MANAGING MISINFORMATION DURING AN INFODEMIC

by

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This thesis will delve into the complexities of the modern "infodemic." In a world formatted around social media, misinformation and disinformation have multiplied at an uncontrollable rate: to the extent that people can not separate a truth from a lie. Throughout this thesis, I will investigate misinformation through a historical and modern context. I will reference historical case studies, scholarly research and philosophical works to present an analysis of our changing media landscape. I will then use this investigation to explore possible solutions to the spread of misinformation, claiming that one reason people are easily deceived is their inability to keep up with the accelerating growth of modern technology and social media.

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Introduction

The Ghost of Kyiv:

"He causes terror in enemies and pride in Ukrainians. He had 6 victories over Russian pilots! With such powerful defenders, Ukraine will definitely win!"

(Translated from a Tweet from former Ukrainian President Petro Poroshenko on February 25, 2022)

The Ghost of Kyiv: a war icon rumored to have shot down a total of 40 Russian jets. The mystery fighter pilot flew through the web landing anywhere from T-shirts to NFTs (non-fungible tokens) according to Patrick Galey of NBC. The Ghost of Kyiv became a celebrity of hope and patriotism for the Ukrainian people. After all, he was one of the most impressive fighter pilots ever known…perhaps even too impressive.

On March 13th, 2022 Major Stepan Tarabalka was killed during an aerial battle with Russian forces. On March 24th, the Defense of Ukraine tweeted that Major Tarabalka was awarded the title of "Hero of Ukraine," prompting viewers to connect the dots and deem him the man behind the mysterious "Ghost of Kyiv." Promptly after, global media sources stormed headlines across the web of the Ghost of Kyiv's death. Ukraine had lost its great war hero.

"Ghost Of Kyiv' Dies In Battle After Shooting Down 40 Russian Jets, Identity Revealed;" *The Times of London* reported both the Ghost of Kyiv's identity and death, instigating a wave of similar articles and tributes to cycle the web. "With the revelation of his identity, the reports that the "Ghost of Kyiv" could be an urban legend have been put to rest. His bravery served as a massive morale booster for the Ukrainian forces in the face of overwhelming odds," said Diksha Rani of NDTV.

And indeed he did, the Ghost of Kyiv came at the perfect time and represented the perfect warrior, growing hope and a sense of strength amongst his Ukrainian fans. His timely arrival made sense when, at the end of April 2022, the Ukrainian Air Force Command posted that Tarabalka was, in fact, not the Ghost of Kyiv, nor was anyone. The post claimed that The Ghost of Kyiv was rather a "superhero legend whose character was created by Ukrainians." The Ukrainian Air Force later tweeted:

> "The information about the death of The Ghost of #Kyiv is incorrect. The #GhostOfKyiv is alive, it embodies the collective spirit of the highly qualified pilots of the Tactical Aviation Brigade who are successfully defending #Kyiv and the region." (2022)

Modern Misinformation:

This incident is not unfamiliar. *Propaganda*, referring to misleading information that intentionally promotes a public figure or cause, rushes like wildfire through our modern media mess. Moreover, *misinformation*, classified as misleading or false information that is *un*intentionally spread, and *disinformation* (which is intentionally spread) catch wind just as easy. It isn't a question of if people fall victim to misinformation, disinformation or propaganda, but how? Why are we so easily manipulated?

When Donald Trump was president, the term "fake news" rampaged through the internet. It gained its definition as false or misleading information presented specifically as news. During the COVID-19 pandemic, *misinformation, disinformation, propaganda,* and now *fake news* became a part of everyday vocabulary as people scrambled to decipher what was true.

The whole mess begs the question as to whether so much *misinformation, disinformation,* and *propaganda* would have spread without the world wide web and, specifically, social media. While these forms of misleading communication have been around for centuries, has social media made them worse?

Prior to social media and “fake news,” the word of the medical profession was rarely questioned. Moreover, people did not have access to an array of *fake news, propaganda, and misinformation* stories that now parade down their Facebook and Twitter feed. As COVID-19 hit the headlines, an “infodemic” infected people's minds, referring to the excess of information rushing through our media landscape at a rapid, uncontrollable rate. With the capabilities of social media, the U.S. government lost control of the narrative, for better or for worse. People began to distrust and question the advice of both our medical and governing institutions, according to researchers, journalists, and scholars alike.

According to Raina Merchant, a Professor of Emergency Medicine at the University of Pennsylvania, and David Asch, the Executive Director of the Penn Medicine Center for Health Care Innovation, there are three main reasons distrust in medical information is instilled in consumers. In their article “Protecting the Value of Medical Science in the Age of Social Media and ‘Fake News,’” they claim that the low cost of publishing information has consequently given anyone the ability to publish and post what they deem fit. Prior to this superpower, only the government and qualified personnel were capable of promoting this information. Along with an increase of information access, consumers fall for their own confirmation bias, referring to a person's tendency to interpret new information in a way that confirms their own beliefs. Not to mention that social media algorithms tend to shovel individuals' own ideas down their throats with a feed reflective of their own identity, political ideology, or life. Consequently, consumers become stuck in a feedback loop of their own ideas, cutting diversity and debate out of frame.

Alongside consumers, content creators are arguably just as confused. Navigating the ethical landscape of media professions has never been an easy task. According to media ethicist Tom Bivins, in his book *Mixed Media: Moral Distinctions in Advertising, Public Relations, and*

Journalism, “No Media professional can justify lying. To tell the truth is the first (and some would say, the only) commandment of professional communicators” (Bivins, 2009, p. xi). While telling the truth may appear simple in nature, the complexities of modern media cloud the traditionally straight forward concepts of both truth and deception. The facts are present, but we constantly fall victim to the forces of our own confirmation bias, capitalistic motivations and general misunderstanding. Moreover, people lie. Since social media has developed, opportunities to lie and deceive have expanded alongside it. In modern journalism, society is confronted with a plethora of sources, opinions, reports, science, and data (some of which can be labeled as objective, some subjective and some of which are pure disinformation).

Any involvement in the communications field, as either a journalist or consumer, will guarantee that disagreements and miscommunications arise. To help students and journalists navigate these certain scenarios. Bivins defines the terms of subjectivity, inter-subjectivity, and objectivity as follows:

> “A claim or judgment is subjective if its truth depends on whether or not it conforms to the tastes, attitudes, and beliefs of the claimer (the person making the claim).”
>
> “A claim or judgment is inter-subjective if its truth depends on whether or not it conforms to the beliefs, attitudes, and conventions of the group to which the claimer belongs.”
>
> “A claim or judgment is objective if its truth does not depend on whether it conforms to the beliefs or attitudes of any group or individual.” (Bivins, 2009, p. 61)

Understanding these terms is especially important as one attempts to understand the current “infodemic,” where individuals no longer understand how to recognize a lie when they see one. It is especially important to distinguish between objectivity and subjectivity, as they can mark the difference between fact and opinion. Throughout an infodemic, discovering objectivity can appear unachievable. Throwing social media into the mix concocts a recipe for chaos, but is this a new problem?

Misinformation of the Past:

In 1938, broadcast radio had only been around for about 30 years. Orson Welles, an American actor, writer, producer, and director, planned an adaptation of H.G. Wells's *The War of the Worlds.* He wanted to woo his audience with a script that portrayed Wells's alien invasion as a realistic, live broadcast. In Wells's original novel, the British empire (the largest colonizer) finds itself satirically colonized by alien invaders.

Following the broadcast, as *Smithsonian Magazine* recounts, Welles awoke to claims that his CBS broadcast had allegedly led to suicides, stampedes, and threats. According to journalists, who had received anxious calls to their newsrooms and radio stations, the nation had gone into mass panic.

Long after the broadcast, when legal reprisals were no longer a concern, Welles later claimed that he had, in fact, attempted to fool some of his listeners to make the point that you should not believe everything you hear. However, his collaborators John Houseman and writer Howard Koch denied this claim, leaving us to our own discretion whether deception was intended.

This event, commonly referred to as the "War of the Worlds," is an example of what can happen when audiences are unfamiliar with new technology. *Media literacy,* referring to one's ability to critically analyze and discern the credibility of mass media, immensely lacks when society is presented with new technology. I argue that due to people's unfamiliarity with public radio at the time, their media literacy was not advanced enough to determine that the "War of the Worlds" broadcast was, in fact, a show.

COVID-19 and Misinformation:

Bringing us back to the present day, as we live among an overwhelming plethora of technological media, audiences are easily taken advantage of due to their underdeveloped media literacy, or technological literacy rather.

On March 11, 2020, the World Health Organization (WHO) declared COVID-19 a pandemic. The world was launched into over a year of lockdowns, distancing, and masking regulations. Amongst the mayhem, misinformation, disinformation and propaganda reached a dangerous level of chaos. Distrust in the government, doubt in our scientists, and questioning journalists rose to the forefront of our media landscape. People protested quarantining, masks, and questioned the authoritative narrative. Public health agencies, such as WHO and the CDC, saw this "infodemic" as a larger threat to public health in our modern day. But what was guiding people to distrust traditionally respected government sources and agencies? How could we distinguish between what *is* misinformation and what is not?

In a multi-authored 2020 article ("Susceptibility to misinformation about COVID-19 around the world,") researchers asked what factors put someone at risk of falling for misinformation. Through the analysis of five nations, the authors analyzed how predictors of spreading misinformation varied by country. They asked what factors were most consistent, and which were most effective in either the increase or decrease of misinformation susceptibility. Participants were asked their age, gender, education level, political ideology, and level of trust in the government, scientists, and journalists. To then measure the participants' susceptibility to misinformation, the researchers asked each person to rank several statements about the virus from either "very unreliable" to "very reliable." Lastly, the participants' numeracy skills were tested as a way of determining their "cognition."

The study results confirmed that holding higher trust in scientists, as well as a higher score in numeracy skill decreased participants' susceptibility to misinformation across all countries analyzed. Contrary to prior research, the study also found that being older decreased one's likelihood of falling for misinformation. Yet, the authors note that this is potentially due to the high risk associated with the older population during the pandemic, guiding them to follow public health regulations more urgently. In three out of five of the countries in the study, political ideology was also significant: those who were more conservative leaning in Ireland, Mexico, and Spain were found to be more susceptible to misinformation.

Alternative research has also found that conservatives in the U.S. are generally more susceptible to misinformation. Wondering where the common perception of the "conspiracy conservative" comes from in American media – Robert Bond and Kelly Garrett tested this perception in their article "Conservatives' susceptibility to political perceptions." Bond and Garret did find an increase in conservatives' susceptibility to misinformation in comparison to liberals in our current media climate. Yet, the authors emphasize that the message of a news piece and its implications on the individual's political group affect one's reaction to it. As noted by the authors, "Conservatives' consistent poor performance in distinguishing truth from misinformation appears to be largely explained by the fact that widely shared falsehoods were systematically more supportive of conservatives' political positions." (Garrett & Bond, 2021, para. 27)

Perhaps susceptibility to misinformation is less to do with political leaning, and more to do with how the political climate and mainstream media supports or invalidates each side of the political spectrum.

Outside of political ideology, "Susceptibility to misinformation about COVID-19 around the world" claims that being exposed to information on social media is largely correlated

to someone's susceptibility to misinformation. Those who relied on the WHO for their information outside of social media were associated with a lower susceptibility to misinformation. However, this could potentially reflect the fact that the WHO was responsible for deeming what is "misinformation" and what is not. For those who hold little trust in such leading organizations, it makes sense that they would turn to other outlets for information, such as Facebook and Twitter.

In large, the study offered critical thinking, reflective and analytical, as a tool to reduce citizens' susceptibility to misinformation. In this case, they argue that developing and teaching critical thinking skills would sharpen someone's ability to recognize misinformation. This argument supports a need for more intensive media literacy education.

In effect, it appears that distrust in leading institutions, political ideology, and exposure to social media are some of the driving factors in the spread of misinformation. But how do these attributes connect and interact with one another?

In another 2020 article, Toby Hopp, Patrick Ferrucci and Chris Vargo analyze the motivations for individuals who spread misinformation in association with political ideology. Similar to those in the previous study, the authors claim that modern misinformation and the toxic media climate are largely due to a rapid decline in the peoples' institutional and social trust combined with the emergence of social media. Both factors allow users to bypass traditional gatekeeping (a practice defined by Jürgen Habernas as "...the process by which a piece of information gets selected, altered, and morphed into a digestible message suitable for large-scale distribution and consumption" [Shoemaker & Vos, 2009, as cited in Hopp et al., 2020]).

The authors, while studying the spread of what some consider "fake news," argue that the term "countermedia" is better fitted. They define "countermedia" as "...content or web-based

information that employs a combination of false, biased, and misleading claims as a means of countering the knowledge traditionally produced by the mainstream press" (Hopp et al. 2020). Hopp, Ferrucci and Vargo also view countermedia as particularly ideologically extreme, leading to their hypothesis that the ideologically extreme are more likely to share countermedia content, as it feeds consumers' established social distrust. Countermedia does so by strengthening a feeling of being "in the know," while other citizens are viewed as "sheeple."

To begin their analysis of potential motivations of sharing misinformation posts on social media, the authors draw upon Shin and Torson's concept of selective political information sharing. This concept, according to Hopp, Ferucci and Vargo, "...indicates that people share information on social media that they agree with and that they believe can make them look good to others, obtain/maintain social status, and/or accomplish personal influence–linked goals" (Hopp et al., 2020,).

Believing that social media has become the perfect player in these actions, the authors question how different platforms vary in their countermedia use. In the study, the authors compare data from users on both Facebook and Twitter. Respondents were U.S. citizens over the age of 18 with an approximate 50/50 gender split and were assessed on their political ideology, extremity, and trust in the mainstream media and society. Content was coded between August 1, 2015 through June 6, 2017.

On Facebook, they found that 71.1% of participants did not share any countermedia. However, of those who did, the authors found a statistically significant relationship between being more ideologically extreme and an increased likelihood to share countermedia. Furthermore, both those on Twitter and Facebook who held distrust in mainstream sources and the government were found to have a statistically significant increase in their chance of sharing countermedia.

For both platforms there was a noticeable pattern of ideologically extreme people (on either side of the spectrum) accounting for the 43.4% of countermedia shares on Facebook and 48.4% on Twitter, despite only representing 22.9% of the analytic sample.

The power of political extremity is evident in additional research. In their article, "Partisan Polarization is the primary psychological motivation behind political fake news sharing on Twitter," Mathis Osmundsen and colleagues manifested similar results (Osmundsen et al., 2020). The authors analyzed misinformation sharing within 2,709,052 tweets around the 2016 election from 2,337 politically diverse Twitter users. Three main hypotheses were tested. The ignorance perspective, claiming that misinformation is shared out of the user's lack of knowledge (or ignorance) around the topic; the disruption theory, which asserts that people share misinformation to disrupt social and political order; and the partisan polarization perspective, arguing that people are driven to share misinformation due to its ability to derail the opposing party. Concluding their study, the authors found the strongest support for their partisan polarization hypothesis. Moreover, those who were more ideologically extreme and holding negative feelings towards the opposing party were more likely to share fake news.

When looking at the two latter studies, it becomes clear that the combination of ideological extremity and holding negative perceptions and emotions towards opposing political parties are a recipe for misinformation sharing. Moreover, social media and distrust in governing agencies (which can lead to political extremity) seem to be two driving causes in the spread of misinformation. Social media provides a prime environment to challenge opposing political parties and governing institutions, as you can garner a large audience with little effort.

The Psychology Behind Ideology:

How can we address this divisiveness and regain individual trust in our government? Why is it so difficult to unwind political extremity and our tendency to believe false information?

Our own efficiency and evolution are driving factors in how we respond to and interact with our world. For example, humans are born gullible, as emphasized in *Duped: Truth-Default Theory and the Social Science of Lying and Deception* by Timothy R. Levine. Specifically, we are prone to "truth-default." Through this theory, it is speculated that people "default" to believe a claim rather than becoming skeptical of it. After all, communication is much more efficient if you are to assume everything is true (Levine, 2019).

Moreover, in his article "The Science of Why We Don't Believe Science," Chris Mooney explores how our own psyche can trick us into believing a claim counter to evidence through "motivated reasoning." Contrary to its definition, "reasoning" itself is loaded with emotion (Mooney, n.d.) . According to Mooney's research, this is an effect of evolution. As a very basic survival skill, our emotional reactions to people and ideas arise much faster than our conscious reasoning. Consequently, we can explain why someone may go to extreme ends to rationalize why the earth is flat. When a person's core belief is challenged, their emotional response will beat them to their logical reasoning. Perhaps this is also why those who are ideologically extreme are more susceptible to misinformation. Due to their ideological extremity, their core beliefs are more likely to be challenged, pushing them to fight an emotional response that guides them into the hands of misinformation.

Philosophical Approaches:

So what can we do about this mess? If people can not be held accountable for their own emotional state, can they be trusted to care for themselves? If we force people to rely on their community, won't distrust and power struggles continue to fester?

Plato envisioned people as "enslaved" to their own bodies. To combat this, he proposed a society run by a chosen, educated elite. Under this model, reason and logic would run the community and individualism would be sacrificed when necessary for the benefit of the whole. Walter Lippmann, similar to Plato, saw the individual as incapable of fully taking care of themselves, viewing community as a priority. Applied to media and communications, Lippmann fought for a completely objective press, placing emphasis on the journalist's duty to provide truthful and pure information to the public. Through this objective press, he envisioned journalists building a bridge between the uninformed public and the elected ruling government. Consequently, the public would spectate the journalistic process, consuming what was produced. Michael Schudson in "The 'Lippman-Dewey Debate' and the Invention of Walter Lippman as an Anti-Democrat 1986-1996," interprets Lippman's ideas for the press as representative of modern journalism. Yet, it is important to note that the article is referring to the "modern" journalism of 2008. "Lippmann endorsed an independent journalism, the kind dominant today, that 'legitimized a democratic politics of publicity and experts,' but 'also confirmed the psychological incompetence of people to participate in it.'" (Schudson, 2008). Yet, as discussed above, a democratic group of experts legitimized as journalists and politicians does no good when the public holds deep distrust in it.

In contrast to Lippman, John Dewey viewed the public as capable of critical thinking and making rational decisions. Relating this belief to the press, Dewey saw journalists as teachers rather than the voice of the elite. He proposed that the job of the journalist is to engage the

public in a democratic discourse of current events and policy. Dewey viewed conversation as the best revealer of truth. In this regard, an open discourse between the press, the ruling elite, and the public press would unveil reality.

Was Dewey too optimistic? Aristotle claimed in his *Nicomachian Ethics* that no matter how good a person's arguments are, they will fail to persuade an audience refusing to listen. As mentioned above, the human psyche is extremely vulnerable. We are constantly falling victim to our own emotional biases. Nonetheless, if we are able to acknowledge these biases and utilize them in discourse through the new age of social media, Dewey's model becomes more possible. In our modern media climate, the public is capable of hosting a discourse with journalists and public officials. In this regard, Lippman's model is largely becoming usurped. Gatekeeping the narrative to an elected ruling elite could potentially open the gates to authoritarian models of communication. The objective truth is certainly not attainable through a controlled narrative that diminishes diversity.

Objectivity:

The idea of objectivity has long been assigned to journalistic practice. Yet, scholars debate on whether "objectivity" is really attainable. Can something be deemed as truly objective, despite the social, cultural, and personal influences that mold a person's every interaction? According to J.R. Muñoz-Torres in his article "Truth and Objectivity in Journalism," "objectivity" as an unquestionable truth is unattainable. He backs this assertion through highlighting the vague and obscure nature of "objectivity's" definition. Not only are journalists unsure of how to define "objectivity," but the majority of them have accepted that it is unattainable. "We should start by reflecting that there is no such thing as a pure perception of facts, bereft of any previous con-

cepts. The reason is pretty clear: in order to identify something as a fact, we need a previous concept of 'fact'" (Muñoz-Torres, 2012). Similar to Bivins (2009), Muñoz-Torres asserts that the expression of a pure, unafflicted and universal truth is impossible, as our individual experiences formulate a unique lens through which we view the world.

In his book, Bivins also references ethics scholar Stephan Ward's concept of "pragmatic objectivity," which theorizes objectivity as "the testing of journalistic interpretations in various contexts" (Bivins, 273). Bivins relates this approach to John Dewey's concept that objectivity should be reached through an exchange of ideas, a "combined communicative effort" (Bivins, 273). While subjectivity is involved in this process, it results in a coherent, democratic, and holistic communication.

I argue that in order to fight misinformation, we will require this" combined communicative effort." We must improve our media literacy education, including critical thinking and emotional intelligence, and implement a system that holds authority accountable to reinstate trust in our democracy, including fact-checking. If Dewey's hopeful model of healthy discourse is to come to full fruition, our society requires stronger tools to face its emotional biases and to understand its current media landscape.

Methods

I will now discuss possible methods to navigate misinformation through our modern media landscape. My solution is presented in a multi-section, layered response that incorporates the modern research of scholars to support my conclusions. Throughout this research, I will aim to answer the following questions:

1. How can we adjust our current systems to combat misinformation and distrust in the government?
2. Why should or should we not censor?
3. How can we improve our media literacy?

I will venture to offer these potential solutions through drawing inspiration from Dewey's model of a democratic discourse and the opinions of modern scholars and journalists on the topic. Specifically, I have divided my *Solutions* section into four key sections: *Fact Checking, Censor Censorship, Education,* and *Keeping the Government in Check.* Each section addresses an important aspect of solving our current infodemic. It is important to note that there may be other approaches to fighting off misinformation not addressed in this project. In reaching my conclusions, I focused on methods that could easily be applied to the broader framework of our current media and governing systems. The solutions proposed represent ways of reforming our communication in honest ways supportive of Dewey's model of healthy discourse.

Possible Solutions:

Fact Checking:

The Joe Rogan Experience is perhaps one of the most controversial podcasts online, as it has been consistently accused of and criticized for spreading misinformation. The most recent and controversial episode surrounded a recent conversation with Robert Malone, a vaccine scientist. Rogan received a lot of criticism when he published the interview, as it gave Malone a platform to disparage COVID-19 vaccines. NPR reported that several medical and scientific experts “slammed” Rogan for spreading reportedly false claims. The coalition of scientists, in a letter to Spotify, demanded that the platform install a policy for misinformation. The letter, linked from the NPR article, also linked to an Instagram post made by @unbiasedpodcast. In the comment section of this post, users tagged other Instagram users, shouted their agreements, or put emphasis on Rogan’s and Malone’s rights to free speech. The NPR article also highlights the influential role that podcasts are starting to take in the social media landscape and the ongoing debate of whether we should or should not censor.

Podcasting has become increasingly popular in the last decade. Reported by Pew Research Center, Edison Research and Triton Digital found that 41% of Americans over 12 years old have listened to a podcast in the last month. This number increased from just 9% in 2008.

Unlike talk radio, podcasts depend on an RSS feed, allowing audiences to subscribe to a channel or piece of content directly. Moreover, podcast platforms such as Podbean, Anchor.fm, and Buzzsprout have evolved to make publishing podcasts as easy as pressing a button. With the emergence of this technology, anyone can record any conversation and seamlessly upload it to several distributors, such as Spotify or Apple Podcasts.

Moreover, podcasts are unique in their ability to discreetly and effectively spread misinformation through the sheer volume of their content. Dr. Valerie Wirtschafter, a senior data analyst in the Artificial Intelligence and Emerging Technologies Initiative at the Brookings Institution, emphasizes that the medium of podcasting enables influencers to spread misinformation or disinformation. Many podcasts can range from 30 minutes to three hours. Most of Joe Rogan's podcast episodes range from two to three hours. Consequently, it is impossible to scour through each minute of data to identify misinformation. Throughout her research, Wirtschafter used machine learning and natural processing to run over 8,000 podcast transcriptions through a fact-checking database, which aims to identify false or misleading political claims. She found that over one tenth of these episodes potentially shared misinformation. That amounts to 800 episodes, three of which Wirtschafter notes had more than 100 million views – 100 million minds.

Social media platforms, such as Facebook and Twitter present a similar problem. In 2017, the majority of U.S. citizens were already receiving the majority of their news from social media, according to a Pew Research Center Study. Only a year prior, in 2016, Facebook announced that it would begin "flagging" misinformation posts, after receiving criticism from users during the 2016 election. The system works by allowing readers to "flag" a post that they deem misinformation. If the post receives enough flags, it is sent to outside fact-checking organizations (in 2016 they were working with ABC News, AP, FactCheck.org, Politifact and Snopes). In the meantime, the content will appear less on the news feed while warning viewers that "Many people on Facebook have reported that this story contains false information." If the fact-checking organizations claim that the post fails the fact-check test, then Facebook will label it with "Disputed by 3rd Party Fact-checkers," prompting users to follow a link that describes the post's dispute.

This method has been disputed in two notable ways. One, the reporting method allows for communities to tag team an organization in which they disagree on ideology (First Draft, 2015). Moreover, if users are under the assumption that false news stories will be flagged, then it is likely they will presume that unflagged posts are 100% accurate, which is usually not the case.

In a study done by Gordon Pennycook et al. in 2017, the authors verified this exact phenomenon (referred to as the “implied truth effect”). Participants' accuracy judgments on posts labeled with “Disputed by 3rd Party Fact-checkers” were collected to understand the degree to which they trusted flagged posts. The selected participants were politically split, with 56% of them preferring Hilary Clinton over Donald Trump at the time. Posts were equally divided into pro-republican and pro-democrat headlines. The study results resembled both the “warning effect,” in which flagged posts were viewed as less accurate, and the “implied truth effect,” proving that unlabeled posts were consequently viewed as *more* accurate. Following this study, the same authors recruited participants from Mechanical Turk, a crowdsourcing website, who were willing to share political content on social media. Participants were presented with several information posts labeled as false. In addition to the false posts, the participants were also presented with “verified” posts. The authors continued their process by asking participants whether or not they would share each post on social media. They found that participants were much *less* likely to share flagged posts and much *more* likely to share verified posts. When participants came across an unmarked post, they were less likely to share it. In this regard, the presence of verified posts inherently canceled out the “implied truth effect” in which people assumed unmarked posts were factual. The study also found that verifying headlines and posts had a larger impact on users than their political views.

This study emphasizes the importance of fact-checking and implementing high communication standards for journalism and media. While a system of flagging and verifying information posts is incapable of entirely dismantling the misinformation empire, it can act as a valuable filter as we rummage through the sludge of our media landscape.

In this same vein, it is important to emphasize the value of a democratic, self-checking system. If we are going to implement a verification and flagging system for social media posts, we must do so in a way that is rooted in diversity. I suggest that hiring a variety of fact-checking organizations to sift through social media posts would grow a democratic order that would neutralize the possibility of a hegemonic fact-checking system. Moreover, verifying and debunking posts through a diverse filter of eyes would bring us closer to pragmatic objectivity and Dewey's democratic discourse.

Censoring Censorship:

For the same reason, we cannot censor. In January of 2021, notably Google, Twitter, Facebook, and Pinterest declared that they would not condone or host President Trump's hateful speech. Trump was banned from Twitter and, thus, silenced from many of these social media platforms. While many rejoiced at the prospect of canceling out Trump's disgusting and demeaning words, the event sparked a deeper conversation on the implications of censorship. The ACLU, a civil rights organization striving to uphold individual rights and liberties, spoke up against the act of censorship. According to the ACLU, if these platforms obtain the power to censor the President, then who is to say that they will not abuse this status to silence more vulnerable communities. In a world where social media is a predominant mode of communication, permitting platforms to censor and, thus, mold the media landscape threatens democratic discourse. The ACLU, while parting from other advocacy organizations on its censorship beliefs, upholds

the values of free speech. While hateful, misinformative, or violent acts of speech escape through our First Amendment, the ACLU argues that these acts create necessary transparency. How can we address a problem if we can not acknowledge it? The ACLU concludes with the following:

"We recognize that the major platforms are private entities with their own First Amendment rights to control the content they publish. But the largest platforms' central role in online speech also means they should err on the side of preserving political speech — and, given their scale, they must also offer clarity upfront, at a minimum stick to their own rules, and offer opportunities for appeals when they (inevitably) get things wrong." (ACLU, n.d.)

The ACLU's approach, I argue, resembles Dewey's plan for democratic discourse, as it promotes space for all political angles, aiming at true democracy. In today's media landscape, censoring is not the answer. Improving fact-checking on social media platforms becomes a necessity, but we must also improve our audiences ability to determine true from false. The rate at which false social media posts and propaganda are manifesting is far too quick for any fact-checking system. So what do we do when we can't keep up? At the end of the day, we can only rely on ourselves. In other words, it becomes strikingly apparent that we must educate citizens through media literacy and foster an inner emotional intelligence that protects us from the misinformation that falls through the holes in our fact-checking system.

Education:

We must teach media literacy and train our emotional intelligence to identify possible triggers of confirmation bias, motivated reasoning etc. What does our media literacy education look like now?

In "Preparing Pre-Service Teachers To Teach Media Literacy: A Response to 'Fake News,'" Todd Cherner (2019) explores how media literacy fares in the lives of pre-service teachers. Cherner defines media literacy as "the ability to pose critical questions at those messages

with the dual purpose of understanding the entities' goal(s) for transmitting them and their potential impact on individuals, society, and the environment." (Cherner, p. 2)

At Moyer Pacific University's (MPU) College of Education, pre-service teachers enrolled in STEP (one of the largest education programs in the PNW) were analyzed for their designed media literacy lesson plans, their commentary, and their individual technological and digital abilities. Researchers also used the National Association For Media Literacy Education's (NAMLE) *Core Principles of Media Literacy Education in the United States* to test how pre-service teachers engaged with and favored certain principles in their lessons. These principles are:

1. Media Literacy Education requires active inquiry and critical thinking about the messages we receive and create.

2. Media Literacy Education expands the concept of literacy to include all forms of media (i.e., reading and writing).

3. Media Literacy Education builds and reinforces skills for learners of all ages. Like print literacy, those skills necessitate integrated, interactive, and repeated practice.

4. Media Literacy Education develops informed, reflective, and engaged participants essential for a democratic society.

5. Media Literacy Education recognizes that media are a part of culture and function as agents of socialization.

6. Media Literacy Education affirms that people use their individual skills, beliefs and experiences to construct their own meanings from media messages. (NAMLE, 2007)

When analyzing the pre-service teacher's lesson plans, the authors found that 70% of them drew from either core principle one, four or five, placing a strong emphasis on "critically analyzing the messages that are a part of our culture" (p. 11). Through surveying the participants, the authors also found that pre-service teachers felt extremely confident in their ability to both evaluate media content and teach students how to create media messages. However, teacher's confidence began to wane when asked about their ability to engage in public debate on social

media and to understand technical attributes for how media messages target populations. Consequently, participants were also not confident in their ability to teach how to politically debate on social media or how to address technical population targeting.

Alongside the growth of social media, political debate has moved to such platforms. If our political conversation, essential in creating a democratic dialogue, has moved to online platforms, then we should feel confident in our ability to engage in such a way.

Studies, such as the one above, are essential in the diagnosis of where we are lacking in our current media education. As we begin to confront an everchanging media landscape, we must freely adapt. Thus, at a base level, we must increase urgency to implement media literacy education and to design lessons that complement the current media climate.

Perhaps one of our most immediate threats, calling for an upgrade in education, lies in the advancement of AI and deepfakes. The potential threat of disinformation has reached a frightening new tier. Websites such as *breakyourownnews.com* allow users to create fake news headlines within minutes. While these pages are disclosed with the intent for "humor," anyone could utilize this technology to generate a false story to intentionally spread political unrest or disinformation. Moreover, the technology now exists to construct extremely realistic photos and videos of real people carrying out fake actions.

"The Malicious Use of AI-Based Deepfake Technology as the New Threat to Psychological Security and Political Stability" by Konstantin A. Pantserev (2020), dissects examples of deepfake AI technology while also exploring the idea of combating it with itself.

Perhaps one of the most jarring aspects of deepfake AI technology is its make-up, inspired by human neurons. Similar to the human brain, the more data input into the system, the more accurate the created audio and video will be. Moreover, modern AI incorporates generative

adversarial networks. The sole purpose of generative adversarial networks is to identify loop-holes or giveaways within the fake image, audio, or video, and to then correct these tells. Each time a deepfake is discovered, an appropriate correction will be made to strengthen the media the next time around.

While AI can be used as a valuable tool in art, comedy or business, its advancement presents an incredible threat to our society's psychology, public affairs, and political actions. Thus, we must learn how to identify or counter deepfakes to increase our media literacy. We don't only require a revamp of our media literacy education on social media and political debate, but we also need to dive into the threat of AI and how we can counter deepfake production.

In Pantserev's article, he explores the idea of using AI to combat deepfakes, utilizing the technology to recognize alteration in video, audio, and images. This approach is similar to Facebook's flagging system, although AI is capable of sifting through data at a much larger rate. Regardless, there is a significant possibility that misinformation and disinformation can escape these screening processes. Thus, we must learn to protect ourselves through experience and learning.

But what are effective approaches to media literacy education? Despite now having an idea of what media topics are lacking, how can we design better programs? We must teach students and citizens *why* media literacy is important. In order for people to grow beyond their own biases and develop a self-critical and analytical perspective, they must care enough to do so. There is bound to be imperfection present in the way we interpret and absorb information. As discussed previously, people consistently fall victim to their own emotional biases. But, what if our personal values and emotional biases could be used as a tool rather than a downfall?

In their study, “Values and Media Literacy: Exploring the Relationship Between the Values People Prioritize in Their Life and Their Attitudes Toward Media Literacy,” Simon Chambers et al. (2022) surveyed Australian adults to analyze how media literacy abilities viewed as important related to those individuals’ underlying values.

In their analysis, the authors largely drew from Schwartz, who identified ten universal values cross-culturally and internationally.

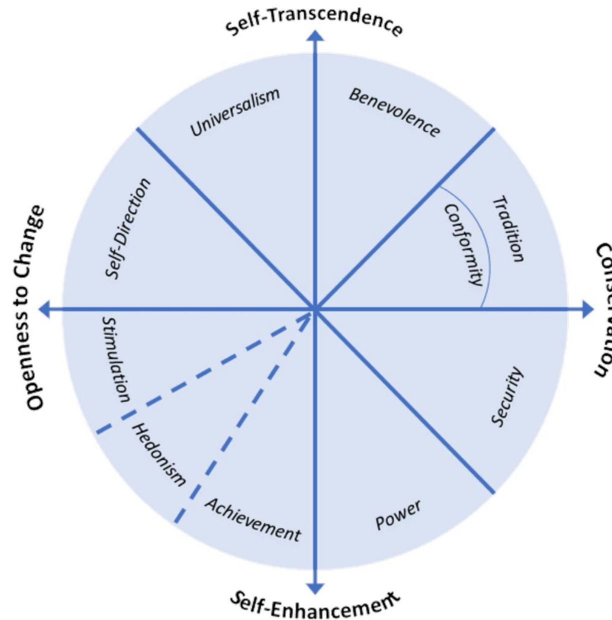

Figure 1: Schwartz's theoretical model of relations among motivational values and higher-order value types (adapted by Simon Chambers, Tanya Notley, Michael Dezuanni, and Sora Park from Schwartz, 1992, p. 45)

Within the figure, the congruency and conflict between values is demonstrated. "Pursuing the value of power, for example, is aligned with behaviors associated with the neighboring value of achievement but will typically be in conflict with actions motivated by universalism's concern for the welfare and tolerance of others" (Chambers et al., 2022, p. 2599).

As the authors progress, they utilize Schwartz's work to further understand how prioritized values motivate a person's actions in congruence with media literacy. They ask three main questions:

1. "To what extent do people consider the aims of media literacy programs are relevant and important to their own lives?"

2. "Are media literacy programs that embed and express particular values more likely to be regarded as important by people who prioritize those same underlying values in their lives?"

3. "To what extent do people's values offer more or less predictive power than sociodemographic characteristics in explaining the importance people give to the aims of media literacy programs?" (Chambers et al., p. 2601-2602).

To determine participants' values, the authors surveyed them through Schwartz's model. The participants were asked to "Choose which is the MOST and LEAST important principle that guides your life" (p. 2603). To measure how certain media literacy skills were valued to participants, the authors asked them to grade 14 statements on a scale from 'not important at all' to 'extremely important.' An example of one such statement was, "To understand how media impact and influence society" (p. 2604). The participants were then analyzed on sociodemographic characteristics, such as gender, age, income, education, etc.

The authors found that the values of benevolence and security were the most prized among participants, while values of achievement and power ranked the lowest. Out of the statements pertaining to media literacy, participants ranked "To know how to protect yourself from scams and predators online" as the most important and "To use media to influence people" as the least important (p. 2608).

The authors found that there was a significant connection between the values of the person and the media literacy statements they ranked the most important. The authors give the following example:

"The importance given to 'using media to stay connected with friends and family,' for example, can readily be understood as expressing the value of benevolence and its concern for the welfare of people we are in frequent contact with." (p. 2609)

The authors conclude that "…motivational values offer more predictive power than sociodemographic characteristics when it comes to understanding the importance that people place on specific media literacy outcomes." (p. 2613) In this regard, they argue that designing a media literacy education approach targeting people's values would be effective. "For instance, a media literacy program might appeal to citizens' concerns for safety and security but approach the topic

of online safety in a balanced manner that avoids the sense of moral panic that informs the worst kinds of cybersafety education" (p. 2614).

This study offers important insight into how we can strengthen citizens' media literacy and emotional intelligence. By designing programs that motivate people through their own values, media literacy education would arguably have a larger impact. Moreover, teaching individuals skills pertaining to their own emotional values would likely increase their self-awareness.

By targeting peoples' motivations, we would potentially see an increased effectiveness in media literacy education and, therefore, an improved ability amongst consumers to identify and analyze misinformation, no matter the medium.

Checking Government:

It is also important to analyze the relationship between media literacy and the public's trust in leading government institutions. As mentioned above, one of the driving forces of misinformation is distrust in our government. Media literacy requires determining what is a good and credible source (arguably one that comes from leading scientists, government agencies, or journalists). Yet, how can we teach people to identify a reliable source if they completely disregard any credibility that may be present in a leading institution's advice? Moreover, what has lead to this distrust and is there any foundation to it? If so, how can we fix this flawed system? Is it even possible?

Abuse of the scientific process has contributed to our social distrust in credible scientists and journalists. In their article "The disinformation playbook: how industry manipulates the science-policy process–and how to restore scientific integrity," Genna Reed et al. outline steps that the scientific community can take to protect themselves and the public from corporate interference.

The disinformation playbook is built on tactics that have long been used to "distort, delay, or distract the public from instituting measures that improve health…" (Reed et al., 2021). Perhaps the most obvious example is the tobacco industry marketing its products positively, downplaying the dangerous effects of smoking. Not only did cigarettes earn a sexy, seductive and classy reputation, but they were portrayed as safe.

The scientific method starts out with an observation that turns into a question. The scientist will then create a testable hypothesis to answer their question. A prediction is made based on the hypothesis until it is tested to create results that will either confirm or modify it. From there, the scientist will iterate and reflect on the results to determine future actions and implications. To translate scientific results into policy, the scientific method additionally calls for critique, replication, and further research. This process is essential to confirm the validity of the science before translating into policy. However, this procedure is extremely vulnerable to the manipulation of corporations. Rather than a healthy scientific debate, corporations will frame the scientific model as "doubt," inhibiting policymaking to curve in their own favor. "The industry disinformation playbook enables corporate actors to undermine health-protective public policy, instead bending science to fit political ideologies at the expense of public health." (Reed et al., 2021).

Reed et al. claim that there are five tactics that industries use to undermine science:

1. Faking it: Some industries will conduct or fund fake science and research, disguising it as legitimate to present a biased point of view to the public. Ex: Johnson and Johnson purposefully failed to adequately test for asbestos levels in a baby powder while simultaneously hiding unfavorable results from the FDA.
2. Manufacturing uncertainty: Industries will sow uncertainty through the public through false or baseless claims to garner further support for their cause. Ex: The Indoor Tanning Association and the American Suntanning Association promoted misinformation supporting health benefits of suntanning to undermine restrictive policies.

3. Harass Scientists: Industries will attempt to discredit scientists presenting harmful evidence to their cause. Ex: Monsanto, in response to the International Agency for Research on Cancer finding glyphosate to be a probable carcinogen, aimed to discredit and debunk them to protect their own reputation.

4. Buy Credibility: Industries have forged financial connections with science groups to further their agenda and promote a false sense of credibility. Ex: Purdue Pharma, an opioid-manufacturer, utilized the credibility of UMass General Hospital to sell more pain medication for unjust reasons.

5. Manipulate Government Officials: Some industries have influenced government employees through power, money, or resources to further their agenda. The industry can manipulate the policymaking process through lobbying Congress, writing legislation, drafting rules, misinforming regulators, using its power to speak over the public, targeting political players, and going to court. Ex: The tobacco and e-cigarette industries employed former government employees to lobby against a public-health protective flavor ban.

Given the above methods and examples, it is no wonder that the public holds considerable distrust in not only government agencies, but the scientific method itself. In order to push back on this abuse, the authors suggest that government actors must first be held accountable for permitting the above strategies. "This shift can only be catalyzed by a system that includes incentives for upholding scientific integrity and firewalls that enforce principles of scientific integrity, promote transparency in policymaking, protect independent science, and punish behavior that undermines science for the public good." (Reed et al., 2021, para. 15)

In order to achieve scientific integrity and, therefore, diminish distrust, the authors notably suggest separating industry funding from product safety evaluations and requiring authors to transparently provide people with sponsorship information and clear intentions on a public database (such as ClinicalTrials.com.) Moreover, the authors suggest funding through third party intermediaries, who can reallocate industry money to vetted researchers or organizations for product testing. This method would prevent commercial interest from influencing research through direct funding. The Italian Medicine Agency, for example, taxes the pharmaceutical industry's drug promotion, relocating these funds towards research on drug efficacy and safety.

Conflicts of interest, whether present through funding or other ties, should be punishable and required to report. In order to identify conflicts of interest, the authors support strong transparency through providing the public with visitor logs, meeting materials, and communications with stakeholders. Moreover, those challenging research health consequences must disclose their interests to weed out potential saboteurs. On the other hand, whistleblower protections are incredibly important for those who are genuinely concerned and have information on malpractice in research.

In their conclusion, the author's state, "All stakeholders, in and outside the global scientific community, must develop and enforce policies that ensure transparency and accountability in science-based decision making" (Reed et al., 2021, para. 15). If we would hold industry accountable to the scientific method, then natural trust would follow. Perhaps the biggest question here is how do we convince this radical change? In a system where commercialization and industry are prioritized, in science, the media, and at the heart of our culture, the process is daunting at the least.

Conclusion

"Misinformation," "disinformation," and "propaganda," are all terms rooted in the emotionally immature and corrupt system that we currently live in. This system is deeply unsustainable and vastly changing. As we saw at the start of our analysis, the intricate landscape of social media has provided us with a double-edged sword. While many of us have access to a widespread web of instant news and controversial opinions, we are simultaneously confronted with a tangled mess of fact and fiction. As seen in the case of COVID-19 and the Ghost of Kyiv, the narrative is easily controlled or completely uncontrolled.

As I began this thesis, I saw it as a way to dissect my own relationship with misinformation, disinformation and propaganda. I ventured in with a mindset to fix. Unfortunately, I don't think I have all the answers, but this is what I have concluded.

Since misinformation derives from a lack of education, awareness and emotional intelligence, and a deep distrust in our governing systems, the solution resides in addressing these shortcomings. While the idea of censorship appears convenient through its ability to banish any ounce of misinformation present, it is rather dangerous. Censorship would only result in an authoritative narrative and would not feed the goal of democracy. While Walter Lippman saw censorship as a way to protect citizens, I argue that an elite group of people cannot possibly know what is best for the larger majority. In this day and age, it is unfeasible for a small group of people to control the narrative when we have the technology to connect everyone. Rather, John Dewey's idea of holding a democratic discourse is the most promising and nourishing to our health as a society. If we are to find a way to balance our unhealthy habits of communication, we can grow closer to achieving this model.

So, what do we do in a world progressively growing in its confusion? We must build a self-checking democratic system that models the mode of communication we are aiming at. This can be done through fact-checking and accountability checking. Ideally, social media platforms would be equipped with a fact-checking system that, in of itself, is also checked through a diverse group of members. Moreover, we must hold our own scientists and journalists accountable to the scientific model, which has grown incredibly corrupt.

Beyond fact-checking and accountability-checking, we must also educate *ourselves* to become more media literate. As we saw in the case of "War of the Worlds," a lack of literacy with the medium of radio led to mayhem. Not only are our students lacking media literacy, but there are sectors of media literacy that teachers feel ill equipped to instruct. We must prioritize equipping teachers with the latest tools to understand the modern media landscape and to combat the rising complexity of misinformation, disinformation, propaganda, deepfakes and AI.

With various forms of change and transformation required to tackle the spread of misinformation, we must ignite motivation within people to create change. Teaching media literacy, honesty, and fact checking to individuals is going to be most successful through involving their personal values

Through the process of this project, the weaknesses of human nature have become extremely apparent: confirmation bias, divisive political ideology, and naivety. The only way to protect ourselves and others in the modern world is to enter what philosophers Thomas Hobbes and John Locke would call a "social contract." To achieve safety from misinformation, we must all promise to foster an environment that is repellent towards it. In other words, we all must enter a social contract that promotes honesty, accountability, and high quality science and journalism.

Hobbes saw this as protection against violent human nature. John Locke, on the other hand, regarded the state of nature as a state of total freedom and equality, bound by the law of nature. He argued that the law of nature obliged all human beings not to harm "the life, the liberty, health, limb, or goods of another." The lesson gleaned from this is that we cannot expect to be free of misinformation until we agree to protect ourselves and others against it. Only once we have entered such a contract can we begin to dramatically reform the corrupt system we have created.

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