

【研究ノート / Research Note】

## Keynote Address: Argumentation in the Age of Disinformation

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2024年3月17日に中央大学後楽園キャンパスで開催された「第10回ディベート教育国際研究会大会」において、イリノイ州立大学の Joseph P. Zompetti 教授による基調講演が行われました。本稿はその講演原稿をご寄稿いただいたものです。

The keynote lecture was given by Professor Joseph P. Zompetti of Illinois State University at the 10th International Conference on Debate and Argumentation Education held on March 17, 2024, at Chuo University's Korakuen Campus. This report is the invited manuscript of his lecture.

A quick Google search reveals news headlines such as, “2024 will be the Year of Democracy – or Disinformation,” “Elections and Disinformation Are Colliding Like Never Before in 2024,” “Disinformation Poses an Unprecedented Threat in 2024,” and “We Must Not Allow 2024 to be the Year Fake News Destroys Democracy.” Indeed, problems associated with mis/disinformation have been proliferating in the last decade, and now we are seeing an existential threat of AI intrusion in our news and electoral politics. This now all-too-real Sci-Fi scenario converges in 2024 with over 60 key national elections around the globe, impacting 49% of the world’s population (Ewe, 2023). To make matters worse, these nearly four billion electorates are not skilled in basic media literacy skills, much less more advanced competencies regarding digital media, and – now – digital disinformation and AI. As such, I briefly explore the intersecting forces that are shaping this crisis in order to lay a foundation for a more detailed examination of how argument and debate skills can help us temper and moderate what the World Economic Forum calls the “top risk” in 2024 – the mutually-reinforcing menace of disinformation and AI content that can influence democratic elections all over the planet. Despite this dire threat, we can explore how debate and argumentation skills translate into vital digital media literacies that can help address this global crisis. Practical strategies and exercises will also be noted so that we can confront the AI-disinformation hazards that are jeopardizing global democracy.

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### 1. Introduction

In this essay, I hope to reveal some intersections between argument theory and what I will be calling “mal-information,” and uncover some relationships between the skills learned from debate and argumentation theory as a way to temper the deluge of mal-information we receive daily. In the end, I may be posing more questions than answers, but I’m hopeful that I can offer something of value to something we all care about – argument and debate instruction – regarding one of the most pressing and potentially perilous issues of our time – mal-information.

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“Disinformation Poses an Unprecedented Threat in 2024,” and “We Must Not Allow 2024 to be the Year Fake News Destroys Democracy.” Indeed, problems associated with mis/disinformation have been proliferating in the last decade, and now we are seeing an existential threat of AI intrusion in our news and electoral politics. This now all-too-real Sci-Fi scenario converges in 2024 with over 60 key national elections around the globe, impacting 49% of the world’s population (Ewe, 2023). To make matters worse, the nearly four billion citizen electors are not skilled in basic media literacy skills, much less more advanced competencies regarding digital media, and – now – digital disinformation and AI. As such, I briefly explore the intersecting forces that are shaping this crisis in order to lay a foundation for a more detailed examination of how argument and debate skills can help us mitigate and moderate what the World Economic Forum calls the “top risk” in 2024 – the mutually-reinforcing menace of disinformation and AI content that can influence democratic elections all over the planet, along with many other alarming consequences, such as “violent protests and hate crimes to civil confrontation and terrorism” (World Economic Forum, 2024, para. 10). Such warnings and disclaimers feel a bit like déjà vu since our television and film industries have imagined worlds like our contemporary reality in science fiction classics like the series *Battlestar Galactica* (Larson, 1978-1989) and the film *The Terminator* (Hurd & Cameron, 1984). For decades humanity has pondered the possibilities of AI run amok, and now we are experiencing some of those fictional harbingers in real time.

Indeed, the advent of AI and the limitless possible relationships it can have with mal-information is staggering. In addition to how AI can amplify a deleterious digital world with devastating job losses, continued murkiness as to what is actually “true” or “real,” and election fraud, there is also a serious risk that as AI continues to “self-learn,” our ability to enact safeguards for nightmare scenarios becomes weaker and weaker if for no other reason than we simply cannot catch-up with the “dizziness” speed of AI development (Pearl, 2024). For instance, Elon Musk recently predicted that the volume of AI’s data computations will increase ten times every six months (Wang, 2024), and others surmise that AI operations will exceed 100 times the current volume within the next year (Suleyman, 2023). Additionally, all it takes is for a “lone actor” who “can ruin things for the whole group” by accessing AI code for nefarious motives, which, according to many developers in the AI industry, “could wipe out humanity” (Lovely, 2024, p. 79). In fact, a 2022 survey of the world’s leading experts on AI revealed that “nearly half of them thought there was at least a ten percent chance [that] advanced AI could lead to human extinction or a similarly permanent and severe disempowerment of humanity” (Lovely, 2024, p. 68). In other words, the Cylons are at our front door.

Despite this dire threat, I will discuss possible actions individual users of digital media can employ, with a focus on argumentation and debate theories. Furthermore, and perhaps most importantly, I will describe how – in the midst of this very gloomy and potentially cataclysmic moment in history – many communities already have an infrastructure in place to foster necessary critical digital media skills. The infrastructure can be tweaked to motivate, inspire, and facilitate better consumption, content generation, and discussions concerning digital media. As a result, we may be able to begin creating the conditions for a more honest media ecosystem, along with a world of knowledge that can positively contribute to our politics, relationships, and cultures.

But first, I want to take a moment to discuss language. There are related, but very distinct, components involved in the larger social problem of “disinformation.” Other concepts, or terms, include: misinformation, disinformation, fake news, conspiracy theories, propaganda, information “noise,” mal-information, and others. To provide clarity, I will briefly define these:

- Misinformation involves inaccurate, incorrect, and perhaps misleading information, but it is not generated or disseminated intentionally.
- Disinformation is misinformation that purposefully is created and spread for the benefit of some at the expense of others.

- Fake news is more commonly considered to be the fabricating, misleading, or mischaracterizing of issues or people in order to obtain some sort of benefit or to cause hardship for another. Fake news can also be considered a rhetorical technique to label an opposition person or group in a way that discredits or undermines the credulity of the opposition's discourse.
- Conspiracy theories are extraordinary and extreme explanations for controversial events or issues. They become ideological narratives premised on kernels of facts that exist outside the boundaries of reasonableness.
- Propaganda involves political messaging that often inaccurately promotes the views and perspectives of a political group that also is a rhetorical technique to degrade and maliciously mischaracterize opposing points of views.
- Information noise is a phrase that can be used as a “catch-all” expression for distracting, deleterious, and dishonest communication. “Information noise” can be useful when a variety of these related concepts are occurring.
- Glurge is used “to describe misinformation that plays on the desire to unquestioningly accept that which makes you happy” (Barclay, 2018, p. 2)
- Mal-information is simply negative or bad information. Like “information noise,” mal-information can be used as a “catch-all” term when multiple post-truth concepts are at work, and it can include both intentional and unintentional false information.

For simplicity's sake, I will try to use “mal-information” unless there is a specific issue that requires or could be clarified with a more accurate moniker.

Similarly, there are various ways “literacy” is characterized in scholarly literature. For instance, here is a brief sampling:

- Media literacy – “Media literacy refers to the ability to interact with media from a position of active inquiry, carefully considering media texts, the forces and factors that shape those texts, and the ways in which audiences interpret the texts or otherwise respond” (Scharer & Zhou, 2022).
- Digital literacy – “Digital literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills” (American Library Association, 2011).
- Digital fluency – describes “the ability to interpret, design, and produce digital media in a professional academic context, which is a further specification of a term used by previous researchers .... Digital fluency is a multiliteracy that integrates skills for consuming and processing information, as well as the ability to competently produce, manipulate, edit, and use digital content and information in ways that are ethical, responsible, and appropriate” (Motley & Lackaff, 2021, p. 118).
- Information literacy – “Information literacy is an integrated set of skills, knowledge, practices, and dispositions that prepares students to discover, interpret, and create information ethically while gaining a critical understanding of how information systems interact to produce and circulate news, information, and knowledge” (Head et al., 2020, p. 8).
- Critical thinking – Ennis' (1991) definition, “Critical Thinking is reasonable, reflective thinking that is focused on deciding what to believe or do” (p. 6).

Since we are discussing how to navigate news and political messaging online, including social media platforms, I prefer the term “digital media literacy”; it is not elaborate or unique, but it incorporates competency skills for digital media use with our politically-mediated world.

We should explore a bit about the current state of things. There is an important point worth noting here at the outset – the problems associated with disinformation are much more complex and potentially perilous than many may know. As a result, there are no simple answers and no easy path we can take to move us to a better place. The complex problems are worse when AI is included, which amplifies the pitfalls of disinformation enormously.

Of course, disinformation is not new. Arguably, the Trojan Horse was a form of disinformation. In more recent times, we know there was deceptive messaging during our revolutionary war, so-called “yellow journalism” during the Spanish-American war, a fabricated story about the attack of the USS Maine that prompted our involvement in the Spanish-American war (Hearst, 1898), the propaganda and subsequent labeling of all rival news as *lügenpresse* from the Nazis, the Gulf of Tonkin incident that precipitated our incursion into Vietnam (Kreitner, 2014), lies about WMDs in Iraq, Russian trolls during the 2016 U.S. presidential election, over 33,000 lies from Trump while he was in office, the rise of so-called “fake news,” and so on. Yet, as most scholars who study mis/disinformation will admit, mal-information almost daily has increased and become more of an insidious problem since the onset of social media, which exacerbates the problem in a number of ways (Kreps, 2020).

Social media – and online media as a whole – complicates and worsens mal-information both in terms of the content that is generated as well as the architecture of digital media. Mal-information seems more apparent now because most of us participate in information exchanges in echo chambers – insulated areas where certain types and perspectives of knowledge circulate (Emba, 2016). We often self-select particular information venues based upon our pre-existing belief systems. These information venues, also known as information bubbles, invite us to communicate with like-minded people in terms of controversial issues, such as religion and politics (Kitchens et al., 2020). When we generate knowledge and share it with others, and when we seek information from them, we typically are attracted to those who think like us. Known as confirmation bias, we actively pursue others who think like us and believe in similar things because we generally do not like to think we are wrong (Klein, 2019; Westerwick et al., 2017). We actively seek to be accepted into social groups – so we flock to people who already agree with us. If we are ever challenged in our beliefs, instead of questioning our positions or engaging in self-reflection, we might seek comfort by revisiting our echo chambers who will remind us that we are correct. When we are locked into echo chambers, many of us may never be exposed to other viewpoints, or when we are exposed to them, we “double-down” and become entrenched in our predispositions when we are seemingly validated by others who agree with our ideological points of view.

The existence and digestion of mal-information is a major issue, but it is even more problematic when we consider the ways in which mal-information persists and operates. In addition to the presence of information bubbles, digital media is governed by the profit motive, or what Dan Schiller (1999) terms, “digital capitalism,” mainly by attracting users to sites so they can be exposed to advertisements – the more users who see the ads, the more money is generated. However, this basic operation has a much more noxious side-effect than just trying to advertise. To attract users, websites and social media platforms purposefully seduce us to their sites – this is done by using certain fonts, pop-ups, images, videos, and enticing language. Once we are there, digital media wants us to remain there – the longer we are visiting a site, the more we are exposed to their advertisements. Of course, sustaining our attention can be a major challenge since we, on average, have an eight-second attention span (McSpadden, 2015), and items that require our attention must compete with other elements who also want our attention. Known as the “attention economy,” our ability to diligently commit to a singular issue operates in a zero-sum game with other competing concepts and companies who work diligently and cunningly to capture and maintain our attention (Motley & Lackaff, 2021; Woolley, 2023). Digital media tries to keep us in their orbit in a variety of ways, such as “infinite scroll feeds,” the dopamine our brains release when we receive notifications, sharing sites to like-minded digital media friends, and what is called

“engagement optimization,” (Berger, 2020; Candogan & Drakopoulos, 2017) where users can rate (like/dislike), upload content, comment on content, and share information to platform contacts (Khan, 2017, p. 236; Rathje et al., 2021).

Finally, social media sites use algorithms to tailor a user’s experience by catering to their identities and interests, based on their prior online use. There are a variety of different types of algorithms, but the type of calculating process that attracts users and entices them to stay and use a site are called “recommendation algorithms,” which suggest sites to visit, offer links to information the platform calculates the user will want, and encourages sharing the site to platform friends. Because these algorithms encourage users to visit and stay on a particular site, they are also known as “propagation” algorithms (Narayanan, 2023).

Understanding the infrastructure of digital media can help us process how users are encouraged, if not seduced, into the digital universe. However, we are also discussing how a specific type of information is generated, encouraged, shared, and utilized for pernicious reasons. There are a number of reasons why mal-information is created and circulated, and perhaps knowing some of the reasons it exists can help us identify it and jettison it from our decision-making before it can be harmful to us. The most notable reason mal-information exists, particularly in the realm of contentious issues, is to amplify one side of the controversy and diminish the other. Obviously, political actors use mal-information to promote their ideologies and to undermine the positions of their rivals. Another reason it pervades our digital media is because in certain situations, mal-information can be profitable. Of course, some industries or businesses can promote mal-information if the material can damage the reputation or market share of a competing company. Finally, some media users create mal-information for the excitement in knowing they can have an impact on the world. The Macedonian teenagers who were responsible for much of the mal-information during the 2016 U.S. presidential election reportedly began their endeavors as pranks, and then later they discovered they could also profit financially from their misdeeds (Hughes & Waismel-Manor, 2021; Smith & Banic, 2016).

The existence of mal-information in our digital ecosystem is certainly cause for concern in its own right. The situation worsens when we combine the actual messages with the digital infrastructure. In other words, the digital landscape encourages the creation of mal-information, but it also uniquely amplifies the speed and scope of the information dissemination. First, like rubbernecking when drivers on the freeway slow down at the sight of an accident, some people find it very difficult to ignore extreme and even toxic messages. The more outrageous the comments, the more likely they are to be shared, retweeted, or recommended by users. In fact, we know that the spread of mal-information on social media is much faster and deeper than standard, “true” news (Vosoughi et al., 2018). Even when digital media users do not agree with the message content, the posts may spread because they seem absurd; however, not everyone will interpret them as absurd, and – in the process – the message continues to spread while more and more users are exposed to it.

As a result, the consequences of mal-information have been, in many cases, enormous. In some instances, mal-information has directly and indirectly been responsible for fatalities related to propagated ideology, for example the 2019 Walmart shootings as a result of racist disinformation where 20 people died (Citron, 2020), those who perished during the January 6 insurrection, the Pizzagate conspiracy, etc. The misinformation that circulated about COVID-19 caused an estimated 319,000 deaths, many of which could have been prevented (Aubrey, 2022). Of course, while the aggregate, total financial costs of disinformation are impossible to quantify, the reputable think tank Statista – who compiles and interprets statistical information on a variety of social issues – estimates that disinformation thus far has cost the planet roughly 78 billion dollars (Romano, 2022). Finally, we know

that mal-information has resulted in serious intangible consequences, not the least of which is the eroding and, occasionally outright overthrowing, of democracies.

When we read and ponder about the nature of mal-information and all of its deleterious consequences, we can leave feeling very despondent without much, if any, hope for the future. Indeed, mal-information seems to prey on some of humanity's deepest vulnerabilities, concocting frightening scenarios that tear apart our communities and countries, only to point into the direction of a constructed solution that benefits the very sources of the mal-information in the first place.

Furthermore, mal-information, AI, and digital media are all very complex phenomena, and even more so when they are combined. To address the litany of problems associated with this new digital age is no simple task. I caution all of us that there probably is not a single answer, there is no panacea, no silver bullet. Indeed, I concur with the recent European Union task force (Bjola & Pamment, 2016) concerning disinformation and other groups like the Empowering Diverse Digital Citizens Lab at Stanford University who advocate for a multi-tiered, comprehensive framework that addresses the different and various aspects of digital mal-information.

Perhaps the best way to consider solutions is to first identify the multiple causes or variables that exist which contribute to the overarching problem that I have been discussing. This means an approach that concerns the mal-information propagated by foreign countries and their surrogates, an approach that focuses on social media platforms (such as possible government regulations or incentivized industry standards), an approach that addresses mal-information from our political parties and candidates, an approach that offers possibilities in our educational institutions, and, of course, an approach that helps individual users as they continue to utilize and navigate the digital terrain. As an educator, I believe the last two approaches have some overlap. Thus, I will spend my time discussing these last two approaches and leave the conversations concerning the directives for the other dimensions of the problem to others more talented and uniquely suited than me.

Therefore, in this next section, I will focus on how argumentation theory can help us address some of the problems related to mal-information in our society. There are two fundamental dimensions to what I will be noting here – the first is how argumentation theory can help our schools and educational institutions better prepare students and citizens for our digital world that is filled with mal-information. The second layer is what I think argument and debate concepts can do for individual users of digital media. These are obviously related areas and some overlap will be inevitable.

## **2. Argumentation theory**

Ideally, every high school, college, and university should offer argumentation courses. Unfortunately, they do not, and even when they are offered they are usually electives. For years, those of us who believe in the value of argument skills have diligently advocated for more argument courses, including the possibility of adopting a “debate across the curriculum” initiative in high schools (Bellon, 2000). A quick reference about the relevance of such classes can be seen in proposals to implement debate courses that instruct students about the construction and use of AI (Bauschard et al., 2023; Bauschard & Rao, 2023). Today these courses are more important than ever. For schools that already offer argumentation courses, they already have an infrastructure in place to re-design those courses for use as a way to teach digital literacy skills. For those institutions that do not have argument courses, perhaps new proposals for them that integrate critical digital literacy skills can be a way to convince administrations to now include them.

For many of us, the connection between digital literacy skills and argumentation is natural, even obvious. But that connection does not happen for everyone, and we should develop ways that clearly

articulate how argumentation theory can be used to educate digital literacy. As such, I want to highlight and propose the following three key areas that can boost digital literacy.

*Topoi* – also known as *loci*, commonplaces, or argument fields – is a categorization system first described at any length by Aristotle (McAdon, 2003). They also serve as a way of discovering and constructing argument: “All arguments begin somewhere, not in the sense of a dispute or conflict that needs resolution, but the decisions regarding how to construct and present the argument. So all arguments will have their source in some *topos*” (Tindale, 2007, p. 8). Aristotle described two types of *topoi* – general/common *topoi* that can be used for any controversial issue, and specific *topoi* that are also “generic” in that they can be applied to a variety of issues, but they are techniques that involve more particularized arguments (Aristotle, 1924). Aristotle listed 28 general *topoi*; some examples are more or less (maximizing/minimizing), part to whole (synecdoche), cause to effect, turning opponent’s arguments, etc. Particular *topoi* involve arguments that are specific to a distinct field, area, or discipline. For example, cause and effect arguments entail specific claims and warrants in the area of religion (teleology) as compared to verifiable cause and effect arguments in the discipline of physics. But, in both cases, a skilled orator who also was knowledgeable in theology could advance *topoi* that are applicable in a variety of ways but only in that arena.

Thus, as a way of classifying, identifying, and constructing arguments that are applicable to a variety of issues, *topoi* can be helpful when assessing mal-information. As such, *topoi* can help us determine if messages contain reasonable arguments that are contained in the information (Zompetti, 2006). For instance, we can use the *topos* of “part to the whole” – or synecdoche – to consider a frequently shared argument in social media: People who oppose mandatory vaccines claim that since some children became sick after receiving a measles shot, then we should oppose other vaccines that can trigger devastating side effects. Someone skilled in using *topoi* – even if they know nothing about epidemiology or vaccines – can reasonably question such logic on the grounds that what is true in one instance of vaccinations does not necessarily make it true in all instances. Of course, one could also question the strength of causality in such an argument. In either case, *topoi* can help us evaluate the strength of an argument that is spreading across social media, even when we are not experts in the subject matter.

In addition to *topoi*, argumentation theory offers us another useful skill when interacting with digital media messages. At the core of argumentation theory is “the argument” – the fundamental component of the process of argumentation. Various definitions of argument exist, but I have always been fond of Ziegelmüller’s definition that it is a complete unit of proof (Ziegelmüller & Kay, 1997, p. 37). Those units consist of evidence and reasoning. This conception of argument is consistent with the famous notion of argument that was offered by Stephen Toulmin (2003) – where a conclusion, or claim, is the sum of data (evidence) and warrants (reasoning). On a very basic level, just knowing what an argument is and how it is constructed can be useful when we encounter mal-information. For example, when claims are made in social media that lack evidence and/or reasoning, we should immediately flag the message as an incomplete argument and, at best, perhaps a somewhat informed opinion. For our purposes, however, an incomplete argument should alert us that it isn’t really an argument at all and, as a result, it should not be given much weight, especially if it is used to support a controversial point of view.

Of course, knowledge about the construction of arguments can help us in other ways. If an argument has evidence and reasons, that does not automatically make it a strong or compelling argument. Before accepting or believing the argument, we should first examine and critically question the evidence and reasoning used to support or justify the claim. To do so, we can apply “tests” to the evidence and reasoning, which interrogatively look like this:

Evidence:

- Recency – is the evidence timely or does it align with the current, real situation?
- Source identification – is the source identifiable; is it knowable? Is the source a human, a social media bot, or AI?
- Source willingness – is the source freely, without coercion or enticement, providing the information?
- Source ability – is the source credible, with expertise, and without (at least minimally) bias?
- Context – is the evidence consistent with the source’s intent?
- Internal consistency – within the evidence itself, is the source and the information consistent?
- External consistency – do other reputable sources agree or support the information from the cited source?

Tests for statistical evidence:

- Sampling – Is the sample size adequate and sufficient?
- Statistical unit – is the metric being used adequate and sufficient? (e.g., percentages vs. aggregate data)
- Time period – are the statistics appropriate for the time period under investigation?

Tests of reasoning:

- Internal consistency – is the line of thinking consistent within itself; in other words, does it avoid contradictions?
- External consistency – is the process of thinking consistent with related issues?
- Acceptability – is the reasoning acceptable to the consensus of experts in the specific field of study?

These are merely examples and not an exhaustive list of the tests we can apply to evidence and reasoning. Simply by asking these basic questions, we can quickly assess the relative merits of the arguments. Questioning evidence and reasoning in this way is not a panacea. For instance, if we applied these tests to the arguments proffered by climate change deniers, then it should be clear that their arguments are inadequate and insufficient, if for no other reason than climate change denial arguments are rebuked by over 98% of the world’s climatologists, meteorologists, and other scientists (Anderegg et al., 2010; Carlton et al., 2015; IPCC, 2014; NASA, 2003; Oreskes, 2004). However, we know that when faced with cognitive dissonance, many people will not change their minds in congruence with other reputable sources, but instead they will avoid the tension altogether or they will try to delegitimize the sources from the opposing view (Wade & Villines, 2024). Nevertheless, employing these simple questions can help us make better, more critically-informed decisions because, when equipped with the answers to these questions, we can better assess the quality and adequacy of the evidence and reasoning.

Another area where argumentation theory can help us address mal-information is the concept of fallacies. In addition to asking the critical questions pertaining to reasoning that I just described, we can also equip ourselves with some of the more common techniques of using “flawed reasoning.” Known as fallacies, flawed reasoning is practically ubiquitous, especially since most of us are not trained in the proper use of reasoning (Paul & Elder, 2012). But, it would be incorrect to also say that all fallacies are problematic or incorrect. In other words, an argument may be a sound and appropriate argument even if it is supported by fallacies; fallacies alone do not necessarily discredit or undermine an argument. However, knowing about fallacies and being able to identify many of them – particularly the more common ones – can help us reduce mal-information or, at least, help us to process mal-information to minimize potential negative consequences.



One of the advantages to learning argumentation theory is the acquisition of knowledge about such fallacies. Realistically, most of us will not know every possible fallacy, and many of us will only remember a couple. Like learning a foreign language, knowledge about arguments and fallacies can be quickly lost if not used frequently. Despite this, if we learn just a few of the fallacies, such knowledge can benefit us significantly. For instance, one common fallacy is known as the *ad hominem* fallacy, which occurs when a rhetor attacks the character of their opponent instead of the actual arguments, such as when Donald Trump refers to Hillary Clinton as “crooked Hillary,” or when he labels President Biden as “sleepy Joe.” Another common fallacy is the slippery slope fallacy, which proposes that a serious impact will happen at the end of several cause and effect moments that are loosely connected. For example, some opponents to marriage equality make the argument that allowing same-sex couples to marry will establish a precedent that would then justify marriage to a family member, which then could justify marriage to one’s pet, and so on. Not only is the logic connecting these marriage iterations tenuous (at best), but they also ignore how intervening variables or circumstances could happen at any point, thereby breaking the chain of causal nodes that then precludes triggering the final impact. Additionally, another common fallacy is the *post hoc ergo propter hoc*, which means “after this therefore because of this.” Also known simply as a *post hoc* fallacy, this line of reasoning supplies a faulty cause of a particular effect. For instance, I have noticed the past few times I have eaten Thai cuisine that more gray hairs appear in my beard. Like the logic of “where there is smoke, there is fire,” the *post hoc* fallacy argues that because B happens immediately after A, that somehow A is the cause of B. Of course, B can happen without A (gray hairs appear even when I do not eat Thai food), and A can occur without causing B (even if I eat Thai food every day, I will probably notice some days when gray hairs do not emerge). Yet, public officials, lawyers, politicians, and essentially anyone who makes arguments probably engage in *post hoc* justifications. Our job is to spot them when they occur and not fall into the trap of automatically assuming that B is the result of A.

### 3. Debating skills

In addition to argumentation courses, we know that co/extra-curricular debating activities can foster important critical thinking skills (as well as other skills) that can be used to boost digital literacy. Debate courses and competitions can offer a couple of benefits that are only found together in debating activities, namely research skills, reasoning skills, critical thinking skills, and civic engagement skills.

Since the foundational component of all debating activities is the argument, it should come as no surprise that debate can capture and promote all of the benefits we just discussed with argumentation theory. However, debate offers additional advantages that go beyond argument theory. First, debaters must learn how to efficiently and thoroughly research any and all arguments relating to a controversial topic. Depending on the debate format, students will learn valuable research skills. For limited preparation styles (such as parliamentary debating), competitors may know before the tournament commences what possible topic areas might be addressed in competition, although the debaters will not know the specific topic until shortly before a round commences. With this format style, students may do general research throughout the week, primarily by paying attention to current events along with researching generic arguments that can be used regardless of the topic area – much like knowing general *topoi*. In other debate formats, when specific topic resolutions are announced prior to the tournament, debaters will conduct extensive research in preparation for the competition. With this type of research, students learn how to brainstorm, prioritize, then locate evidence – generally expert testimony evidence that appears in the form of quotations – and, finally, organize the researched evidence into coherent and strategic arguments. Research of this kind typically involves in-depth research on both sides of a controversial topic that should include material located in books, newspapers, academic journals, opinion-based internet posts, etc. In so doing, debaters need to pay close attention to source qualifications, the recency of the evidence, and the overlapping relationship one set of arguments may

have with other sets in order for the debaters to advance multiple arguments simultaneously, but with the capacity to know if the different sets of arguments are consistent with each other.

Since debate requires the construction of arguments, research skills are vital when producing argument briefs, structured outlines, and overall articulations of key positions. In addition to research, debaters also acquire powerful reasoning skills. Framing debates, ensuring the consistency of arguments, and the prioritization and explanation of overarching positions of advocacy require advanced reasoning skills. Advancing one's strategic maneuvers while simultaneously refuting and minimizing their rival's arguments also necessitates higher-order reasoning skills, not the least of which is a laser-like focus regarding the pivotal argumentative positions.

Fundamentally, debate requires the weighing of evidence, contrasting arguments with the positions from the opposition, and assessing different points of view that can maximize one's ability to prevail during competition. In addition, some debate formats require debaters to "switch-sides" from one individual debate match-up to the next, which means they will need to advocate support for a proposition during one round, and then they will be slotted to debate a different team while defending the opposite position that they advocated in the previous round. Even in debate formats that do not require switch-side debating, debaters need to research and understand the positions of their opponents so they can anticipate certain forms of attack. Such critical reflection is a technique all of us should employ when confronted with mal-information and with any controversial discussion we may have with anyone. Indeed, "Critical thinking also enables people to question issues that normally seem obvious in order to uncover hidden meanings, agendas, and purposes. In short, critical thinking empowers individuals to process information quickly in organized ways to maximize the use of such information, hopefully for the betterment of the individuals involved and/or the community as a whole. In an age when information is rapidly proliferating and our time to process it remains constant, critical thinking skills are absolutely critical for everyone" (Zompetti, 2006, p. 22-23). As a result, this type of critical thinking teaches us life-long skills such as prioritizing, discernment, breadth and depth research techniques, understanding of multiple – even contradictory – perspectives, and focused ruminating.

Finally, debating competitions use the knowledge gained from heightened research techniques and then applies them in the form of particularized and strategic arguments that support or refute controversial issues. When accumulating evidence and preparing sound reasoning to cohere the necessary elements into a unified, overarching framework, the debater then converts the evidence, reasoning, organization, and main thesis of inquiry into a form of advocacy. The debaters may be advocating before the judge of the tournament round, the other debaters who may be witnessing the round, and – depending on the topic and nature of the controversy – spectators unaffiliated with the debate competition. In some relatively rare cases, university administrators or even public officials might be present, giving the debaters a unique opportunity to compel social change. Of course, in the "average" debate round, the debaters may not be trying to actually persuade anyone; they merely may be just playing a "game" that has certain rules and a complicated objective. The ultimate objective, of course, is to win the debate, which requires a judge (or a panel of judges) to adjudicate the process. After assessing all of the individual arguments, the judge should evaluate each side based on their delivery of the specific arguments and by contrasting those positions against the opposition's arguments, which essentially uses two criteria, known in the parliamentary debate world as "manner" and "matter," wherein manner includes elements of style and performance, and matter refers to the relative strengths and weaknesses of argument content. In other words, the judge evaluates the style and the substance of the debaters' performance.

In these ways, debate competition involves the teaching and learning of sophisticated research, argument construction and refutation, organizational skills, and, of course, critical thinking techniques. Since the foundation for any debate is the discussion of multiple types of arguments, the debate activity itself

provides the means by which we can educate each other – and our students in particular with supporting school curricula – in appropriate and necessary literacy skills that also incorporates the use of digital media. Fundamentally, the skills acquired with debating are also cross-over skills that can – and should – be used in other situations. For our purposes in teaching digital literacy, the techniques learned via debate provide invaluable tools to identify quality source material, gauge the veracity of claims from others, compare and contrast pieces of information involving a controversial issue, question the value of different perspectives, and so on.

#### **4. Concluding thoughts**

We now should have a clearer understanding of the different types of mal-information, literacy options, and an appreciation that we are facing an uncertain and potentially scary future. It is crucial that we remind ourselves that the digital media ecosystem does not need to be frightening; and, as described above, we also have possibilities to minimize the impact of mal-information. In many places we already have an infrastructure in place to improve our digital media competencies. We can build upon our current educational scaffolding by incorporating ways to identify mal-information, improving our awareness of their insidious operations, and equipping ourselves with techniques to assess and evaluate potential mal-information. Additionally, we can combine argument and debate pedagogy with other efforts at minimizing the impact of mal-information. For example, a common and popular media literacy technique that is taught in a variety of ways that transcends disciplinary boundaries is the SIFT method.

SIFT is an acronym for Stop, Investigate the source, Find trusted coverage, and Trace the evidence used in mal-information messages (Caulfield, 2019a, 2019b):

- **STOP.** First, when you first hit a page and start to read it — STOP. Ask yourself whether you know and trust the website or source of the information. If you don't, use the other moves to get a sense of what you're looking at. Don't read it or share it until you know what it is. Then, after you begin the process and use the moves it can be too easy to go down a rabbit hole, chasing after more and more obscure facts or getting lost in a “click cycle”.
- **INVESTIGATE** the source. This can be done using the tests of evidence and reasoning discussed earlier.
- **FIND** better coverage. At a minimum, when we research controversial issues, we should diversify our exposure to different outlets so that we can view what other people are digesting, check the accuracy of claims made in arguments, and allows us to break away from echo chambers and information bubbles that may be reinforcing and perpetuating certain ideological positions that could be toxic.
- **TRACE** claims, quotes, and media to their original context. Incorporating this technique into our information processing allows us to continue fact-checking, permits us to compare our current circumstances to other contexts that may have used the same evidence, and this enables us to choose from a variety of sources and contexts to make the best – and most well-informed – decisions possible.

Models and techniques like SIFT can equip us to adequately handle the pernicious effects of mal-information. Another useful model that helps envision a process that responds to mal-information utilizes the following five stages: 1) Explain the difference between fact and fiction, 2) Make the bias of the rhetor clear, 3) Clearly state what the consequences are for believing in the argument, 4) Compare and contrast the consequences, and 5) Focus in impact, not intent (Garcia de Müller & Monty, 2021, p. 161). Furthermore, when we combine various concepts in our arsenal against mal-information, we strengthen our position and competencies.

Of course, teaching argument and debate skills by themselves will not fully address the menacing problems perpetuated by mal-information, AI, etc. Larger issues that target network infrastructures, policies and regulations that monitor and guide cyber corporations, sophisticated counter-algorithms with the sole purpose of locating and disarming mal-information, and other legal, policy-oriented, and technological solutions must be explored and developed. However, at its core, any effort at constraining troubling mal-information must begin with teaching and learning the life-long skills of critical thinking, digital (media) literacy, and other pedagogical tools outlined in this essay (Lewandowsky et al., 2017). Once those skills have been adopted, they will augment and ease infrastructural and technological initiatives.

Ultimately, we must remember that we live in an uncertain world. My mentor and acclaimed argument expert, George Ziegelmueller (Ziegelmueller & Kay, 1997), wrote that we live to decrease uncertainty, particularly since uncertainty constantly bombards us from all directions. Indeed, this is the connection to argumentation, because the study of argument is precisely the search of decreasing uncertainty. Humans like order, predictability, certainty. When we encounter issues of controversy – that are by their nature “uncertain” because there are multiple perspectives – we use argument theory to help us make sense of the confusion, to make sense of the conflicting points of view, to make sense of what decision to make.

Finally, many instructors advocate that we integrate AI into our classrooms so our students will be prepared when they use digital media in their chosen career field. But, given the complexity and almost daily advances in the artificial intelligence industry, we cannot possibly prepare our students sufficiently for using this technology. If they learn how to use digital media in various contexts, especially AI, then by the time they begin their new job, the technology will have radically already been fundamentally altered. As such, I encourage education institutions and my fellow colleagues to teach the sorts of digital literacy techniques that I have been describing throughout this essay. We can (and should) let industry teach our students about how to use digital media while they are on the job. For us, we should do what we are trained to do, which is embracing the liberal arts concept of critical thinking and then teach it while combined with other literacy techniques, such as *topoi*, fallacies, and the SIFT method. In this way, we can prepare our students for life after college by instructing them with the life-long skills necessary to make critically-informed decisions, to avoid mal-information and social media seduction efforts, and ultimately with the pivotal skills required to be an informed, ethical, and critical citizen of the world.

## References

- American Library Association (2011). *What Is Digital Literacy?* American Library Association Institutional Repository. <https://alair.ala.org/handle/11213/16260>
- Anderegg, William R. L., Prall, James W., Harold, Jacob & Schneider, Stephen H. (2010). Expert Credibility in Climate Change. *PNAS*, 107(27), 12107-12109. <https://www.pnas.org/doi/epdf/10.1073/pnas.1003187107>
- Aristotle (1924). *Rhetoric* (W. Rhys Roberts, Trans.). Oxford: Clarendon Press.
- Aubrey, Allison (2022, May 16). How Vaccine Misinformation Made the COVID-19 Death Toll Worse. *NPR Morning Edition*. <https://www.npr.org/2022/05/16/1099070400/how-vaccine-misinformation-made-the-covid-19-death-toll-worse>
- Barclay, Donald A. (2018). *Fake News, Propaganda, and Plain Old Lies: How to Find Trustworthy Information in the Digital Age*. Lanham, MD: Rowman & Littlefield.
- Bauschard, Stefan, Coverstone, Alan, Rao, P. Anand, & Rao, Sebastian (2023, September 4). *Beyond Algorithmic Solutions: The Significance of Academic Debate for Learning Assessment and Skill Cultivation in the AI World*. Paper presented at the Cottesmore's Free AI Festival. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4567346](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4567346)
- Bauschard, S., Rao, S. (2023). The Integration of Generative AI Technologies into Speech & Debate: Opportunities for Skill Development and Automated Approved Academic Research Applicable to K-16. In *Chat(GPT): Navigating the Impact of Generative AI on Education Theory and Practice*. Pedagogy Ventures, LLC.
- Bellon, Joe (2000). A Research-Based Justification for Debate across the Curriculum. *Argumentation and Advocacy*, 36(3), 161–175.
- Berger, Alex (2020, October 1). A Constructive but Critical Look at the Social Dilemma. *Medium*. <https://medium.com/swlh/a-constructive-but-critical-look-at-the-social-dilemma-bfe4241f6a2d>
- Bjola, Corneliu, & Pamment, James (2016). Digital Containment: Revisiting Containment Strategy in the Digital Age. *Global Affairs*, 2, 131–142
- Carlton, J.S., Perry-Hill, Rebecca, Huber, Matthew & Prokopy, Linda S. (2015). The Climate Change Consensus Extends Beyond Climate Scientists. *Environmental Research Letters*, 10(9) <https://iopscience.iop.org/article/10.1088/1748-9326/10/9/094025/meta>
- Caulfield, Mike (2019a). Check, Please! Starter Course Released. *Hapgood*. <https://hapgood.us/2019/08/13/check-please-starter-course-released/>
- Caulfield, Mike (2019b). Lesson Five: Trace Claims, Quotes, and Media to Their Original Context. Check, Please! Starter Course Released. *Hapgood*. <https://checkpleasecc.notion.site/Lesson-Five-Trace-Claims-Quotes-and-Media-to-Their-Original-Context-06fb635bcc04569b8afe6dee13236d5>

- Candogan, Ozan, & Drakopoulos, Kimon (2017). Optimal Signaling of Content Accuracy: Engagement vs. Misinformation. *SSRN* (Social Science Research Network).  
[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3051275](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3051275)
- Citron, Danielle K. (2020). Cyber Mobs, Disinformation, and Death Videos: The Internet as It Is (and as It Should Be). *Michigan Law Review*, 118, 1073-1099.
- de Müeller, Garcia & Monty, Randall W. (2021). “Don’t Give Me Bullshit”: Constructing a Framework of Response to Fake News. In Tara Lockhart, Brenda Glascott, Chris Warnick, Juli Parrish & Justin Lewis (Eds.), *Literacy and Pedagogy in an Age of Misinformation and Disinformation* (pp. 149-168). Anderson, SC: Parlor Press.
- Emba, Christine (2016, July 14). Confirmed: Echo chambers exist on social media. So what do we do about them? *The Washington Post*. [https://www.washingtonpost.com/news/in-theory/wp/2016/07/14/confirmed-echo-chambers-exist-on-social-mediabut-what-can-we-do-about-them/?utm\\_term=.4e0330d73129](https://www.washingtonpost.com/news/in-theory/wp/2016/07/14/confirmed-echo-chambers-exist-on-social-mediabut-what-can-we-do-about-them/?utm_term=.4e0330d73129).
- Ennis, Robert H. (1991). Critical Thinking: A Streamlined Conception. *Teaching Philosophy*, 14(1), 5-24.
- Ewe, Koh (2023, December 28). The Ultimate Election Year: All the Elections around the World in 2024. *Time*. <https://time.com/6550920/world-elections-2024/>
- Head, Alison, J., Fister, Barbara, & MacMillan, Margy (2020). Information Literacy in the Age of Algorithms. *Project Information Literacy*. [https://projectinfolit.org/pubs/algorithm-study/pil\\_algorithm-study\\_2020-01-15.pdf](https://projectinfolit.org/pubs/algorithm-study/pil_algorithm-study_2020-01-15.pdf)
- Hearst, William Randolph (1898, February 17). Spain’s Victory of Peace. *History Matters: The U.S. Survey Course on the Web*. <https://historymatters.gmu.edu/d/5471>
- Hughes & Waismel-Manor (2021). The Macedonian Fake News Industry and the 2016 US Election. *PS: Political Science & Politics*, 54(1), 19-23.
- Intergovernmental Panel on Climate Change (2014). *Climate Change 2014 Synthesis Report: Summary for Policymakers*. [https://www.ipcc.ch/site/assets/uploads/2018/02/AR5\\_SYR\\_FINAL\\_SPM.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/AR5_SYR_FINAL_SPM.pdf)
- Khan, M. Laeeq (2017). Social Media Engagement: What Motivates User Participation and Consumption on YouTube. *Computers in Human Behavior*, 66, 236-247.
- Kitchens, Brent, Johnson, Steven L. & Gray, Peter (2020). Understanding Echo Chambers and Filter Bubbles: The Impact of Social Media on Diversification and Partisan Shifts in News Consumption. *MIS Quarterly*, 44(4), 1619-1649.
- Kreitner, Richard (2014, July 13). ‘Gross Cruelty and Fraud’ in the Gulf of Tonkin: A Brief History. *The Nation*. <https://www.thenation.com/article/archive/gross-cruelty-and-fraud-gulf-tonkin-brief-history/>
- Lewandowsky, Stephan, Ecker, Ullrich K. H. & Cook, John (2017). Beyond Misinformation: Understanding and Coping with the “Post-Truth” Era. *Journal of Applied Research in Memory and Cognition*, 6(4), 353-369.

- Lovejoy, Garrison (2024). Can Humanity Survive AI? *Jacobin*, 52, 66-79.
- McAdon, Brad (2003). Probabilities, Signs, Necessary Signs, Idia, and Topoi: The Confusing Discussion of Materials for Enthymemes in the “Rhetoric.” *Philosophy & Rhetoric*, 36(3), 223-247.
- McSpadden, Kevin (2015, May 14). You Now Have a Shorter Attention Span than a Goldfish. *Time*. <https://time.com/3858309/attention-spans-goldfish/>
- Motley, Phillip & Lackaff, Derek (2021). Digital Literacy in Design, Media, and Communication Disciplines: Fluency Is the New Literacy. In Lauren Hays & Jenna Kammer (Eds.), *Integrating Digital Literacy in the Disciplines* (pp. 117-130). Sterling, VA: Stylus Publishing.
- Narayanan, Arvind (2023, March 9). *Understanding Social Media Recommendation Algorithms*. Knight First Amendment Institute at Columbia University. <https://knightcolumbia.org/content/understanding-social-media-recommendation-algorithms>
- NASA (2003). *Do Scientists Agree on Climate Change?* <https://science.nasa.gov/climate-change/faq/do-scientists-agree-on-climate-change/>
- Oreskes, Naomi (2004). The Scientific Consensus on Climate Change. *Science*, 306(5702), 1686. <https://www.science.org/doi/pdf/10.1126/science.1103618>
- Paul, Richard & Elder, Linda (2012). *The Thinker’s Guide to Fallacies: The Art of Mental Trickery and Manipulation*. Lanham, MD: Rowman & Littlefield. [https://www.criticalthinking.org/store/get\\_file.php?inventories\\_id=159](https://www.criticalthinking.org/store/get_file.php?inventories_id=159)
- Pearl, Mike (2024, January 6). Survey: AI Experts’ Minds Were Blown by Last Year’s Pace of AI Development. *Mashable*. <https://mashable.com/article/ai-expert-survey-acceleration>
- Rathje, Steve, Van Bavel, Jay J., & van der Linden, Sander (2021). Out-Group Animosity Drives Engagement on Social Media. *PNAS*, 118(26), <https://www.pnas.org/doi/10.1073/pnas.2024292118>
- Romano, Martina (2022, January 31). What Is the True Cost of Disinformation? *CESIE*. <https://cesie.org/en/news/true-cost-of-disinformation-mega/>
- Scharrer, Erica, & Zhou, Yuxi (2022). Media Literacy and Communication. *Oxford Research Encyclopedia*. <https://oxfordre.com/communication/display/10.1093/acrefore/9780190228613.001.0001/acrefore-9780190228613-e-1304>
- Schiller, Dan (1999). *Digital Capitalism: Networking the Global Market System*. Cambridge, MA: MIT Press.
- Smith, Alexander, & Banic, Vladimir (2016, December 8). Fake News: How a Partying Macedonian Teen Earns Thousands Publishing Lies. *NBC News*. <https://www.nbcnews.com/news/world/fake-news-how-partying-macedonian-teen-earns-thousands-publishing-lies-n692451>

- Suleyman, Mustafa (2023, June 10). *Reddit*.  
[https://www.reddit.com/r/singularity/comments/1469vvy/within\\_12\\_months\\_there\\_will\\_be\\_a\\_model\\_that\\_is/](https://www.reddit.com/r/singularity/comments/1469vvy/within_12_months_there_will_be_a_model_that_is/)
- Tindale, Christopher W. (2007). Revisiting Aristotle's Topoi. *OSSA Conference Archive*, 141.  
<https://scholar.uwindsor.ca/ossaarchive/OSSA7/papersandcommentaries/141>
- Toulmin, Stephen E. (2003). *The Uses of Argument* (updated ed.). Boston: Cambridge University Press.
- Vosoughi, Soroush, Roy, Deb & Aral, Sinan (2018, March 9). The Spread of True and False News Online. *Science*, 359(6380), 1146-1151.
- Wade, Danielle, & Villines, Zawn (2024, January 15). What Is Cognitive Dissonance? *Medical News Today*. <https://www.medicalnewstoday.com/articles/326738>
- Wang, Brian (2024, January 4). What Does Elon Saying 10x AI Every 6 Months Means for Dojo and Tesla. *Next Big Future*. <https://www.nextbigfuture.com/2024/01/what-does-elon-saying-10x-ai-every-6-months-means-for-dojo-and-tesla.html>
- Westerwick, Axel, Johnson, Benjamin K. & Knobloch-Westerwick, Silvia (2017). Confirmation Biases in Selective Exposure to Political Online Information: Source Bias vs. Content Bias. *Communication Monographs*, 84(3), 343-364.
- Woolley, Samuel (2023). *Manufacturing Consensus: Understanding Propaganda in the Era of Automation and Anonymity*. New Haven, CT: Yale University Press.
- World Economic Forum (2024). *Global Risks Report 2024*.  
<https://www.weforum.org/publications/global-risks-report-2024/digest/>
- Ziegelmüller, George W., & Kay, Jack (1997). *Argumentation: Inquiry & Advocacy* (3rd ed.). Boston: Allyn & Bacon.
- Zompetti, J. P. (2006). The Value of Topoi. *Argumentation*, 20, 15-28.