evaluate

Organize the sources on the previous slide using the following categories (scale of 1 to 5; least to most). You may need to review the meaning of each concept to evaluate the quality of a source (reliability, authority, and accuracy).

	<u>Reliability</u>	<u>Authority</u>	<u>Accuracy</u>
Source 1			
Source 2			
Source 3			
Source 4			

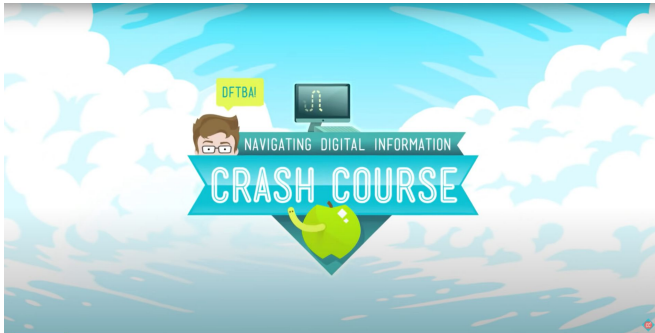
After, exploring the game, which source was mostly helpful? Were your first impressions correct? Which source would you recommend to someone wanting to know more about the game?





# Can you actually identify a reliable source?

Evaluating sources and the quality of information is something we need to do more often online. It is not only something we do for video games.



[The Facts about Fact Checking:  
Crash Course Navigating Digital  
Information #2](#)  
by CrashCourse

Why are fact-checkers so good at verifying information? How can you become more like a fact-checker?

DISCUSS: The meaning of skeptical and cynical. In what way do these words apply to your lives?

# Different formats

Different types of sources will have varying levels of trustworthiness. Authors may also treat the information differently or with more rigour depending on the type. Think blog post versus documentary.

For example, the video game creators of the tank game might be less factually rigorous than a school manual. Although, it is true that less customers or users will play video games to find historically accurate information.

DISCUSS: What do you think a game developer should do to ensure the quality of their content?

We should be aware of certain prejudice we may have towards different formats. Instead we should be ready to evaluate the information individually depending on each context.

# Activity 1 - Historical Significance

**SUBJECT:** Historical video game proposal (an immersive VR experience with the ability to use all our senses in the game environment)

**CONTEXT:** You are a video game developer from 70 to 100 years in the future. You want to make a historical game looking back at the 2010s or 2020s. Your game wants to make a player experience the events of this time period. It will be a first-person experience. Think about events of significance today that would be worth revisiting in the distant future.

## **TASK:**

1. Identify an event: Important event or less important or ignored (based on our perception today, but will be significant in the future)
2. Describe the significance of that event.
3. What would players or people find interesting? Would attract their curiosity? Would intrigue them?

INSPIRATION: [The Mona Lisa in virtual reality in your own home](#)

# Trustworthy sources

People often look to news media as a reliable source of information. Through many mediums new organizations share different perspectives and facts on the world around us. Journalists that work for these small or large organizations should do their work while following [ethical journalism guidelines](#).

Since, these news organizations are often the first to report on recent events, they are often the first lens through which people experience historical events.

Unfortunately, not all news sources are the same.

[How to teach kids to spot fake news](#)

by Quartz



SUMMARY: These students share many examples of news sources they trust and distrust. You can use similar categories to filter information, “News, opinion, entertainment, propaganda, or something else?”. Is Quartz, the organization that created this video trustworthy?

READ: [About - Our Mission is to make business better](#)



# Example

Below is a Tweet by Ken Klippenstein “[an American journalist](#)”.



INTERPRETATION: This [Tweet](#) is composed of three pictures. The first picture includes the title of an opinion text from The Washington Post. The second picture, highlights the organization’s name “The Washing Post” and their slogan “Democracy Dies in Darkness”. The last picture, is a zoom-in on Jeff Bezos.  
DISCUSS: What is the intended message of Mr. Klippenstein Tweet?



# Gather information

Explore the sources below to properly review the context of the previous Tweet. The first link is the original article.

READ: [Opinion: Think twice before changing the tax rules to soak billionaires](#) by Megan McArdle

Research information on The Washington Post and discover who is the owner of the organization.

SEARCH: [Google search result, "owner of the washington post"](#)

Consult one last source on the same topics (*#Billionaires #Taxes*).

READ: [Billionaires pay no taxes while workers get no raises](#) by Andy Serwer with Max Zahn

At this point, communicate some of your thoughts on the original Tweet.



# Degrees of fake news

According to Ken Klippenstein there was an obvious conflict of interest with The Washington Post writing about taxes for the ultra-rich. This was true even though the article was an “opinion” text.



## con·flict of in·ter·est

*noun*

a situation in which the concerns or aims of two different parties are incompatible.

"the conflict of interest between elected officials and corporate lobbyists"

- a situation in which a person is in a position to derive personal benefit from actions or decisions made in their official capacity.

"Watson quit his job after questions about a possible conflict of interest"

Definitions from Oxford Languages

That being said, bias in the information we consult is unavoidable. Even the lack of a position on a topic could highlight a biased perspective. Look hard enough and you could find conflicts of interests in many places.

In the end, this does not mean that you should never read something written by The Washington Post. As a reader, you should ensure to use proper critical thinking. Finally, question sources of information on their political identities, financial ties, partnerships, and on their goals.



# Entertainment vs. Opinion vs. News

Some of the more popular shows in the United States are broadcasted on Fox News. The controversy stems from the fact that it is not always clear if the shows are a mix of entertainment and opinion or simply news. The different media today, make it more difficult to know what is reliable or not.

EXAMPLE: [Tucker Carlson Leads Fox News To May Cable News Ratings Victory](#) by Mark Joyella

Although, since the historical event of the [2021 United States Capitol attack](#), some of the accused attackers have pleaded “not guilty” as they were suffering from “Foxitis or Foxmania”.

Are media organizations responsible to wield their influence with care? Can people become convinced of things that are not true through media?



[Rioter Blames His Role in Capitol Attack on 'Foxitis'](#)  
by NowThis News



# Dark Side - News on Social Media

Social media is an unavoidable part of our society. With over 4 billion social media users today, the amount of information/content spread through social media platforms is unprecedented. However, there is a dark side to social media: the spread of fake news.

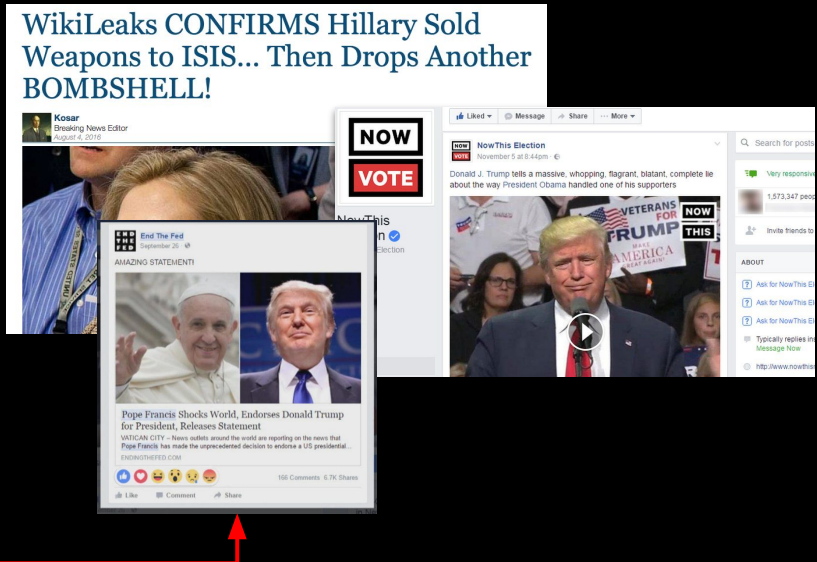
Fake news is **false or misleading information presented as news**. But why does it exist and why does it seem to spread faster than real news?



# Dark Side - Why does fake news exist?

Fake news ties in with **misinformation** (false information spread regardless of intent) and **disinformation** (false information spread purposely). Oftentimes, fake news on social media starts off as disinformation and spreads rapidly as misinformation.

Although not certain, it is believed that fake news played a major role in the 2016 US presidential election. Read more about it [here](#).



# Dark Side - Why does fake news exist? (Cont.)

Why does it exist?

- **Generating ad revenue**
  - The primary reason for fake news is to **drive traffic** to fake websites. The more clicks that a fake website gets, the more money they generate from ads. Social media acts as a catalyst with users sharing these stories rapidly.
- **Spreading propaganda**
  - Discrediting a public figure, political movement, or business competitor
  - Politicians and businesses might spread fake news about opposing parties to **gain advantages** in elections or receive more public support

# Dark Side - Why does it spread so quickly?

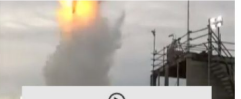
## Fake vs. Real Websites

The creators of fake news sites try to make them look as close to possible to real versions of their site. Below are six examples of real and fake sites. Can you tell the difference?


### US goods with new tariffs



**Canada retaliated against US steel and aluminum tariffs by slapping its own penalties on American exports**



**Watch rocket explode seconds after liftoff**



**Father's campsite killing leads to probe of 7 past shootings**

6 children among stabbing victims at Idaho apartment complex

Officials meet to discuss implementing US-North Korea agreement

Mother, daughter reunited after 62 days




**"HIV Virus" Detected In Walmart Bananas After 10 Year Old Boy Contracts The Virus**

Actress Patty Duke (dead at 69) - Utah passes 'self-pick' abortion law receiving swiftfire - Obama's new war on drugs

The top-middle is from CNN and the bottom right is from New York Times. The rest are fake!




**BREAKING: Obama's Mother In Law Charged With Larceny And Fraud**

TOP NEWS USA WORLD ENTERTAINMENT

## DAILY FEED NEWS

THE LATEST NEWS AND HEADLINES



**No Fake News**

**Wear - 25 Years Later: ABC News Claims To Have The Truth, But Is It Just Cover For A Heavy-Handed Government?**

**BREAKING: MASSIVE RAID RUINS Obama!**

**Fighting Fake News: Back Door Trick to Enact Censorship?**

### Loss for Unions Opens Liberal Money Base

By NIGAM SCHREIBER 8:26 PM ET

Progressive groups getting tens of millions of dollars a year from public-sector unions found their funding at risk after the Supreme Court struck down mandatory union fees for government workers.

The decision hit hard at a vast network of groups dedicated to advancing liberal social-liberal and



**Behind Lincoln Center's Travertine Facade: Fighting and Indecision**

Now on its fourth leader in five years, the country's largest performing arts complex finds itself suffering from instability

**Editorial: Make Way for Young Democratic Leaders**

**Douhat: Anthony Kennedy's Imperial Legacy**

**Dowd: Local Girl Makes Good**

**Cruelty at the Border**

**Is Neymar Black? Email and the Painful Relativity of Race**

**What Men Say About #MeToo in Therapy**

**Goldberg: The Millennial Socialists Are Coming**

Part of the blue wave is red.

**The Rise and Fall of China's 'Stout,' 'Dark' and 'Not Pretty' Pop Star**

An unlikely reality-show hero has forced the country to confront its rigid ideas of Chinese womanhood.

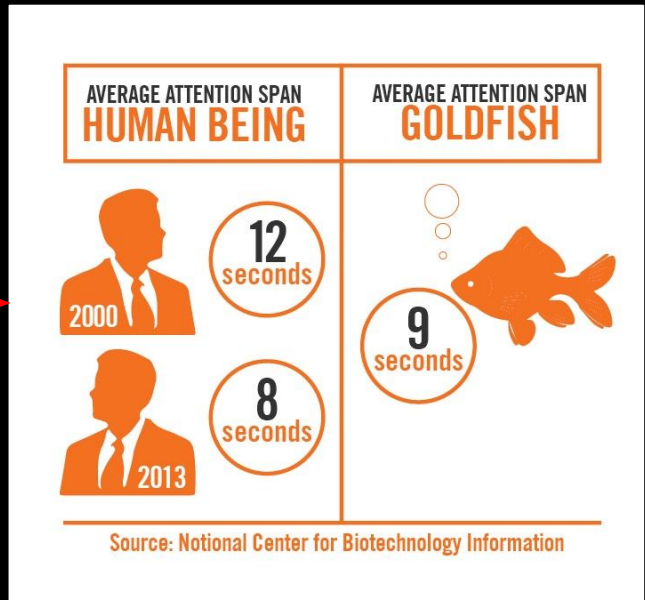
**'Let's Talk About My Abortion (and Yours)**

**'Sign Up for Our World Cup Newsletter'**

# Dark Side - Instant Gratification

Social media has rewired our brains with instant gratification, the need for fast, short-term pleasure. Through dopamine hits every time you get a notification, like, comment, etc., your brain starts expecting these back-to-back hits all the time. Combined with the innumerable access to information instantly, your attention span and desire for in-depth analysis decreases, making it the perfect breeding ground for fake news to spread.

No, you do not have to worry, this is fake news!



# Dark Side - The Human Psychology

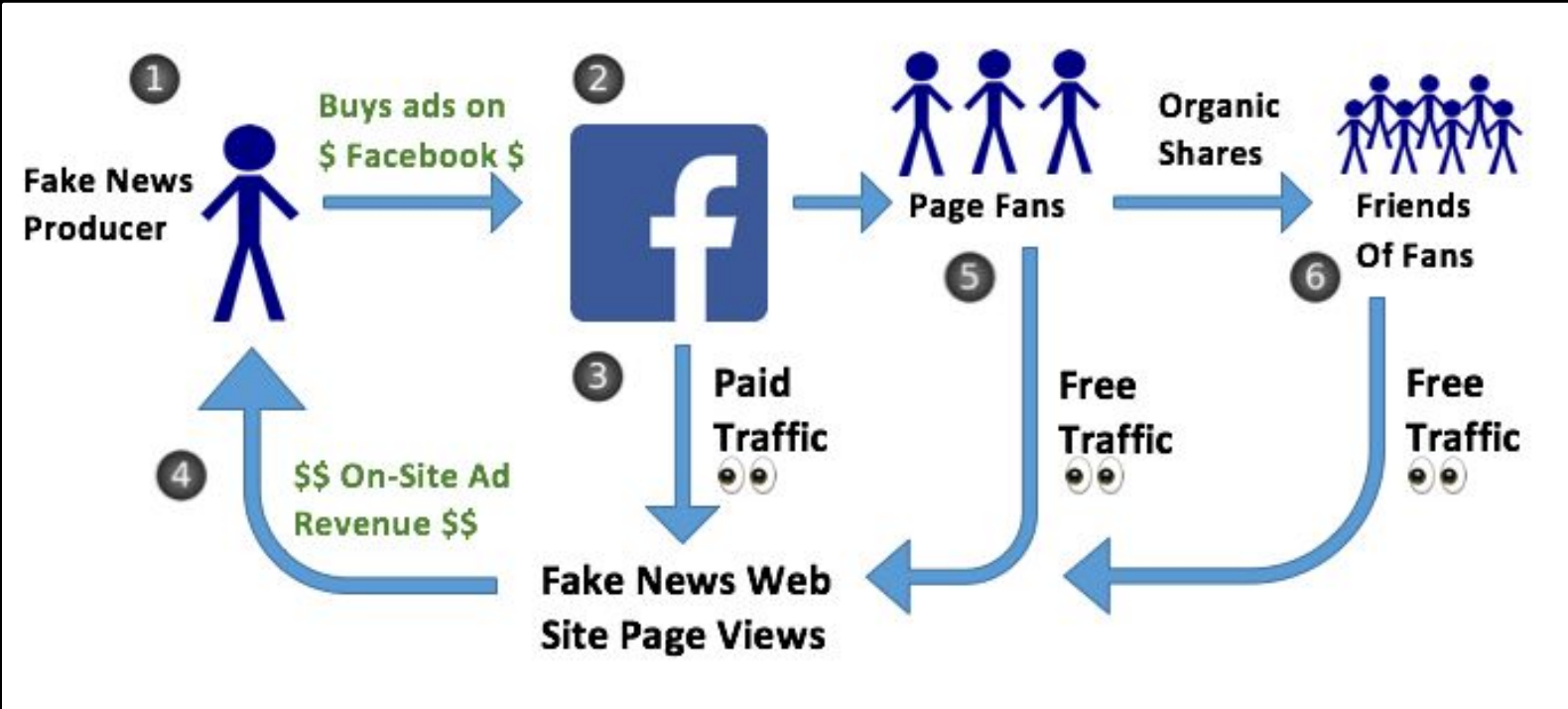
Most people do not actively seek to share fake news. However, objective facts are less likely to influence someone than appeals to their emotion and personal belief, especially on social media. Social media is meant to be social, and so considerations like post engagement, how our friends will react, our personal identities all come into play. This often distracts us from considering if the information is accurate or not.

If a post is novel and something we have never seen before, it is more likely to get reposted than if it is accepted and heard of. Fake news tends to be “novel,” which is why it gets reposted much more than the truth.

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# Dark Side - How Social Media Spreads Fake News

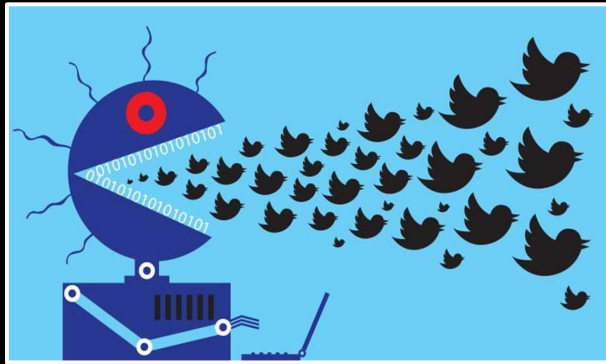


# Dark Side - Bots

Apart from the billions of human beings using social media, there are also millions of robots, or bots, residing within. Bots are programmes that have been designed to do a specific task. They simulate the behaviour of human beings in social media networks with the help of Artificial Intelligence (AI).

Bots keep resharing/posting content using trending topics and hashtags to make the information go viral.

Other types of bots are designed to click *pay-per-click* ads on fake news websites as much as possible - this is called click fraud.



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# Dark Side - How to keep yourself safe

- **Take a closer look**

Check the source of the story, do you recognise the website? Is it a credible/reliable source? If you are unfamiliar with the site, look in the about section or find out more information about the author.

- **Look beyond the headline**

Check the entire article, many fake news stories use sensationalist or shocking headlines to grab attention. Often the headlines of fake new stories are in all caps and use exclamation points.

- **Check other sources**

Are other reputable news/media outlets reporting on the story? Are there any sources in the story? If so, check if they are reliable or if they even exist!

# Dark Side - How to keep yourself safe (Cont.)

- **Check the facts**

Stories with false information often contain incorrect dates or altered timelines. It is also a good idea to check when the article was published, is it current or an old news story?

- **Check your biases**

Are your own views or beliefs affecting your judgement of a news feature or report?

- **Is it a joke?**

Satirical sites are popular online and sometimes it is not always clear whether a story is just a joke or parody. Check the website, is it known for satire or creating funny stories?

Use this infographic for a quick reference if you need one!



# Blurred lines

Influence and power can create a of lack of trust between the audience of a news source. This is a sentiment that news organizations really want to avoid.

Entertainment can also include news information. The trust relationship will be a little different in this case. These shows use comedy and direct references to other news sources to create their content.



[Republicans Try to Rewrite the History of the January 6th Insurrection: A Closer Look](#)  
by Late Night with Seth Meyers

From the previous example, does the content inadvertently promote this new interpretation of history by discussing the behaviour of Republicans, by repeating the information?

# Comedic journalism a new trend?

The article below, written in 2004, discusses this new journalism trend. Thanks to the Internet we can easily read and find an article written on this topic from over 17 years ago.

EXAMPLE: [Young viewers get news from late-night shows](#) by Andrew Grossman

This more recent article written in 2020, sees a similar trend even years later.

EXAMPLE: [Late Night Comedy Not Joking About News](#) by Ruby Rosenthal

Comedic journalism has a somewhat recent origin in its current format. Although, politics and satire have a long history (for example, see political cartoons).

DEFINE: [Comedic journalism](#) - Wikipedia



# Debate

In the end, are these types of shows useful in covering the news relating to events with historical significance?

In the web page below, high school students debate the merit of comedic journalism. In your opinion, does it serve a purpose on the overall political and historical knowledge of viewers?

EXAMPLE: [Pro/Con: Are late night talk shows effective news sources?](#)  
by Shivi Sharma and Avani Kashyap

Next is a Canadian perspective, fortunately or unfortunately Canada does not have the same type of program. Especially, since the last episode of the Rick Mercer series aired in 2018.

EXAMPLE: [American late-night is reinvigorated. In Canada, we've got nothing](#) by John Doyle

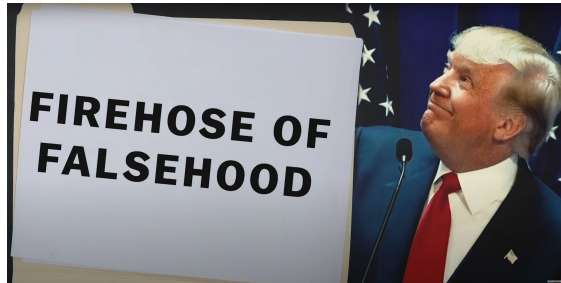
What is it about Canadian media or culture that does not promote the mix of entertainment and news?

# Dangers of propaganda

“But if thought corrupts language, language can also corrupt thought. A bad usage can spread by tradition and imitation, even among people who should and do know better.”

(Orwell, [Politics and the English Language](#))

Using so-called reliable sources or experts to manipulate people has led to some issues in society. One such issue is distrust of experts. This is especially true when experts can be bought. Also, when news sources are closely tied to the government, unethical uses can occur. The video below discusses how President Vladimir Putin of Russia is guilty using propaganda tactics to manipulate public opinion. This issue does not only concern Russia, as other political leaders are using similar tactics.



[Why obvious lies make great propaganda](#)

by Vox



## Activity 2 - Cause and Consequence

**SUBJECT:** Distrust of experts relating to a historical event

**CAUSE AND EFFECT:** Choose an event as a central idea to this activity. Answer the following questions through your event. Distrust of exports is caused by what? What are some of the intended and unintended consequences of this lack of trust?

DEFINE: [Positive Propaganda](#) by Dr. Nancy Snow

**TASK:** Create “propaganda” that knowledge is good. That “real” experts are trustworthy. Use social media “stories” to promote your ideas. Encourage people to learn more, to question things (by being scientific skeptic), etc. Persuade with logic or emotion. Use historical events and examples. Predict the consequences of your positive propaganda.

INSPIRATION: “Tired of not knowing what to do? Open a book, start reading. Let the solutions to your biggest challenges appear clearly on paper right in front of your very own eyes.”



# Exploring history through your senses

As a means of recording history, photography has had a significant impact. Depending on the circumstances, words may be enough to share the details of a significant moment, but sometimes like it is said, “A picture is worth a thousand words”. Using photography or videography to cover social issues can make a difference. Through history, we can recall many moments where technology changed society. The example below is of photographs being used as a tool to stop child labour in the United States. More recently, we can remember the shocking images of the murder of George Floyd and their influence across the world.

## [These photos ended child labor in the US](#)

by Vox



QUOTE: “As photographs give people imaginary possession of a past that is unreal, they also help people to take possession of space in which they are insecure...”

*On Photography* by Susan Sontag (10)



# When your senses are tricked

Propaganda can take many forms. Through history it has been observed often, but new technologies will change ways humans can be influenced. It will become more difficult to trust what we see or hear especially online. The first video talks about the concept of “[Deepfake](#)” in its historical context. The second video is an example of a modern deepfake.

[Deepfake: A Brief History of Unreliable Images](#)  
by vlogbrothers

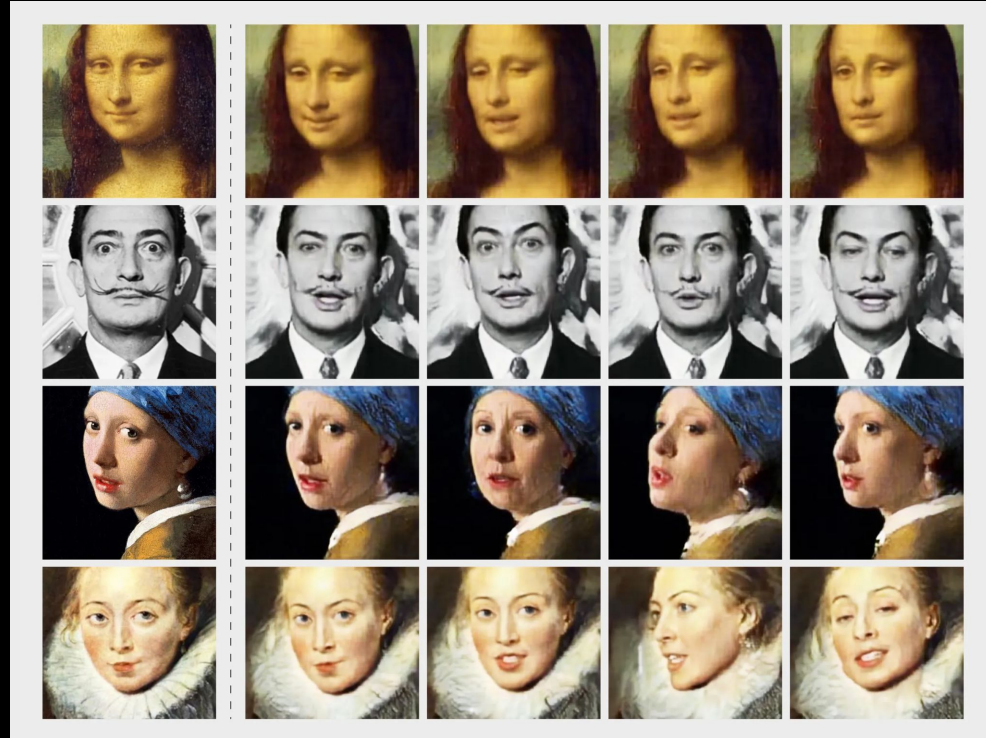


[Bill Hader channels Tom Cruise \[DeepFake\]](#)  
by Ctrl Shift Face



# Dark Side - The Future of Fake News and Propaganda: Deep Fakes

Audio and video deep fakes are digitally produced pieces of content, made to spread misinformation and propaganda or target individuals. For example, politicians might be saying a certain speech but their audio is made to sound like they have racist views (using artificial intelligence techniques such as machine learning and natural language processing). The dangers associated with this technology include inciting civil unrest, influencing elections, and psychological warfare.



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# Dark Side - The Future of Fake News and Propaganda: Deep Fakes

Voice-cloning technology is now enabling individuals to replicate a voice by using synthetic audio (in a text to speech format). There are many ways audio deep fakes can be used maliciously, such as faking a manager's voice to target employees or tricking youth into handing over sensitive information or even declaring war on behalf of a president. The weaponization of voice has been accelerated due to smaller sizes of audio samples being needed to create an algorithm for audio deep fakes, as technology evolves over time. Audio deep fakes are also often spread via telephone and they're used to target individuals to either share information about themselves or pay large sums of money.

Take a look at [this video](#) that shows a deep fake that Jordan Peele (pictured right) made of Obama, to warn about the dangers of deep fakes.



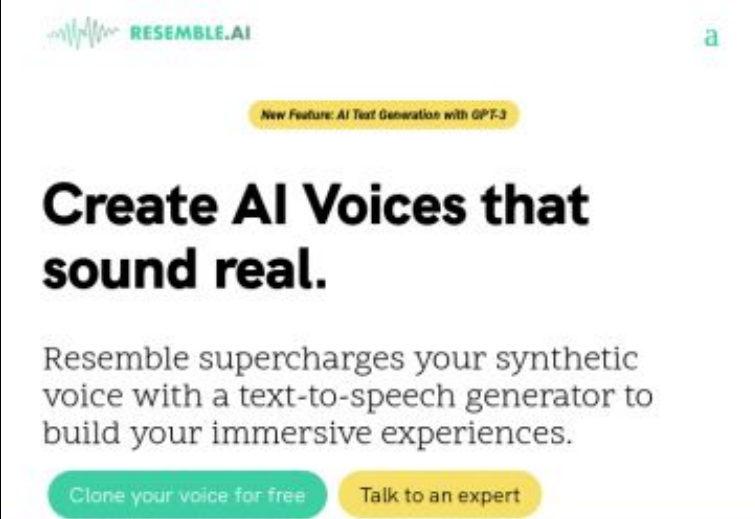
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# Dark Side - Voice-cloning technologies

Although there are many dangerous ways in which voice-cloning technologies can be used, the demand is rising for synthetic audio for better purposes as well. For example, characters in games can generate speech spontaneously and in real time, whereas before it was mostly static. Voice cloning can even be applied in medicine, to restore voice for individuals who may have lost it due to medical conditions such as ALS or cancer.

EXAMPLE: [resemble.ai](https://resemble.ai)



RESEMBLE.AI

New Feature: AI Text Generation with GPT-3

## Create AI Voices that sound real.

Resemble supercharges your synthetic voice with a text-to-speech generator to build your immersive experiences.

Clone your voice for free | Talk to an expert

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# Dark Side - How To Spot Deep Fakes

- **Check if the eyes are blinking normally**

Typically, the face in a deep fake will glitch while blinking or it will blink unnaturally. This is due to the fact that most images used to create deep fakes have faces with their eyes open, and therefore the algorithm never learns blinking. However as deep fakes evolve, creators have found ways to get around this issue.

- **Check the skin tone and facial features**

Poor quality deep fakes lack definition in facial features and often resort to blurring certain areas of the face. As well, the skin tone can appear patchy and finer details such as hair are usually not rendered well. You can also check for excessive wrinkles, smoothness, and flyaway hair.

- **Check the clothing and accessories**

The clothing may look different from different sides and patterns may seem to appear in one area and disappear in another area. Also, accessories can be mismatched!

# Dark Side - How To Spot Deep Fakes (Cont.)

Deep fake example



⚠ The two sides of Taylor's shirt do not match, showing a waffle fabric on the left and smooth on the right.



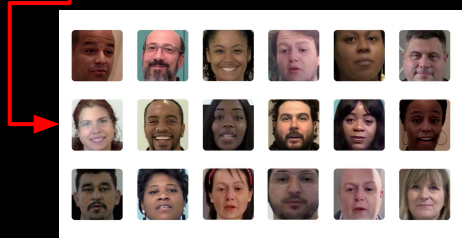
⚠ The highlight reflected in Taylor's eyes comes from two different angles.

# Dark Side - Software to Spot Deep Fakes

Certain technologies are being developed to detect deep fakes and assure people that the content they're viewing or listening to is authentic. Other than Microsoft and Facebook's tools, [deep fake 'heartbeats' or biological signals](#), [phoneme-viseme mismatches](#), [forensic techniques](#), and [recurrent convolutional models](#) are currently being used to detect deep fakes. Although the technologies to produce deep fakes are advancing, the technologies to detect deep fakes are not too far behind.

[Microsoft](#) has taken steps to combat disinformation and created Video Authenticator that can provide a prediction (in % form) about whether or not a video was tampered with.

[Facebook](#) has also been developing an AI model that can trace back to the generative model used to create a deep fake image, and this method is called reverse engineering.



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# Social media

A common way to share pictures and videos these days is by social media. With the convenience of our portable electronic cameras, it is easier than ever to document all the moments of our lives. Some find this obnoxious others enjoy it. The intent behind our use of social media is important.

Listen to the video below from 7:39 to 9:17. In it, a young man takes credit for a good deed on social media by posting a video. Regrettably, he never did do that good deed. Is this a dark side of social media? This person's online persona might not be a realistic portrayal of his true identity.

[Mind Field: Moral Licensing](#) by vsauce





# Dark Side - CGI Influencers

CGI, or Computer-Generated Imagery, Influencers are fake influencers on social media often created by companies to avoid certain issues like human error in real influencers. A new era of marketing arises with this technology and as the software improves, it will become harder to detect these influencers. There are many issues that come with CGI Influencers that especially have an effect on youth, such as:

1. Manipulating the audience into buying certain products by endorsing them
2. Spreading the wrong message with their “picture perfect” lifestyle



Although these issues are similar to the ones that occur with real influencers, the added danger with CGI influencers is that it becomes difficult to separate fact from fiction.

# Do I know the truth?

In this video learn how cognitive ease and cognitive strain are important in the way we interact with new information. When we read something new on social media are we prone to being gullible or skeptical. Your reaction will depend on many factors. For example, does the information feel intuitive or has it been repeated many times? If so, your brain may opt for cognitive ease and accept the information as fact. Unfortunately, even reputable sources may repeat false information. In the same way that we might accept elements of fake news because of cognitive ease, it may also make us accept history in the way that it has always been outlined by institutions and those in power.

[The Illusion of Truth](#) by Veritasium



# Activity 3 - Continuity and Change

**SUBJECT:** Benefits and drawbacks of technology in recording history

**TASK:** Add a blog or vlog to your class discussion group as to discuss the continued influence of the Internet, videos, photos, and other technologies. Use a historical event or moment to support your answer.

**ADDITIONAL PROMPTS:**

1. Will we always trust what you see or hear from events that have been documented with technology over the years?
2. Does technology actually change anything or are people still people?

**OPTIONAL CLAIM:**

New technologies are changing society

OR

New technologies appear, but we have the same problems



# Module Conclusion

As you can see, technology can have a significant impact on our interpretation of the world. In many ways it complicates how society functions. Technology makes it even difficult to trust our reality. Although, technology is not by itself the dangerous component of this equation. It becomes then important for us to know the people wielding technology and to understand their intent.

We should learn from our history, from our mistakes to build a better world. Appropriate and proper use of technology can help us do this. It has to. Otherwise the consequences could be terrible.

Hopefully, this module will encourage you to continue exploring media literacy and social sciences.

