How Post-Truth Affects the Role of Experts

Master's Thesis submitted for the

Research Master’s Philosophy

Utrecht University

July 1, 2022

Felipe Andres Vallejo

Student Number: 6293986

Supervisor: Erik Stei

Second Reader: Daniel Cohnitz

Third Reader: Mauro Bonazzi



**Acknowledgements**

I would like to thank my supervisors for all their help, especially Erik Stei who helped me, through times of stress and joy, realize my argument as I was uncovering what it was to be. I would also like to thank all the staff and students at Utrecht University who helped me undergo this Research master during the unprecedented time of COVID-19. The understanding given to me for my particular situation in being a non-EU student in those times is what allowed me to complete my Master, even though I was mostly online. Special thanks go to my friends and family for dealing with my erratic self during these last few months, and especially to my partner, Martha Beach Bartel, who was my rock and my comfort for the entirety of this process, and mother, Marlen Ortega, who inspired me to pursue philosophy and who drove me to this area of it.

**Abstract**

Many academics argue that we are now living in a Post-Truth world, where truth, and those whose job it is to share it, are becoming overlooked in favour of political lies and propaganda. The aim of this thesis is to propose an account of how Post-Truth negatively affects experts, as informants of truth, from a socially epistemological perspective. I will focus on outlining what an expert is by attributing them to the specific role of being good informants, and demonstrating how that relies on the transmission of justified testimony. I will then draw attention to three features of Post-Truth that I find the most damaging and relevant (misinformation, echo chambers and polarization), and the manner that they affect experts through their impact on the hearers of testimony. I lastly introduce some practical examples and arguments to demonstrate how exactly Post-Truth negatively affects experts and their role.

Table of Contents

 [Introduction 2](#_Toc107316872)

[Freedom Convoy 2022 6](#_Toc107316873)

[Misinformation/Disinformation 7](#_Toc107316874)

[Echo Chambers. 9](#_Toc107316875)

[Political Polarization 11](#_Toc107316876)

[Section I – The Role of Experts 14](#_Toc107316877)

[Introduction: What is an Expert? 14](#_Toc107316878)

[What is an Expert?: Definitions and Common Beliefs 14](#_Toc107316879)

[The Role of Expertise 16](#_Toc107316880)

[Testimonial Justification 18](#_Toc107316881)

[Nonreductionism/Reductionism Debate and Hybrid 18](#_Toc107316882)

[Evidentialism/Nonevidentialism Debate and Hybrid 20](#_Toc107316883)

[Lackey Against the Assurance View 21](#_Toc107316884)

[Lackey’s Account of Testimonial Justification 23](#_Toc107316885)

[Local vs Global Rationality 25](#_Toc107316886)

[The Role of Experts Recapped 27](#_Toc107316887)

[Section II – The Problems of Post-Truth 28](#_Toc107316888)

[Introduction: An Entangled Web 28](#_Toc107316889)

[Misinformation 29](#_Toc107316890)

[The Misleading Nature of Misinformation 29](#_Toc107316891)

[The Epistemic Problem of Misleadingness 32](#_Toc107316892)

[Special Kind of Disinformation: Fake News 35](#_Toc107316893)

[Echo Chambers 37](#_Toc107316894)

[Echo Chambers and the Problem of Credence 37](#_Toc107316895)

[Lackey on Echo Chambers 39](#_Toc107316896)

[A Defense of Echo Chambers 42](#_Toc107316897)

[Polarization 44](#_Toc107316898)

[Motivated Reasoning 45](#_Toc107316899)

[Intertwining Polarization 46](#_Toc107316900)

[The Epistemic Problem of Polarization 49](#_Toc107316901)

[From Situations to Applications 51](#_Toc107316902)

[Interlude- The Modern Situation of Experts 51](#_Toc107316903)

[Introduction 51](#_Toc107316904)

[The Post-Expert Challenge, Then and Now 51](#_Toc107316905)

[The Epistemic Problem of Social Media 57](#_Toc107316906)

[Expert Identification on Social Media 57](#_Toc107316907)

[The Bent Form of Testimony of Social Media 58](#_Toc107316908)

[Setting the Scene 60](#_Toc107316909)

[Section III- How Post-Truth Affects Experts 61](#_Toc107316910)

[Criteria and Applications 61](#_Toc107316911)

[Misinformation and Experts 63](#_Toc107316912)

[The Misinformation Effect on News Media 63](#_Toc107316913)

[What this means for Experts 65](#_Toc107316914)

[Echo Chambers and Experts 67](#_Toc107316915)

[Echo Chambers on Social Media 67](#_Toc107316916)

[Echo Chambers Effect on Experts 70](#_Toc107316917)

[Polarization and Experts 73](#_Toc107316918)

[Polarization and Science 73](#_Toc107316919)

[Science Polarization 73](#_Toc107316920)

[Psychological vs Ideological Science Rejection 75](#_Toc107316921)

[What this means for Experts 78](#_Toc107316922)

[Problems Recapped 79](#_Toc107316923)

[Conclusion 80](#_Toc107316924)

# Introduction

 The term “Post-Truth” has been highly popularized and discussed since being declared the word of the year by Oxford Dictionary in 2016[[1]](#footnote-1). It was chosen after the UK’s Brexit vote and Donald Trump’s Presidential election, with the word having had an extraordinary spike after these two events[[2]](#footnote-2). Many academics have tried to conceptualize this term and its implications over the years. Lee McIntyre[[3]](#footnote-3) describes Post-Truth not as claiming that truth no longer exists, but rather that it has become irrelevant in comparison to how we feel about the world around us in relation to our ideologies. He maintains that “Post-truth amounts to a form of ideological supremacy, whereby its practitioners are trying to compel someone to believe in something whether there is good evidence for it or not[[4]](#footnote-4). In light of this, it has been put forward that we now live in a “Post-Truth Era”, a time of tumultuous political climate, whose effects spread far beyond the offices and assemblies of politicians. Matthew D’Ancona describes this era as one in which:

“Rationality is threatened by emotion, diversity by nativism, liberty by a drift towards autocracy. More than ever, the practice of politics is perceived as a zero-sum game rather than a contest between ideas [and] science is treated with suspicion and sometimes contempt.[[5]](#footnote-5)”

Recently, however, the term itself seems to have fallen out of our everyday vocabulary. Now that the initial buzz of the term has faded, one might be curious to see if we still live in such an era. But while the term itself might not be as popular, some of its related terms and features, such as “fake news” and “online misinformation”, have only become further established. One need only look at the events such as the Capitol Hill insurrection, the Black Lives Matter protests, and, of course, the rise of the COVID-19 Pandemic.

The January 6th insurrection was sparked by a conspiracy theory allegedly promoted by former US President Donald Trump, that claimed that the election was fraudulent, and Trump had been robbed[[6]](#footnote-6). The result was catastrophic for US politics and democracy. The Black Lives Matter protest- which was triggered by the murder of George Floyd, a black man, by a white police officer, Derek Chauvin- was strife with misinformation, and BLM organizations were fighting against posts on social media that tried to villainize the demonstrators as hooligans and anarchists[[7]](#footnote-7). And perhaps the most convincing example that the Post-Truth Era is still ongoing is the COVID-19 Pandemic, which amongst all its physiological damage, also resulted in what the World Health Organization call an “infodemic”, an endemic of misinformation that causes its own wake of destruction[[8]](#footnote-8).

Considering all these happenings, some may argue that we are still in a Post-Truth Era. The dramatic rise of misinformation, echo chambers and polarization of scientific information has given philosophers such as myself a vast platform to analyze how the Post-Truth era has affected the acquisition of knowledge. As we will see, this era has been substantial in terms of how people get their information and, specifically for our cases, where they get them from. Social media and the internet have become a massive hub for the exchange and dissemination of information, and at the forefront of transmitting knowledge are the modern day “truth-tellers”: the experts of our world. With how the world is changing and evolving with technology, both the nature of the internet and social media alongside the growing polarization of politics is having a profound impact on how we view and treat relevant experts. Impacts that can be detrimental to our interdependent nature for knowledge and spell trouble for those whose role is to be informers of it.

In the introduction to his book, *The Death of Expertise[[9]](#footnote-9),* Tom Nichols describes the fall of experts during the Information age. He describes this fall not as the full death of expertise in general, for there will always be people with specialized knowledge, nor the need for them since we need experts to maintain many of the systems and features of modern society. Rather, he describes this as the death of expertise as authorities of information and truth. People are rejecting scientific facts and knowledge with no stake of expertise to back them. They think themselves as experts because they have access to endless amounts of information at the tips of their fingers. Nichols argues that this is beyond just standard ignorance, it is now stubborn arrogance. People are not only rejecting established knowledge but rejecting the institutions of science and knowledge as a whole. It is using polarized belief and reasoning to reject factual information, founded on political ideologies rather than scientific data or methods. It is the demotion of science as opinion, and the foolishly held belief that everyone is as smart and as capable in everything as everyone else. This is the what the “death of expertise” means. As he describes it, “these are dangerous times. Never have so many people had access to so much knowledge, and yet been so resistant to learning anything[[10]](#footnote-10)”. This is the phenomenon we will be investigating: if it really is the “death of expertise”, then how and why is it dying?

 In the rest of his book, Nichols dedicates his time understanding what an expert is, the dialogue between experts and laymen, the role of education and the Internet on this issue, and the effect it has on democracy. Most likely, much of what he and I are analyzing are the same, and we probably share some of the same goals in what we want our writing to achieve, but I believe our approaches are different. While his analysis seems to come from one of social and political science, I want to approach it from a philosophical perspective. Since I am coming from a stance of social epistemology, there will be applied scientific concepts and empirical data, but I mainly want to frame the problem of experts (notably scientific experts) around their role as experts, and conceptualize that role in epistemological terms, namely through the transmission of information through testimony. Then I want to investigate how it is that Post-Truth and the modern world could affect the role that experts undertake, through how it impacts their testimony, to get us to this point of the “death of expertise”. My analysis is not claiming necessarily that we definitely still are living in a Post-Truth Era, nor that the problems that can affect experts are limited to the ones I will outline. Instead, I will go off the arguments and assumptions that academics like McIntyre and D’Ancona and investigate how Post-Truth, if we are under its cloud, can affect experts in our modern world. Thus, it will be the emphasis on the various features and problems of Post-Truth working in tangent with each other to affect our current epistemological understanding of experts, alongside the inclusion of the current technological and political context, that makes my thesis distinct from other recent works. My plan is not to give an exhaustive explanatory account of Post-Truth, but rather take some of its most vital elements, elaborate briefly on them, demonstrate how they can co-exist, intermingle, and thrive on each other, and lastly theorize how they might have led us our current epistemic predicament.

 Given that this undertaking, even with the extensive scope and space that this project provides me, will still be quite sizeable, I do not want to try to tackle certain question surrounding Post-Truth such as “When did it really start?” or “Where is it going?”. My focus will simply be on Post-Truth as it is understood now. I won’t break ground in how to define or understand its relevant features, but rather outline the interconnections and impacts they have. Thus, I will briefly introduce what I argue are the most relevant features of Post-Truth to this undertaking through an event that is just one of the many that perfectly encapsulates Post-Truth: the “Freedom Convoy” protests in Canada. The rest of this introduction will be dedicated to this task, elucidating the crucial elements of misinformation, epistemic echo chambers and polarization, to paint a picture of what Post-Truth might actually look like in practice. In Section I, I will go over what is an expert and its role and argue that expert’s role relies on good testimony. In Section II, I will focus on the relevant problems of the chosen features of Post-Truth, those being misinformation, echo chambers and polarization, and frame them as distinct-yet-interconnected issues for the hearers of testimony. Before Section III, I will outline some background information on the current situation of experts in an interlude, involving the general attitude that is aimed towards them and some of the pre-Post-Truth problems that they face on platforms like social media. In Section III, I will then be taking my findings from Section II, and applying them to what we learned from Section I and uncover how it is that Post-Truth affects the epistemic status of experts by looking at how real-world examples and arguments demonstrate a profound affect on the role of experts. My goal for this thesis will be to illustrate an interconnected big picture of Post-Truth through a social epistemic lens, incorporate the relevant problems that come with these components of Post-Truth, and analyze the impacts and implications it has on the role and status of experts in our modern day.

## Freedom Convoy 2022

 On January 28th, 2022, several trucks rolled into Canada’s nation capital of Ottawa to protest the federal vaccine mandates for truck drivers[[11]](#footnote-11). The plan was to peacefully protest the recent mandates that were enforced, specifically the vaccine mandate for truck drivers crossing the US-Canada border. However, by the following day, thousands of protesters joined those truckers in their demonstration, including those that were waving confederate and Nazi flags, and certain protesters who were even found to be defacing cherished national monuments, such as the Tomb of the Unknown Soldier, and the statue of the Canadian hero, Terry Fox, with anti-vaccine and anti-mandate propaganda[[12]](#footnote-12). What this continuous occupation of Ottawa by protesters turned into, in the weeks that followed, was a mass demonstration of frustration and hate towards the Canadian government and Prime Minister Justin Trudeau. One of the movement’s primary leaders, Tamara Lich, claimed that they would stay until the Prime Minister would “[do] what is right, ending all mandates and restrictions on our freedoms[[13]](#footnote-13)”. The Prime Minister replied that he would not be meeting with the protesters, going so far as calling them a “fringe minority[[14]](#footnote-14)”, due to the hateful signs and anti-science rhetoric seen at the protests[[15]](#footnote-15). Fringe minority or not, the movement has gotten widespread support, with a GoFundMe page being opened for financial support of the movement by Tamara Lich and amassing 10$ million CAD before the page was eventually frozen by the platform for violating its terms and conditions on February 4th[[16]](#footnote-16).

 The governmental response has also pointed to this protest being more than just a fringe movement, with Ottawa first declaring a state of emergency on February 6th, the second weekend of the protests. Peter Sloly, the Ottawa police chief, declared the police force didn’t have enough resources to respond to the protest that looked like it had “no end in sight[[17]](#footnote-17)”, which prompted Mayor Jim Watson to impose the order, claiming that this situation was “the most serious emergency our city has ever faced[[18]](#footnote-18)”. Eventually, Ontario also announced a state of emergency on February 11th in response the blockades that truck drivers were causing across the commercial border crossings with the US[[19]](#footnote-19). By this point as well, the protests moved to the nation’s biggest city in Toronto, as well as across all major cities in the country[[20]](#footnote-20). By the end of the third consecutive weekend of the protest, Trudeau had had enough, and invoked the Emergencies Act for the first time ever in Canadian history, allowing federal forces to enforce provincial laws and by-laws[[21]](#footnote-21). Given this timeline of events, one may wonder how a supposedly “fringe” movement grew to be such a nuisance for Canada that it required such a momentous response? The answer lies in the mechanisms behind both the motivations of the protests, the initial response, and the role that misinformation and echo chambers on social media took from the movement’s early beginnings until the invocation of the Emergency Act. Through exploring these mechanisms, we will be able to understand how Post-Truth and its constituents, when not dealt with properly, can lead to substantial real-life consequences.

### Misinformation/Disinformation

 To begin, let us look at how this Freedom Convoy began. At the beginning, it really was a fringe minority. By the time these protests were brewing up, nearly 90% of the truck drivers that were crossing between the US and Canada had already been vaccinated, and thus the mandates would not be affecting them[[22]](#footnote-22). Of course, a few could have still joined the cause regardless of their vaccination status, but I would still assume that they only make up a minority of the trucker population, especially since the Canadian Trucking Alliance has outright condemned the protests[[23]](#footnote-23). Nevertheless, organizers posted on the “Freedom Convoy 2022” Facebook page, which has amassed over 385’000 followers to date[[24]](#footnote-24), that their numbers have grown up to just about 50’000 truckers. Some influential people on Twitter, like Joe Rogan and retired hockey star Theo Fleury even mentioned that the numbers were growing to over 130’000. The truth is that the numbers did not reach anywhere near that level. Even at the peak of the protests in Ottawa, according to Chief Sloly (who has since stepped down from his position), the numbers reached around 18’000 demonstrators, which includes all participants, not just the trucker convoy. When reached out by CNN about the false information, Fleury gave a scathing response, culminated by the phrase “Ever heard of a little thing called marketing??? It worked[[25]](#footnote-25)”, meaning that he intentionally lied about the numbers just to rouse emotion in the people who were following the movement. In other words, he was participating in disinformation.

Disinformation and its sister-term, misinformation, are one of the largest components of Post-Truth, but many are confused of their nature. There are some who see it as a type of information, and others who see it as not information at all. Sille Obelitz Soe[[26]](#footnote-26) frames disinformation and misinformation as a type of information, in the sense where its under the same umbrella as “standard” information but differs in terms of its meaning and intention. According to Soe, all three types, standard information, misinformation and disinformation, are what are called “non-natural” types of information, meaning that they derive their meaning from conventions and intentions[[27]](#footnote-27). One can understand this as a difference between the natural information “the flowers a blooming” (which is determined by the objective state of affairs of the world) and the non-natural information “the second bell of the day means that the kids at school go for lunch” (which is determined by a social convention that was intentionally made by someone). All three of these types of information, standard (intentional) information, misinformation and disinformation, are non-natural, but what differentiates them is the kind of meaning and intention behind each type, respectively.

We will go into what meaning and intention specifically mean in the passage on misinformation in Section II, but for now we can understand the difference through the intent behind the information, and the implications that are clear when one is informing. According to Soe, standard information is *intentionally non-misleading*. This means that the intention behind the information is to be true to its non-natural (conventional) meaning and not imply something that is not true to the information[[28]](#footnote-28). When I am stating that it is hot outside and it is, one can interpret that as a type of standard information. Disinformation, on the other hand, is *intentionally misleading*. In this case, my intention is to not stay true to the conventional meaning of the information by implying something else through it that is not true to the original meaning[[29]](#footnote-29). We can imagine Fleury’s statement about the numbers of truckers as fitting this, since he was intentionally trying to market the convoy as being bigger than it was, even though it was not. His intention was to try to lie about the number of truckers and thus violate the original meaning of that information, which was to indicate that there actually were 130’000 truckers. Lastly, misinformation is *unintentionally misleading[[30]](#footnote-30)*. This might be harder to understand so I will illustrate it with a more detailed example from the Freedom Convoy.

Take the case of Mitchell Bottomley, the owner of Bottomley Enterprises, a trucking company from North Carolina. He posted a video to TikTok that depicted a long line of truckers driving together, with the caption “Convoy in SC [South Carolina][[31]](#footnote-31)”. This video got over 240’000 likes on his TikTok and has spread to platforms like Instagram and YouTube with the same popularity. Many users have taken the video to be implying that this long line of truckers was actually going to join the Freedom Convoy in Canada. Fact checkers then disclosed that this information was actually false, and that the video from Bottomley was from 2021 in August, where the convoy was involved in a fundraising event in support of the Special Olympics[[32]](#footnote-32). Bottomley shared the video seemingly without the intent to misinform. Vice president of Bottomley Enterprises, Michele Bryant, defended Bottomley and stated that “the video had nothing to do with convoys headed to Canada” and that he was just sharing posts from the summer on his new TikTok account[[33]](#footnote-33). However, the context (or lack of) made the implication ambiguous, and the way it was shared made it seem like the information was implying that the convoy in his TikTok was part of the Freedom Convoy. For the sake of this argument, I will assume he is being truthful, and he did not intentionally post that video to deceive. In this case then, he had no intention of lying and going against the original meaning of the information, but it was still misleading because of its ambiguity and the way that it was interpreted by many. Therefore, it is a case of misinformation.

### Echo Chambers.

Even though Bottomley did not intend to share this video as Freedom Convoy propaganda, because of its ambiguity, it was taken out of context and thrust into the far reaches of right-wing groups across platforms like Facebook, Twitter, Rumble, and Telegram. It was posted to the main convoy supporters Facebook group, gathering thousands of likes. One may ask how then did no one even question the legitimacy of this video? It is because in these kinds of groups, once something is introduced and it fits the narrative and ideology that the group is formed upon, it is taken as true regardless of its quality, validity or truth-value. The group is comprised of far-right activists and conspiracy theorists, who spent their time complaining about the mandates and demanding action against them. The members of these social media groups on the convoy only want to spread their anti-governmental and anti-mandate beliefs and indulge others who share these, whilst shunning anyone against them as enemies of the state or people. Never was there any openness to consider the validity or sense of the mandates. Their dislike and distrust towards the government and those in power is what allowed them to become much bigger, for what turned from a small group of disgruntled conspiracy theorists to a global movement was not built off values of open debate and conversation, but rather on polarized and spiteful narratives that united those who shared in their discontent, expanding even beyond the borders of Canada to the US and Europe[[34]](#footnote-34). It was the mechanisms within the group that allowed them to maintain their vision and grow to be the force that Ottawa reckoned with in January.

Nevertheless, to call their Facebook groups as echo chambers requires some justification. For echo chambers are fickle concepts because of how epistemically innocuous they seem at the beginning. The basic elements of them on their own are not intrinsically problematic. It is part of our nature that we like to share information and create social groups based on our values and beliefs. We can see it in how we keep our friends, in the school clubs we joined as children, and more recently, in the kinds of online communities we like to frequent and engage with. In each of these groups, we tend to be open to other perspectives on various matters, for it allows for discourse and engaging conversation. However, echo chambers are groups where such tendencies and openness are noticeably lacking. Thi Nguyen[[35]](#footnote-35) describes echo chambers as epistemic communities where relevant outside voices are actively discredited and dismissed. It is not simply the case where the echo chamber is lacking in diverse views, but rather, as will elaborate later, that it feverishly devalues and diminishes any views that do not completely align with the ideology of the group. This results in epistemically problematic consequences, since potentially justified and even true beliefs are at risk of being dismissed not on the basis of their justification or truth-value, but because they don’t align with a particular ideology.

Under this conceptualization, the Freedom Convoy would be an echo chamber. They actively discredit outsiders with vitriol, and their narratives determine their beliefs. It embodies an epistemically parasitic environment where truth is subjective and pre-determined based on group values, experts are determined based not on merit but on their standing in relation to the values, and where opposers are ostracized and vilified. All these elements signify an echo chamber and also demonstrates what make these echo chambers so effective and why they are so epistemically problematic.

### Political Polarization

However, a movement like the Freedom Convoy does not reach this level of magnitude without a strong motivation beyond just discontent towards masks and occupancy limitations. Much of those that began it had strong ties to right-wing movements and ideologies. Let’s first look at the founder of the original Facebook page, James Bauder. Bauder is a QAnon conspiracy theorist[[36]](#footnote-36) and leader of Canada Unity, an anti-mandate organization that opposes all the COVID-19 restrictions[[37]](#footnote-37). James has been involved with anti-governmental movements even before the pandemic, as recently as 2019, uniting another convoy against the governments environmental policies called “United We Roll”[[38]](#footnote-38). COVID-19, and particularly, the vaccine mandates, provided him with an opportunity to make a bigger splash with his rhetoric, and so he formed the “Freedom Convoy 2022” Facebook group. After making waves on “alternative” platforms like Rumble, a right-wing video platform that was made to allow for supposed “free speech” after Canada passed a bill to crack down more on hate speech and misinformation[[39]](#footnote-39), other prominent right-wing and anti-mandate figures arose to support the cause. Figures like Tamara Lich, separatist leader and friend of Bauder in the 2019 convoy[[40]](#footnote-40), who became an official spokesperson for the convoy and one of the two main organizers of the now-shutdown GoFundMe page that raised over $10 million. The other was B.J Dichter, a failed politician turned podcaster who has been known to spout Islamophobic rhetoric and anti-Liberal propaganda, and now declares himself the “vice-president” of the convoy[[41]](#footnote-41). Even figures beyond the main organizers of the convoy have reached out with their support, such as Elon Musk and the Joe Rogan. Musk tweeted out that “Canadian Truckers Rule” and even a (now-deleted) photo of a cartoon comparing Trudeau to Adolf Hitler[[42]](#footnote-42). Joe Rogan reportedly talked about the movement excitedly and dubbed it a “revolt” on his podcast[[43]](#footnote-43). What all these leaders and prominent figures of the Convoy represent is a kind of political mentality that has been pushed towards the extreme. In other words, what they show is how far polarization can go into creating dangerous rhetoric and even action.

 Polarization has many different names and types, but for our purposes, we will be discussing three distinct types of polarization: group polarization, belief polarization and political polarization. We will define them through an analysis by Fernando Broncano-Berrocal and J. Adam Carter[[44]](#footnote-44), in which they distinguish all three types by comparing group polarization to belief polarization, and group polarization to political polarization. Let us begin with group polarization and belief polarization. Broncano-Berrocal and Carter distinguish group polarization as a “collective phenomenon”, where certain groups get the tendency to go to extremes after group deliberation. Meanwhile, belief polarization is an “individual phenomenon”, where an individual privately and biasedly assesses the available information based on their prior beliefs[[45]](#footnote-45). We can illustrate the differences with two similar examples. Imagine you are of the mind of like in the Freedom Convoy but have not deliberated with anyone from the Convoy about the issues they are protesting. Nevertheless, you are against the government mandates about COVID. If you look at a governmental announcement about the risks of COVID, you may privately, since it is just you reading, and biasedly, since you carry prior beliefs about the government and their handling of COVID, analyze that information as useless or manipulative and dismiss it as such. You dismiss it in favour of and on the basis of the beliefs you already maintained about the government, and your beliefs are pushed further in that direction. This would be a case of belief polarization. However, if you met up with people of the Freedom Convoy and engaged in active deliberation about the governmental mandates and the restrictions it has on people, then you are influencing each other, by these discussions, to go to extreme beliefs about the mandates and the government, which we evidently saw being outcried in many of the protests in Ottawa. This is a case of group polarization. Both can involve individuals and groups, but, at a fundamental level, belief polarization is an individual phenomenon, while group polarization is a collective one.

 Now, in terms of the examples we used, since we are using the Freedom Convoy to elucidate these aspects, they are some politically motivated examples. However, not all cases of belief nor group polarization need be political. That is why there is also a difference between political polarization and group and belief polarization. As Broncano-Berrocal and Carter argued, what is core to belief and group polarization is that one is a private phenomenon with biased reasoning, while the other is a collective phenomenon that can turn into a kind of biased reasoning. On the other hand, political polarization essentially involves “the kind of disagreements and divisions toward ideological poles that exist in the political life of democratic societies[[46]](#footnote-46)”. Political polarization is typically used as an umbrella term that involves a lot of different kinds of specific polarizations and phenomena, but we will not go too far into this since we want to focus on the main differences between political polarization and the other two, we distinguished (although some of these aspects under the term of political polarization will be relevant and established in the Polarization section in Section II). As defined, political polarization then deals with “politically significant issues” like that of COVID-19 mandates, while group polarization and belief polarization do not necessarily need to be involving such issues. One can imagine group polarization occurring when its about how terrible your sports team is, or belief polarization occurring when its about who is the best in reality tv shows. It need not be political. Thus, while belief polarization and group polarization can be politically motivated, political polarization is fundamentally content-specific while the other two are fundamentally content-neutral.

 On their own, it is not clear how polarization necessarily can motivate a movement and phenomenon like the Freedom Convoy, but when you put them together and see how the extreme political views adopted and embodied in these groups by their leaders influence the groups beliefs and behaviours and makes it so that each individual member decides to join a call to action against what they believe is a corrupt and controlling government, then you can get a clearer picture of how polarization can motivate the worst in people.

### Post-Truth Encompassed

 Overall, the Freedom Convoy demonstrates how political manipulation in the face of a crisis can lead to drastic measures. Within it, we can see how the features of Post-Truth have an important part to play in the rise of this kind of convoy, and thus give us ample reason to pay close attention to how these mechanisms and features can impact how we get our information. From here, we will see how these aspects damage the role of experts and even glimpse into the dire consequences of these effects, noting that, when left unchecked, they can turn into dramatic situations like the one that the Freedom Convoy presented.

# Section I – The Role of Experts

## Introduction: What is an Expert?

### What is an Expert? Definitions and Common Beliefs

 To narrow down on how Post-Truth affects the role of experts, we must first understand, from a social epistemological point of view, what an expert is and what their role is as an expert. For the former, we will look at the work of Thomas Grundmann, and his explanation of what an expert is. Thomas Grundmann[[47]](#footnote-47) gives common beliefs about what an expert looks like, dubbed “platitudes”. They are split between conditions that are typically thought of as not sufficient/not necessary for expertise, and conditions/features that are necessary/sufficient for expertise. I will go over them briefly, to highlight the common beliefs surrounding experts. Let us start with the necessary/sufficient conditions. An expert must have *epistemic superiority*, insofar where they have more cognitive competence in matters to do with their respective field than their laymen counterparts. Given this, an expert should also be an *epistemic authority*, where their laymen counterpart should defer their judgement on the experts given field. Next, in a more social/functional manner, experts should be *time-relative*, meaning that they fit the modern criteria of what an expert it. For example, Aristotle would not be treated an expert in physiology nowadays, given our scientific advancements. Thus, an expert must be “up to scratch” with the modern mosaic of knowledge. Moreover, an expert needs to be able to successfully *inform* laypeople about knowledge, such as *a teacher* of their expertise, and lastly, they must *contribute to scientific progress.*

 In terms of the insufficient/unnecessary conditions, these are a list of things that Grundmann considers. First, for insufficiency, he states that an expert being *reliable,* and having a lot of *information/truths*, is insufficient for expertise. These seem pretty straightforward. Just because someone is reliable in their testimonies, does not mean they are experts, because it might be pure luck that they are reliable, they are merely safe by making broad, subtle claims or even just suspending judgment. As well, just because you hold a lot of true facts about a certain matter, does not mean you are an expert. One can have read hundreds of facts about quarks, but if one is not able to explain why it is or form any reasons by oneself on the basis of quantum physics, then one is not an expert. However, these features are still necessary, since having a lot of information/facts is what can inform us about the relevant field of expertise as laymen, while reliability is what makes us consider someone as properly worth their salt as opposed to lucky or inconsistent. The last condition, which is the most controversial one, is that having *understanding* about one’s field is *unnecessary*. It is here where the I disagree with Grundmann. Of course, an expert need not complete understanding on their relevant field, such as quantum physics, because such a thing seems impossible. That is part of the reason that we need other people with similar expertise on different matters to help us understand the bigger picture. But Grundmann specifically states that experts need not *any* understanding of their fields of expertise. He uses the example of Ramanujan, an Indian mathematician who was able to find and understand multiple correct solutions to very complex mathematical problems, without having any proofs for them. Grundmann still considers Ramanujan an expert, even though he doesn’t understand one of the core aspects of mathematics in proofs. It is definitely arguable if Ramanujan is an expert, and, personally, I would hesitate to call him that if it means to accept that one needs no understanding of one’s field of expertise to be an expert. Thus, for the sake of our definition, we will say one needs no *complete* understanding of one’s field to be an expert.

 From this, Grundmann outlines the following definition of experts:

E is an expert concerning domain D at time t if and only if (i) E possesses more evidence pertaining to propositions in D than the majority at t & (ii) E has skills to reason on the basis of this evidence that are superior to (more conditionally reliable than) those of the majority at t & (iii) E is sufficiently competent concerning D on the basis of (i) and (ii)[[48]](#footnote-48).

This definition accounts for Epistemic Authority and Superiority, since it takes after the traditional way of viewing knowledge in relation to evidence and shows that experts need access to evidence for beliefs about their field, and competency or training to be able to understand it, to such a level that it is superior to their laymen counterparts. (iii) takes away those that are reliable but not competent or have a lot of facts but are not competent as well. Time-sensitivity is implied in the definition since it talks about it being at a given time, thus competency, evidence and reliability are evaluated by the standards of that time. He also argues that it is not difficult to reason, based on this definition, how experts can be better teachers (although not necessarily) and typically contribute more to scientific progress. He maintains the same for the case of understanding, but it is hard to conceptualize competency with evidence and field-related propositions without the need for *any* understanding. It may perhaps turn out that Ramanujan is an expert, but I rather treat him as an exception or anomaly, than part of the rules and considerations that affect how we define experts.

 What is interesting is that in the definition that Grundmann gives, it does not necessarily point to what the role of an expert is. We can sort of infer what it is, given what he said about experts being better teachers and contributing to scientific progress, but the function of expertise is not a necessary part of this his definition. One could argue that it need not be, since this is an epistemic definition of expertise, and that does not necessarily need to provide a functional element within it. For we can imagine a case of a lonely hermit geologist who satisfies the conditions of expertise but never teachers or shares his knowledge with anyone, and never aspires to contribute to scientific progress. He has superior evidence, skill/reliability and is competent in the field of geology, thus would he not still be an expert in an epistemic sense? The answer is that yes, in this purely epistemic sense, he would be. However, because this endeavour is one that is coming from a social epistemology stance, we should also consider a social dimension to expertise. From this point of view, if we analyze the lonely hermit case, one could argue that he is an expert in the same way that a car that never runs can still be considered a car. In a narrow sense, they both can be defined as such, but such narrow definitions seem to be intuitively lacking. For cars, when one commonly thinks about what a car is, one usually also thinks about its *function.* Images of cars’ going down a street or highway come to mind. In the same vein, I argue, when we think of experts in a given field, an essential part of how we think of expertise is in its function. In the next passage, we will explore what the function of expertise is, why its essential and why it should be added to what defines an expert.

### The Role of Expertise

 Since we are trying to add a social dimension to our understanding of expertise, let us look at a practical explanation for expertise, one given to us by Christian Quast in his paper titled “Expertise: A Practical Explication[[49]](#footnote-49)”. In this paper, Quast argues for a practical explication for expertise. His argument for expertise is not too dissimilar to that of Grundmann, but what it distinct (and what is the main draw of his account) is his claim that an expert is only an expert if she uses her expertise to fulfill her function, which for Quast is being a “service-provider”. This title of service-provider might cause some offence given the common understanding of providing services, but Quast’s meaning is one that is very practical. On Quast’s conceptual explanation, the function of expertise is to “substantially improve the social deployment of available agential resources apt for an accurate attainment of cliently relevant ends[[50]](#footnote-50)”. This definition is quite technical, and so we will take some to unpack it. Quast bases this conceptual explanation on common understandings of experts. When we have questions about or problems with our car, we go to a mechanic to figure out what is wrong. If we are confused or lack knowledge to solve a mathematics problem, we go to a mathematician. If a pipe breaks in our house, we call a plumber to come solve the issue. In each of these cases, we would go to someone who we would consider as more knowledgeable (at least in comparison to laymen) for help. This is because we think of them as having some expertise on their respective domains, sufficient to help us solve a variety of problems or questions. In turn, these individuals would then use their expertise provide the answers or help required to fix a problem or solve a question. Thus, Quast conceives of this idea that experts are providers of services, in which they use their skill and expertise to help achieve some goal of the layman.

 Now, I do not want to go so far as to claim that this is the defining feature of expertise, especially since Quast is giving a practical “function-first” definition[[51]](#footnote-51) in his paper that might go against some of the epistemic understandings of experts. Nevertheless, I do think his argument highlights an important social aspect of expertise that I want to add to our definition. To do so, we would need to translate Quast’s conceptual explanation in a way that fits our first epistemic definition. Thus, I will argue that an essential part of being an expert (for our purposes) is serving the functional role of being a *good informant*. I choose this function of being a good informant because it aligns with some of the common understandings that Grundmann discusses in his paper, such as being a teacher (of which being a good informant is essential) and contributing to scientific progress (where being able to transmit information and knowledge well is crucial), but also maintains the essential nature of its functionality in the endeavour of being an expert. Moreover, with the kinds of experts we are discussing, which are primarily scientific experts, this feature locates where they stand in relation to others. In other words, it provides that social dimension that allows us to understand their role in our current world. This will allow us to understand how Post-Truth could be affecting experts from our socially epistemic point of view. Therefore, for our purposes, this aspect of experts fulfilling their function of being good informants will be added to how we think of experts moving forward.

 But one may ask, what does it take to be a good informant? This is where we will be turning to the philosophy of testimony, because, on my view, being a good informer entails that one is transmitting information in some sort of appropriate and reliable manner. And not just any information, but rather *good* information, which means that it the information itself is also reliable and accurate. As we will see, transmitting information like knowledge requires the satisfaction of some conditions of testimony, primarily of justification. Thus, we will look at an account that talks about testimonial justification and how that relates to the transmission of information.

## Testimonial Justification

This problem of testimonial justification is an immense topic in itself. To properly understand Lackey’s account of testimonial justification, we will need to briefly go over two debates that are prevalent in the philosophy of testimony: whether you need strong nontestimonially based positive reasons to justify belief in evidence, or if testimony is itself justified as a basic source of information acquisition, like sense perception (reductionism vs nonreductionism) and whether you need evidence to justify your testimonially-based beliefs or if you can have non-evidential reasons that justify them (evidentialism vs nonevidentialism) [[52]](#footnote-52). As we will see, Lackey’s account[[53]](#footnote-53) will adopt a hybrid view between these two debates, and thus further understanding of the debates is required. Let us start with the reductionist/nonreductionist debate.

### Nonreductionism/Reductionism Debate and Hybrid

Nonreductionism claims that belief from testimony is *prima facie* justified since it is a basic source of justification, as long as there are no *undefeated defeaters*. Lackey explains defeaters as doubts that a subject has (psychological defeaters) or *should* have about a proposition (normative defeaters), such as if they suspect that it is false or unreliably formed. Since there are doubts about its truth-value or rationality, then the doubt “defeats” the justification that one would have to form a believe on the given proposition. However, one can defeat said “defeater” if one finds other information that might quell or contradict one’s doubt. Then that information becomes a “defeater-defeater”, and the chain can go on to have multiple defeaters for multiple defeaters. The problem lies when one has an undefeated defeater, where there is a doubt that has not been quashed, and thus still affects the justification of a belief[[54]](#footnote-54). Lackey argues that it is these undefeated defeaters that cause issue with testimonial justification on this view and must be not present for belief to be justified. Reductionism, on the other hand, claims that there must be strong nontestimonially-based reasons from the hearer to justify his belief. We will go with the Local version of Reductionism, which states that these given reasons can only justify a particular case of testimony, as opposed to justifying testimony in general (Global Reductionism)[[55]](#footnote-55). Thus, if a hearer has these strong reasons to accept the particular testimony of a speaker, then they are justified in belief.

The issue with non-reductionism is that the absence of undefeated defeaters isn’t always sufficient to justify knowledge is justly transferred. Take a case close to Lackey[[56]](#footnote-56), in which a hearer is extremely gullible, in the sense where she always believes what is told to her. A speaker might come along and reliably testify that she saw a beaver build a dam in the river. The hearer has no undefeated defeaters since the speaker is a reliable testifier and her testimony is true and an instance of knowledge. Still, we would say that the hearer is not justified in belief because, counterfactually, she would have still believed in the speaker even if there were massive amounts of evidence pointing to them being unreliable or false. Thus, a hearer can still be unjustified with no undefeated defeaters because they are not epistemically competent.

The issue with reductionism is that it seems that a hearer doesn’t always need strong nontestimonial reasons for their belief. According to Lackey, we often get testimonial knowledge from sources of which we may know little about. When I ask someone on the street how to get to city hall, I may assume they are a local but aside from that, I know nothing about them. Yet, they can be reliable testifier’s and get me to the right place. In this case, it seems I acquired knowledge of how to get to city hall, but yet I had no real strong nontestimonial reasons for it[[57]](#footnote-57). Thus, it seems that strong nontestimonial reasons are not always necessary for justification. That does not mean to say that nontestimonial reasons are not necessary for justification, for, as we saw before, we sometimes need reasons to justify or discredit our beliefs in instances of gullibility and irrationality. It is only that they cannot give a *full* account of justification. Given this, what can we do to marry some of these key insights together for a hybrid view?

Let us begin with an insight by Paul Faulkner[[58]](#footnote-58). Faulkner argued that one of the distinctive features of testimony is that it requires us to be able to have some background belief not only in the testimony itself, but in the *speaker*. This is different from other ways to gain knowledge, such as sense perception or memory. While we can be fooled to believe in something in both sense perception and communication, the former’s blame can only be put on the *subject*, such as their eyes or ears failing them. The latter one can be blamed not on a failure of the subjects faculties, but on the *speaker* intentionally lying or fooling the subject. Thus, the onus is not simply on the hearer, but also on the speaker as well. Both are responsible parties in the interaction. Lackey builds on this, stating that while nontestimonial reasons are required, they need not be strong reasons as reductionists typically outline them to be. They just need to be some positive reasons. These reasons can even simply be the absence of undefeated defeaters. One may think this makes it an ever-weaker account of justification, but Lackey argues that what can complete a robust account of justification if we include that the testifier needs to *actually be* reliable[[59]](#footnote-59). This externalist condition allows it so that hearer’s reasons do not carry all the weight for justification; the speaker’s reliability matters as well. With these considerations one can build a robust account of testimonial justification (which Lackey builds, as we will see later).

### Evidentialism/Nonevidentialism Debate and Hybrid

However, one may ask what kind of reasons do these nontestimonial reasons need to be? Do they need to be pieces of evidence that inform us that this testimony is reliable, or can they be nonevidential reasons, such as assurances and reliable processes? Lackey takes a hybrid view in this as well, in which a nonevidential reason can act as a kind of “evidence” to partly justify testimonial belief[[60]](#footnote-60). This may seem counterintuitive at first but let us turn back to Faulkner on how such a view can exist.

Recall that Faulkner denoted that one of the special characters of testimony is that it involves both the speaker and the hearer. Due to this fact, Faulkner argues we are usually skeptical of people’s testimony. In other words, we need background beliefs about either the content of the testimony or the testifier themselves to determine whether we accept or deny someone’s testimony. When we have these positive background beliefs, we have *credibility* of the speaker’s testimony. Faulkner takes credibility to be a rational requirement for acceptance[[61]](#footnote-61). And from here, we have justification, in which a “subject is only justified in forming a testimonial belief if and only if he is justified in accepting the speaker's testimony[[62]](#footnote-62)”. This is what he calls the Principle of Assent. If a speaker has positive background beliefs in a speaker’s testimony, then the testimony is credible, and if the testimony is credible, then the hearer is justified in accepting it. Part of Faulkner’s reasons for this argument is that then this credibility can count as a kind of evidence for the hearer to justify his acceptance of the testimony[[63]](#footnote-63). Now, an evidentialist may claim that this is actually not a form of evidence, since relevant evidence must point to the truth or reliability of the proposition, and credibility of source says nothing of its truth-value. Faulkner accounts for this and argues that there is a difference between justification of a proposition, and justification of accepting testimony.

Faulkner argues that if we interpret this justification as justification of proposition, where testimonial justification supports the justification of the proposition expressed, we misrepresent what his principle entails. His account does not state that in accepting a speaker’s testimony, one then is accepting that testimony to be true, nor that it justifies one’s belief in the proposition. Instead, Faulkner argues that, akin to the Principle of Charity, “a person is entitled to presume, other things being equal, that propositions expressed by intelligible testimony are justified[[64]](#footnote-64)”. In other words, if someone has positive background beliefs (whether they be nontestimonial reasons or lack of undefeated defeaters) about a speaker’s testimony, thus making the testimony credible, then they are entitled to believe that the testimony’s proposition is justified and are therefore entitled to accept it. Thus, credibility is evidence not for the truth of the proposition, but rather for the justification of accepting that proposition as true and forming one’s belief on it.

### Lackey Against the Assurance View

Before we move on to Lackey’s full account, let us first explore a similar nonevidentialist view of testimony called the Interpersonal View of Testimony (IVT). While Lackey will demonstrate why this view ultimately does not work, the insights from the view and the critique alike will help us understand how simply trusting someone’s testimony with no supporting reasons is not sufficient for justifying one’s belief. According to Lackey, for IVT, it is the interpersonal nature of testimony that should be the focus, and thus the justifying factor, of testimony. The central features of this view is (1) that certain interactions in this relationship, such as a speaker assuring the audience to believe what they are saying, are epistemically significant, insofar as they can (occasionally) grant epistemic merit to the testimonial beliefs themselves, and (2) that testimonial beliefs can be epistemically justified without the need for evidence[[65]](#footnote-65).

 Already, this goes against what Faulkner was saying about credibility being a kind of evidence. The reasoning behind this move is that focusing simply of evidence is to take away the important features of agency in testimony. Ultimately, testimony is an exchange of information between two epistemic *agents*, and solely concentrating on the evidence renders the speaker as more of a” truth-gauge” than an actual agent. It leaves out the special nature of testimony, akin to Faulkner’s belief, that we are not only dealing with a proposition or belief, but with a speaker as well. Thus, testimony is more nuanced and requires more thought than just on the classic picture of evidence = justification. Now, if it is not evidence, then what should we look for to determine is someone’s testimony is reliable or warrants belief? According to proponents of this view[[66]](#footnote-66), it is when the speaker assures you or invites you to trust them that grants some epistemic justification. The idea is that through assurances of trust, the speaker becomes accountable for what is spoken, and thus when they speak such assurances, since they are accountable, it becomes an additional nonevidential reason to believe in what they are saying.

 Lackey points out that there is a key issue with this view, and that is that it does not argue how assurances are epistemically valuable[[67]](#footnote-67). Sure, the speaker can give assurances and take responsibility, but that has nothing to do with the truth. We can imagine a speaker who assures us multiple times that, let’s say, the Earth is flat. No matter how many assurances they may make to us, their testimony will never be true. This is problematic because if we are justified through assurances alone, then we have no need for truth, since assurances affect nothing for truth, and that conclusion seems blatantly anti-epistemic, at least in the traditional sense. Therefore, we need something else to make it so that this view can be valid. Lackey does consider an amendment, in which, in addition to assurances, the speaker must be a reliable guide to the truth, and that the hearer has no undefeated defeaters[[68]](#footnote-68). Importantly to note, the doubt that becomes a defeater is not about the speaker, or their credibility, but rather of the proposition itself and its epistemic properties, like truth-value and rationality.

 Thus, this addition of having no undefeated defeaters means that there is an epistemic value to a speaker’s testimony, in their proposition, alongside the warrant that they may get as a reliable guide for truth, such one’s reputation, status, title, etc. While Lackey admits that this would allow IVT to be more epistemically relevant, by adding these two additional points, it also makes the idea of trust, the central aspect of IVT, epistemically unnecessary[[69]](#footnote-69). This is because the assurance of trust adds no more epistemic value to someone’s testimony than when it is not extended. In an example similar to the one given by Lackey, if someone were to tell me that they saw a friend of mine cheat on their partner with another person, and they assured me that I could trust them, but at the same time my own partner was overhearing the same conversation, and formed the same beliefs as mine on the basis of that person’s testimony, it would seem that we would, epistemically, have no real difference in our justification for belief. Even if that person assured me and did not assure my partner about this scandalous observation, we, all things equal[[70]](#footnote-70), form the same beliefs regardless of this extension of trust. Therefore, trust in this sense seems to have no epistemic value. What would change the picture is if I or my partner had an undefeated defeater about this affair while the other did not, making it so one of us would not be justified in believing it, and the other would be. Then, there would be some epistemic difference between myself and my partner. Thus, it seems like IVT either is epistemically impotent or epistemically unnecessary, and therefore does not make a solid account of testimonial justification.

### Lackey’s Account of Testimonial Justification

 Instead of assurances, Lackey account of testimonial justification focuses on the reliability of the speaker *and* of the hearer. However, this reliability is not given from their beliefs or knowledge, but rather from the statements given in testimony, and how they were formed/taken. She argues this account as knowledge, but in other works equates it also as an account for justification/warrant[[71]](#footnote-71). Her account, the Statement View (SV) goes as follows:

For every speaker, A, and hearer, B, B knows that p on the basis of A’s testimony that p only if (1) A’s statement that p is reliable or otherwise truth-conducive, (2) B comes to truly believe that p on the basis of the content of A’s statement that p, and (3) B has no undefeated defeaters for believing that p[[72]](#footnote-72).

She contrasts this with what she deems is the standard Transmission View (TV), which she splits into two theses, one necessary (TVN) and one sufficient (TVS):

TVN: For every speaker, A, and hearer, B, B knows that p on the basis of A’s testimony that p only if A knows that p

TVS: For every speaker, A, and hearer, B, if (1) A knows that p, (2) B comes to believe that p on the basis of the content of A’s testimony that p, and (3) B has no undefeated defeaters for believing that p, then B knows that p.

She argues that epistemic evaluations should be done not on the basis that the speaker has knowledge (TVN), because one can communicate knowledge without actually having knowledge, such as the example of the creationist teacher who does not believe in evolution but yet can still teach it to his class. Furthermore, we have to consider the rationality of the speaker and the hearer, and the notion of epistemic luck. Both agents must be rational for them to claim that they have knowledge. For if the hearer is always accepting of testimony, regardless of defeaters or any other normative rational considerations, but just so happens to believe in a token of knowledge from testimony, we would say that they would not actually know that token. In the same vein, if the speaker is an avid liar, thus unreliable, but just so happens to speak a token of knowledge by accident, we would not say that the speaker knows about that token. Both are instances where they would not be sufficiently knowledgeable (TVS)[[73]](#footnote-73). Therefore, to avoid the issues that might arise from epistemic luck when one happens to be right when irrational, Lackey uses her account to nullify the issues that TV has, and thus provides a seemingly more robust account.

What we have now is an account of testimonial justification that focuses on the speaker-hearer relationship as a two-way street but does not put epistemic weight on the idea of “trust” or “assurance” since they are neither sufficient nor necessary. Instead, it relies on both the hearer being a rational and competent epistemic agent and having positive (and not necessarily strong) nontestimonial reasons, such as absence of undefeated defeaters or credibility, to believe the speaker, and the speaker being actually reliable by also being competent, rational and truth conducive. It encompasses the nonreductionist emphasis on strong nontestimonially-based reasons not always needing to be necessary, while maintaining the idea that some positive nontestimonially-based reasons are necessary. It also allows credibility, as something that can demonstrate reliability, to be a form of evidence to justify a hearer accepting some testimony and forming a belief on it.

This account of testimonial justification provides us with some aspects that will be important for our analysis of experts moving forward. Firstly, it talks about how the basis of good (justified) testimony is dependant on both the speaker and the hearer. The emphasis on the hearer’s role and responsibility in the transmission of good testimony will be particularly crucial when investigating how Post-Truth would affect the role of experts. Secondly, it highlights the importance of testimonial justification for the transmission of knowledge. Knowledge, as opposed to simple true belief or justified belief, is arguably the best kind of information one could transmit, and the kind that, I would argue, we want our scientific experts to be able to provide. When I have a gap in my knowledge or understanding of some situation or problem, I want to be able to fill that gap with knowledge. In other words, when I am asking for a solution or explanation, I want to *know* the solution or explanation, and thus I want what the expert to transmit to be knowledge. Therefore, testimonial justification that can provide the transmission of knowledge suits the job description for an expert’s function of being a good informant; that the expert can transmit good (justified) information (like knowledge) through good (justified) testimony.

### Local vs Global Rationality

 Before we move on to investigating Post-Truth and the situation that experts currently find themselves in, I want to go back on one last aspect of Lackey’s account that I believe needs to be further explained, which is the role of rationality in the competency condition. Lackey argues that epistemic agents need to be competent for testimony to be justified and uses examples of people who are incompetent by always believing testimony/always lying in their testimony. What she does not go into very much is what she means by rationality. In this last passage, we will be going over how I portray rationality to be, which I believe to be consistent with Lackey’s account.

Rationality is an important aspect to consider because, as we shall see, much of the charge against people who do not adhere to justified expert testimony is that they are being irrational. John Hardwig, in his 1985 paper titled “Epistemic Dependence[[74]](#footnote-74)”, argued that since experts are “intellectual authorities” and “epistemically superior” to laymen, laymen had to defer judgement and belief to experts:

The layman can…propose criticisms and alternatives [to an expert about a relevant topic of their expertise], but rationally he must allow the expert to dispose of them…by virtue of that party's greater competence for and commitment to inquiry into the relevant subject matter. The rational layman recognizes that his own judgment, uninformed by training and inquiry as it is, is rationally inferior to that of the expert (and the community of experts for whom the expert usually speaks) and consequently can always be rationally overruled[[75]](#footnote-75)”

Hardwig recognizes that such a harsh claim might disrupt the idea of agent autonomy but maintains that we must at times to do so to stay rational. For, at times where we have no access to evidence or competency to understand it, to still form beliefs on such dubious and uninformed bases would render one to form irrational beliefs[[76]](#footnote-76). Thus, for Hardwig, sometimes, to be rational, we must defer judgement to experts and allow them to form the basis for our beliefs. Therefore, to better understand the weight of Hardwig’s claim, which has significant impact on how we view and treat experts, and also Lackey’s competency clause, I outline a practical account of rationality and then two ways to interpret it.

The theory I would like to give is an instrumental account of rationality, one that will be useful for our purposes: the “Rationality as Reason Responsiveness” (RRT) theory, inspired by Errol Lord[[77]](#footnote-77). Plainly stated, the RRT theory argues that one is rational if one is appropriately responding to normative reasons. This is an externalist and coherence-based theory that implies that there are external normative principles that bear down upon us that we can appropriately or inappropriately respond to. We can use an example to illustrate this theory. If I am standing outside and it is raining, and through my various senses I sense that it is raining, then on RRT, I should rationally hold the belief that it is raining. If I instead assert the belief that it is not raining, then I would be irrational in that belief.

There are aspects of this theory that can be prodded, such as what “appropriately” responding to reasons looks like, the externalist assumption that there are external normative principles (especially from a Cartesian skeptic stance), and what constitutes the normativity of these reasons and principles, amongst others. I do not want to go into these potential criticisms because, once again, I am not claiming that this theory is the be-all-end-all theory of rationality and what it is to be rational. I am using this theory because it is helpful for explaining why it is that we care about people being rational. As Benjamin Kiesewetter states in his defense for rationality based in reason responsiveness,

“Such an account in turn provides an illuminating explanation of what it means to say that rationality makes prescriptions, that being irrational involves violating such a prescription, and that ascriptions of irrationality amount to a serious form of criticism. By the same token, it delivers a straightforward vindication of the idea that rationality is a property that we have reason to care about[[78]](#footnote-78)”.

It is for these reasons that I want to hold this account of rationality. So that later, we can understand what we, and many others, mean when we say that a conspiracy theorist in an echo chamber is being “irrational”. However, I do want to highlight a different way to interpret this kind of rationality beyond an externalist perspective. I want to propose that a similar account can be given to a kind of rationality that is not necessarily externalist, i.e., not necessarily relying on external epistemic normative principles, but rather reliant on one’s internal logic. This would be an account of local rationality.

Local rationality is the internal rational logic one has that makes it so that when a new piece of information is brought into one’s epistemic belief system, it is judged and treated based on its coherence with the relevant background factors. For example, I may believe that aliens exist. I have various background beliefs in aliens existing. Let us say that I am introduced to a piece of information about possible alien sightings. Perhaps it is, objectively speaking from a scientific perspective, not the most convincing piece of information for proving that alien exists. In fact, let us say that, given its probable unreliable and suspicious nature, I should not believe it. Nevertheless, if said piece of information about the sighting coheres and is consistent with my background beliefs about aliens, then, if I accept it, then I am accepting it on the grounds of local rationality. In other words, if a piece of information fits my belief system and my internal epistemic norms, then, regardless of its “objective status” as being a good piece of information, it is locally rational for me to accept it and incorporate it into my belief system.

Now, the reason I offer this alternate interpretation is because I believe it will allow us to understand how individuals, even in the face of irrationality, come to conclusions that they confidently and stubbornly defend. This does not mean that they are equal. As an externalist, I staunchly maintain that the initial version of RRT, which I will call *global rationality*, is the way we should understand being rational properly, at least for our practical purposes. For it carries with it the importance of normativity, which is what allows us to determine whether someone should or should not believe something. Without this externalist condition, it would be extremely difficult to justify calling someone irrational or rational, since it depends on their personal principles and how their logic adheres to it. Therefore, to avoid that mess, we will maintain the original version of RRT as what I am referring to as being rational or irrational, unless we want to explore how people can come to irrational conclusions, which in that case we may bring up local rationality.

Now we have a clearer picture of what it is to justly transmit good information to others, which provides the basis for our analysis for how Post-Truth affects experts.

## The Role of Experts Recapped

 For the purposes of our investigation, we went over what an expert was, from a social epistemology perspective, which included the function of an expert. I argued that the function of an expert was to be a good informant. I also claimed that this role of being a good informant relied on transmitting good (justified) testimony. I then proposed a hybrid view from Lackey that allowed us to encompass certain arguments and insights from various sides of prominent debates and gave us a robust account to put to the test in the second section. Lastly, I gave an account of rationality that will allow us to better understand what is being affected when it is said that Post-Truth is affecting experts, and how to understand those that are deemed to be “irrational”. These discussions will provide the basis for our application of Post-Truth, to understand how it is that Post-Truth can affect experts. In the next section, we will investigate the problems of post-truth, which highlight the various problems that the features of Post-Truth have to affect, change, warp and even invalidate some of the norms and arguments we have discussed in this section.

# Section II – The Problems of Post-Truth

## Introduction: An Entangled Web

For this account, I will be analyzing three specific components of Post-Truth: misinformation, echo chambers and polarization. As we will see, all three of these components are very closely intertwined concepts. Misinformation is what is typically spread on echo chambers, echo chambers are built and sustained off of the issues of misinformation, and misinformation and echo chambers are often motivated and potentially even partially constituted by polarization. However, while closely intertwined concepts, they affect the role of experts as good informants, differently. The focus of this will be how, since the transmission of information relies on the transmission of testimony and testimony relies on both the hearer and speaker, Post-Truth can affect the testimony of experts not in their role as the *speaker* necessarily, nor even directly their testimony, but rather in how they affect the *hearer* and their understanding of the speaker and their testimony. The reason behind the focus is because often times the issue for experts is not that they themselves as speakers are being problematic, nor even that their testimony is troublesome, but rather that the hearers around them, the laymen, do not listen to what they have to say. Thus, we will see how all three of these components provide different kinds of problems; misinformation with a content-based problem, echo chambers with a structure-based problem, and polarization with a motivation-based problem. All three of these problems affect the hearer of expert testimony, in different ways, and thus affect the expert as speaker and their testimony.

## Misinformation

### The Misleading Nature of Misinformation

In this passage, I will argue that the biggest problem that misinformation has to threaten the role and authority of experts is that it spreads misleading information. Before I go and explain this through Soe’s account of misinformation, disinformation and information, I will distinguish how I will speak of misinformation and disinformation. I will distinguish misinformation as misinformation in general and misinformation as an act. Misinformation in general just means that a piece of information is false or misleading information. It is this meaning when one states, “that’s misinformation”, when pointing at a fake news article. Misinformation as the act is the unintentional spreading of misleading or false information. That is what I can be charged of doing when I am spreading that fake news article thinking that it is true. Disinformation as an act is the intentional spreading of misleading or false information. This is what I can be charged with if I spread that fake news article knowing that it is not true. When I am speaking of misinformation generally, I am encompassing both types of misleading actions. Both types of misinforming actions mislead those who are intaking it, but the difference, as we will see, is in the intention. Thus, when I use “misinformation” as the title of this passage or discussing the role it has in Post-Truth and the impact that it has on experts generally, I mean the general sense. When I am speaking of one or both of the two types of misinforming actions and, for example, how they specifically impact experts, I rely on contextual clues and logical structure to distinguish it if I do not explicitly do so. Now that that is settled, we can continue.

To begin, let us recall Soe’s account of misinformation, disinformation and standard information (as types of non-natural information). Soe argues that what distinguishes between misinformation, disinformation and standard information is the meaning and intention behind it, specifically the properties of misleadingness and intention. To understand how misleadingness is the biggest issue that threatens experts, let us further understand what meaning and intention mean for Soe. Soe account is based on Paul Grice’s accounts of meaning and intention[[79]](#footnote-79). In fact, the distinction between natural and non-natural information comes from Grice. She choses Grice’s account because of the way that Grice treats meaning and intention. In non-natural information, what makes it non-natural is that there is meaning beyond the literal meaning of each of the words in conjunction with each other in the informing phrase. For example, the phrase “Geoff is looking for you”, in its literal meaning, seems to imply no malice, anger or threat, it literally means someone named Geoff is looking to see where you are. However, if I utter that phrase intimidatingly when informing someone who has not paid back money to a local loan-shark named Geoff, the meaning of the phrase changes by adding something that isn’t there: an intention. The intention makes it something more than just the words I am uttering, and that is what makes it non-natural[[80]](#footnote-80).

 In the case of misinformation and disinformation, how one changes the meaning of the information makes it so that the information is thus *misleading*. Misleadingness for Grice is centered in the notion of implicatures (i.e., implications). Implicatures are what bring new meaning to the literal meaning of a phrase. If I am stating that it is getting late when a friend is still at my house even after I wished he would leave, then I am implying something else than simply the time of night. I am implying a new meaning that is not necessarily connected to that phrase, which is that he should leave. When one is misinforming/disinforming, often the implication of the information is to portray that information as true, and thus go against the original meaning of the information which is one that is false. Thus, I am meaning something opposite to what the original information was about, which was truth to its actual falsity. Implications are not inherently problematic, for I can imply something without it necessarily being false, ambiguous or complex. What makes the implications of misinformation and disinformation problematic is that they are misleading in the information they are trying to disseminate[[81]](#footnote-81).

However, what differentiates the two is the intention behind disinformation that is lacking in misinformation. On Soe’s account, there is a difference between intention and intentionality when talking about actions:

“When an action is intended, it is at the same time intentional (it is directed towards something, and the agent is aware of the action). But when an action is intentional, it is not necessarily intended as well. In doing A intentionally, the intention might be to do B—not A—with A being an unavoidable step towards B[[82]](#footnote-82)”.

Thus, in my action of spreading misinformation, I could be doing so with the intentional desire to spread accurate information to my peers, but not have the intent to spread what it actually is, which is misinformation. Meanwhile, disinformation is where intent and intentionality line-up. If I am disinforming, my intent is to mislead, and my intention is as well. Thus, misinformation is where I am not intent on spreading bad information, but I end up intentionally spreading it, while disinformation is where I am both intentionally and intent on spreading misinformation. Soe does denote that there are differences between cases where something seems intentionally misleading, like in the case of irony or sarcasm, but are in fact not misleading. This is because the non-natural meaning, its implication, is one that makes it so it fits the intention of the phrase: as an ironic or sarcastic phrase. They are not a case of misinformation/disinformation where they go against the original intention/purpose of the information which is to transmit accurate information.

 One last part of this that is important for why misinformation is problematic is that nothing about misinformation or disinformation entails that it has to be false. The truth value of misinformation/disinformation is not what makes it distinct from standard non-natural information. The falsity of a piece of misinformation can be an implication that makes it go against its original meaning and thus make it misinform, but it need not be that way necessarily. Soe considers the phenomena of true disinformation to explain this. We will illustrate how once again through an example. Imagine, if you will, that I am chatting with a peer. Let us say that I am a staunch Republican and dislike Biden as the current US president. I could try to persuade my friend in believing the same by stating “Gas prices in 2022 are way higher than they were under Trump!”. Let’s imagine that is true. However, not present in my testimony is the reasons outside of Biden that perhaps might have made a significant impact on the gas prices in the US in 2022, such as the COVID-19 pandemic, the invasion of Russia on Ukraine, etc. While what I say is true, it does not fully encompass the reality of the situation. I am omitting information that might be relevant to my true claim, to try to persuade my peer to dislike Biden. In this sense, while what I say is not false, the implications of my statement are still misleading because I am not portraying an accurate account of what is happening for the situation I am outlining. This is what true disinformation is. It is still a case of disinformation, even with it being true, and thus that is why Soe centres her account on the misleading nature of misinformation in general. For one can have situations where it is cases of inaccuracies, incompetence, mistakes and omissions, like our Biden case.

 Thus, misinformation can be understood as either the unintentional spreading of misleading information (misinformation) or the intentional spreading of information (disinformation). In both cases, the meaning that is being changed to mislead- the content of the misinformational testimony- is what defines misinformation in general. Now we can move on to the epistemic impact that this problem has.

### The Epistemic Problem of Misleadingness

 The problem of misleadingness for misinformation is an epistemic problem. This is because when misinformation misleads us, it is giving us inaccurate information to form our beliefs on. In other words, it is problematic because the information itself, the content of what is being transmitted to me, is misleading. When I get misinformation about, let’s say, the shape of the earth, I am getting (typically) false and/or inaccurate information about the shape of the earth. If I am not aware that it is misinformation, then I am forming my beliefs on false or inaccurate information. One might think that this is the same as when I am lied to. When someone is lying to me, I am forming or basing my beliefs on a lie. So, in this case, one might think the problem of misinformation is at the same as the problem of lying. However, I will argue that it is much worse. This is because lying only deals with the truth-value of a statement. As we have seen, misinformation deals with much more than the truth-value of a statement. And so, in the same spirit, it affects much more than the truth-value of the beliefs we are forming; it affects already established beliefs and mental states.

To demonstrate this, I will use the work of Jeroen de Ridder[[83]](#footnote-83). He argues that misinformation has three epistemically bad effects. The first is, of course, that it causes people to create false and/or misleading beliefs. If the content of the information that I am basing my beliefs on is misleading in terms of its accuracy or veracity, then the content of my beliefs will also most likely be inaccurate and/or false. This is epistemically bad for the obvious reasons: if we form false or misleading beliefs, and continue to do so over time, we will have a belief system that is filled with bad beliefs and thus will make difficult for us to achieve our epistemic goals. It will be difficult for me to find out why the Earth rotates if I have bad beliefs about the shape of the earth, the effect of gravitational force, etc. The second bad effect is how misinformation affects our already pre-established beliefs. This is because, if I, for example, get misleading information about the nature of the Earth, such as its shape being flat instead of spherical, then such information will make me question my already justified and established beliefs surrounding the celestial nature of the Earth. De Ridder explains this unjustified skepticism towards established beliefs as misinformation giving us misleading defeaters. If you recall Lackey’s explanation of defeaters, defeaters are those that defeat the justification of a belief or the belief itself. The particular defeaters that De Ridder discusses are called rebutting and undercutting defeaters[[84]](#footnote-84). They are misleading by either unjustly negating our beliefs and/or unjustly invalidating the reasons behind belief. They are unjustified because they are formed on false or inaccurate grounds. A rebutting defeater is one that directly negates your belief by giving you a reason to belief something else or simply the negation of your original belief[[85]](#footnote-85). On the other hand, an undercutting defeater is one that gives you a reason to stop believing in your original belief by attacking your reasons for belief (justification)[[86]](#footnote-86). In other words, it gives you a reason to lose your original belief.

According to De Ridder, misinformation can give you misleading defeaters of these kind and leave you with less justified and rational beliefs. We can think of some examples of how this would be. Let us say we stumble across the someone who is informing people on Flat-Earth theory. Let us also say we hold a (or many) justified belief(s) that the Earth is round, thanks to many scientific claims and theories. However, this Flat-Earth informer explains how NASA and the government have been manipulating the satellites and air travel so that it seems like the Earth is flat, and that their malevolent and secretive methods refrain from allowing the “truth” about the Earth to be accepted. This is quite evidently, disinformation. But let us say I am not sure if it is, or it is not disinformation. What this individual’s misleading information can do now is create a misleading undercutting defeater about the beliefs I already have. The content of that disinformation has now given us a reason to lose our belief in the Earth being round.

 Let us say, that in another circumstance, we are reviewing the footage of the 1969 Apollo 11 Moon Landing with a friend. Let us also say that we have a justified belief that the Apollo 11 mission was successful, thanks to scientific textbooks that talk about eyewitness testimonies, scientific evidence found on the Moon that was brought back, etc. However, our friend then tells us that this was staged, and that what we see is actually a massive stage that was designed to impersonate the Moon. In other words, our friend tells us that what we are seeing is not an actual moon landing. Now this may be a case of misinformation or disinformation, depending on the intention, but either way our friend has now given us a rebutting type of defeater to our justified belief in the Moon landing. It has given us a reason to negate our belief in the Apollo 11 Moon landing being an actual Moon landing, even though it is an accurate and true belief. Thus, what misinformation also affects is the way that we hold and revise our established beliefs, by causing us to acquire unjustified defeaters.

 But it is not only our established beliefs that misinformation affects. It is also affecting our epistemic states like understanding. De Ridder describes understanding as “typically taken to involve grasping dependency relations between facts or propositions – such as causal or explanatory relations – and thus to involve an interconnected network of beliefs[[87]](#footnote-87)”. Misinformation can misrepresent the dependency relations by either proposing there to be a dependency relation where there is none, like believing that con-trails are tied to the rise of the COVID-19 pandemic, or defeating an established dependency relation when there is no good reason to, like when a Flat-Earth theory explains how they fake the science behind the rotation of the (flat) Earth, even though the science is good and well-established. In these cases, misinformation can affect the very way you process and organize your beliefs, and the incoming information that can potentially form your beliefs. In other words, it affects the very way you frame the world to be.

Thus, if we are to apply it to the testimonial relation of the speaker-hearer, we can begin to understand how this problem affects testimony. While the risk of false beliefs is a serious one that we always want to avoid, it is not the most worrying one out of what De Ridder outlined. For, one could argue that in any case of testimony, there is the risk of forming false or bad beliefs. However, it is the way that misinformation affects the hearer’s already established beliefs and their epistemic practices that is particularly perturbing. If misinformation can instill misleading defeaters based on the content of the misleading information passed, then that not only affects how one judges and frames the testimonial information that one is dealing with in the moment, but it potentially affects the testimonial information that one might get in the future as well. This second part is what is most troubling for experts. Much of this depends on the structure and motivation behind both the speaker, the statement and the hearer, but, as we will see in Section III, misinformation can potentially affect how the expert testimony is taken into consideration by laymen as hearers. But for now, we will move on to the next passage where we will discuss a specific kind of misinformation, which is “fake news”.

### Special Kind of Disinformation: Fake News

 The focus on this specific kind of disinformation serves two purposes. The first is that it allows us to better understand how disinformation works, and how it takes form in our modern world. The second, and more important, is how this specific kind of information can stack up against expert information, and potentially defeat it. As we will uncover, fake news is an example of how misinformation can mislead beyond just falsity, since it does not necessarily concern itself with truth or falsity. Moreover, we will also see that fake news requires a certain level of intention and intentionality beyond just implications. Later in Section III, we will see the impact that this kind of misinformation has on our epistemic endeavours and how it relates to experts.

 Fake news is a special type of misinformation because, contrary to what its name might imply, it cares little about being true or false. According to Nikil Mukerji[[88]](#footnote-88), fake news is a kind of journalism that embodies “Frankfurtian” bullshit. Based off of Harry Frankfurt’s infamous paper, Mukerji argues that fake news is essentially just Frankfurtian bullshit because it satisfies the two conditions of bullshit: an indifference on the reality of the situation, and an intention to cover up his motives. By indifference to reality, it implies that the bullshitter does not care for whether what he is saying is true or not. It matters only in attaining his goal, of which the motives and sometimes even the goal itself are intentionally obscured by those who write and publish it[[89]](#footnote-89). He argues for this connection by distinguishing a clear case of fake news, one that we have already discussed, which is Pizzagate. Pizzagate is a clear example of fake news for Mukerji because it is not about trying to get the story straight, it is simply about trying to rouse up suspicion and distrust towards the powerful victims of the story, in this case Hilary Clinton and Barack Obama. It is beyond just bad journalism, because cases of bad journalism often mean not getting the facts straight or failing to portray them correctly. What makes fake news distinct, and in this case of Pizzagate a token of fake news, is that those who put that story out there cared little about getting the facts straight or portraying them correctly. They just latched on to anything that they could connect together to defame some politicians that did not align with their views[[90]](#footnote-90).

 On this analysis, Mukerji states that this lack of care for the facts and their portrayal entails the same sort of attitude that Harry Frankfurt was talking about with bullshit: a disinterest for the truth of the matter[[91]](#footnote-91). As well, since those who were pushing this Pizzagate story out were not being clear about their intentions behind the story, which most likely was just to cripple the popularity of prominent Democrat figures, and instead were marketing as investigative journalism (which implies non-partisanship), they were covering up their intentions, and thus satisfy the other condition of hiding one’s motives. Therefore, fake news is just a type of Frankfurtian bullshit. From here, Mukerji gives us a full definition of fake news: something is fake news if it (a) fits the two bullshit conditions, (b) it must be asserted and not implied, and (c) it must be published content. Mukerji’s reasoning for (c) is questionable since he argues that tokens of fake news must be published by news sources, but admits social media makes it ambiguous, thus our analysis of fake news won’t hinge on this. Meanwhile, we have already seen the reasoning for (a). It is (b) that provides us some interesting material since we established earlier that misinformation and disinformation are types of information that function off of implicatures[[92]](#footnote-92).

Mukerji denotes that it might be too far to call all forms of bullshit in journalism fake news, since not all stories that seemingly involve some bullshit go so far as to be fake news. He allows for something he calls *bullshit journalism* to exist, which is when news involves bullshit but only *implies* it[[93]](#footnote-93). If I were to write an opinion article about the economy of the US in 2022 and mention the tolls that it has taken under the Biden administration, but do not link the two directly, one can imagine that I could be implying that it is Biden’s fault (depending on the tone I use), and thus am implying bullshit. This is a token of bullshit journalism. Fake news, however, requires that I assert the actual statement as bullshit. If I wanted to turn that article into fake news, I would make baseless yet connected claims between Biden and the economic turmoil of the US in this time period. In this case, I am going beyond just implicating bullshit. I am fully asserting my claims as bullshit statements. This assertion makes it so that what I am spreading is fake news instead of bullshit journalism. If we turn this to our understanding of disinformation, we then have a distinction between kinds of disinformation (whereas it does not apply to misinformation because part of fake news is having intention to mislead). There is disinformation where what I am intentionally implying is bullshit but am not asserting it, like the first version of the article on Biden, and there is disinformation where I am not only implying bullshit, but I am full on asserting my bullshit claims. Thus, there is a kind of disinformation that is bullshit journalism and a kind that is proper fake news.

## Echo Chambers

 If we think of misinformation as a virus in a body, then echo chambers are the systems that get infected and then proliferate and reinforce the virus until it gets the whole body sick. Echo chambers are the structures in which misinformation can not only get transferred through the most, but where they can wreak the most havoc. The fact that echo chambers are so biased in their information selection allows for misinformation to circulate constantly and consistently, as long as it meets that biased criterion. Little can be done to dispose of misinformation within an echo chamber since all opposing or refuting evidence is dismissed, and in fact strengthens the weight and power of the misinformation held. Echo chambers essentially reinforce and structuralize the issues of misinformation, and thus it is no wonder that echo chambers are a big part of how Post-Truth affects our epistemic systems. In the rest of this subsection, we will explore how echo chambers affect the hearer of testimony by going over the structural elements of echo chambers, and then analyse what that means for the people who may be stuck in those environments.

### Echo Chambers and the Problem of Credence

While there are many aspects of echo chambers that can possibly affect how we view and identify experts, perhaps the biggest and most damaging feature of echo chambers for experts is its tendency for over-crediting internal experts (i.e., experts that align with the views of a certain echo chambers) and under-crediting external experts (i.e. experts that fall outside of the views of the echo chamber). Thi Nguyen, in the same article I referenced in the introduction to define echo chambers, speaks of this problem as a problem of *credence[[94]](#footnote-94)*. Recall that echo chambers are defined by the large amount of disparity that is seen between members of an echo chamber, and non-members. These members under credit non-members and over credit members, and membership requires both the belief in the same ideals of the echo chamber and in the disparity that is prevalent. Nguyen argues that this under crediting, which he calls “epistemic discrediting”, is more than just omitting or ignoring the opinions and beliefs of non-members. It is actively discrediting both the members and their beliefs. It is viewing them as untrustworthy, conniving or even evil[[95]](#footnote-95).

We can think of the Freedom Convoy as participating in this sort of discrediting, with major speakers of the Convoy declaring that Prime Minister Trudeau was “corrupt” and “fascist” for putting in place the vaccine mandates, and that those who speak about COVID-19 as an actual pandemic (as opposed to those who believe COVID-19 to be a false pandemic and a cover-up for the distribution of 5G microchips in the population) as participating in “the biggest political scam in history[[96]](#footnote-96)”. Nguyen compares this kind of discrediting to that of cult indoctrination, in which new cult members are taught to distrust all non-cult members in a similar way. He argues that in both cases, the goal of the community is to “credentially isolate” its members from other opposing sources of information that can provide (in normal circumstances) good evidence and facts. This leaves the members of echo chambers with no one else to trust outside of the chamber, and thus creates and feeds into the second issue of this two-prong problem, which is the over-crediting of internal members.

Nguyen argues that echo chambers create what he calls “runaway credence levels” for members of that given echo chamber. What this means is that through the active and extensive discrediting of outside sources of information, echo chambers then create incredibly high levels of trust for those within the echo chamber. This is because not only are the sources of information on the inside aligning with the core beliefs of the echo chamber, but they are further propagating the disparity and distrust in those outside of the echo chamber[[97]](#footnote-97). The leaders of the Freedom Convoy that we spoke about earlier consistently do this, maintaining their beliefs about what the COVID-19 Pandemic really is and in the same breath blaming the politicians and the left-wing for the causation and continued existence of this ‘false’ pandemic’. They lured in similar right-leaning folk with not only playing to their political beliefs, but villainizing those in power and those against them[[98]](#footnote-98). What this then leaves is a positive feedback loop in which the active discrediting of outsiders promotes the active over-crediting of those inside, and vice versa.

This cycle is perfectly encapsulated by what Nguyen calls the “disagreement-reinforcement mechanism[[99]](#footnote-99)” that is contained in echo chambers, where external contradictory evidence only reinforces the internal beliefs. We can see an example of this in the “Pizzagate” conspiracy that Nguyen mentions. Pizzagate was a conspiracy from right-wing reddit that theorized that Hilary Clinton and Barack Obama had a child sex trafficking ring in the basement of a pizza store. Eventually, a member of the subreddit forcibly went into the basement of the pizza store and found nothing. Even though he shared his findings with everyone, those from the subreddit took his contrary evidence as false, making excuses as to whether the mainstream media staged it with the member in question being a paid actor. Their bias made it so that they rejected the evidence, even though it came from someone who was originally a member of their group, and made them only believe further that the left was trying to discredit their right-wing beliefs[[100]](#footnote-100). Essentially, this is a mechanism functions as a way to both dispel away external criticisms and strengthen internal beliefs in one fell swoop.

In a nutshell, this mechanism is what manifests the problem of credence into reality. It takes the under-crediting of outside sources and over-crediting of inside sources and makes it into an epistemically vicious tactic. It makes it so that the epistemic agent functions in a way that goes against good epistemic practices, making them less responsive to good reasons and more responsive to bad ones. Therefore, the problem of credence is a serious problem that arises out of echo chambers, and one that will have significant impact on experts and their authority. But before we get there, we must first look to what kind of echo chambers are present, and where they reside.

### Lackey on Echo Chambers

 The crux of the problem of echo chambers are the structural elements that we have pointed out, the disagreement-reinforcement mechanism that is put into place by the problem of credence. However, one may question if it really is *just* these structural aspects that are what make it problematic. For, one could wonder if the problem of echo chambers is in the structures alone, or if its brought about the type of content that these structures pass through. This is the question that Jennifer Lackey discusses in her paper on echo chambers[[101]](#footnote-101). On Lackey’s analysis, the problems of echo chambers are not necessarily in the structures of echo chambers, but rather in the content that is prevalent in them, which is misinformation. In other words, it is not echo chambers that are necessarily epistemically problematic, it is the content that is echoed within that is.

 Her argument begins by showing how two of the main problems that people associate with echo chambers is insufficient for the charge of being epistemically problematic. The first is the problem of independence[[102]](#footnote-102). She takes this charge from Alvin Goldman[[103]](#footnote-103), who argued that we should discount treating the opinions of people as individuals when they come from a place on non-independence. In other words, when the opinion comes from a group of people who are not independently thinking about the subject, but just agree with a massive herd mentality, then we should not treat it as the opinion of multiple people, but just one. This then means we should not use the testimony of such a group of people as evidence of autonomous agreement or justified widespread support for testimony, since it is actually just one voice. Thus, the problem of non-independence is that it can mistakenly be treated as more than one voice of support, when it should just be considered as one. Applied to echo chambers, we can see the problem as echo chambers erroneously being treated as more than one piece of testimonial evidence for a belief or opinion, when it should not be, since they beliefs of the members of echo chambers are non-independent.

Lackey argues that applying such a problem to echo chambers is too simple and does not encompass the nuance of epistemic agency of the members of an echo chamber. She states that while individuals can base their beliefs of something solely on one source, in a sort of “blind’ way where they do not question the reliability or trustworthiness of the source when they are in the echo chambers, that does not mean that they all got to that point in the same way. There is a difference between someone who perhaps does think critically about the information they receive, and who used that critical thinking to decide that a source is trustworthy and reliable enough to just “blindly” base their beliefs on whatever the source said on a specific matter, and someone who bases their beliefs on one source with little care for trustworthiness and reliability that they might have on all matters. Both end up “blindly” believing in whatever the sources say, but the epistemic attitudes they hold, one might even say their epistemic agency, differentiate the kind of agent they are, and thus their status as an independent thinker[[104]](#footnote-104). Thus, not all members of echo chambers are necessarily unison in their beliefs and thus non-independent. Moreover, Lackey says that more often than not, we are not blind followers of a “guru”. We do not believe absolutely everything that we are told; there are doxastic limits to what we are willing to believe in. Thus, if a source is getting too incredulous with the information that they are outputting, it is unlikely that absolutely no one would not have doubts or skepticism about the source[[105]](#footnote-105). Therefore, in most cases, echo chambers are not examples of complete non-independence, and thus do not pose the problem of reducing epistemic support to just one, meaning that this problem of non-independence isn’t convincing enough to be considered the essential problem of echo chambers.

The second problem she goes over is the problem of “lack of diverse viewpoints”. This is the idea that the problem of echo chambers is that there is no exposure to outside perspectives and thus they just reinforce what they believe to perhaps an extreme point (the example of the Freedom Convoy comes to mind). She takes the belief from the widely held idea that diversity of opinions and viewpoints allows for a belief or theory to be falsified, debated, deconstructed and reconstructed to be a better, more objective account of truth. In this light, echo chambers are problematic because they form environments that go against this idea. Lackey argues that, once again, this problem of echo chambers is insufficient. Firstly, it is not special to echo chambers to restrict the sources of information to one source, since we often like to restrict our sources of information based on our beliefs, desires and preferences[[106]](#footnote-106). I may only like to look at information about one sports team from one source, that does not mean I am then in a parasitic echo chamber. Moreover, the idea of being unrestrictive in the information one intakes can actually be further problematic since it allows you to be at risk of acquiring false beliefs from less reliable and less trustworthy sources. If I start to listen to what Flat-Earthers have to say, I may be more at risk of acquiring false beliefs, at least in comparison to if I stuck to reputable expert sources.

 Lackey also points out that it sort of puts all of us in the same boat, where I am, for example, just as bad for listening to one scientific podcast that is done by experts as someone who gets their scientific information from Joe Rogan. There is a clear difference between myself and such a listener in our epistemic practices to form our beliefs. This leads into Lackey’s last complaint, which is that it oversimplifies the issue of echo chambers to just a problem of “exposure”, when, in reality, the problem runs much deeper[[107]](#footnote-107). As we will see in the polarization passage, just exposing agents to opposing viewpoints does not ensure the result we want to achieve, nor does it ensure better epistemic practices, for as we just covered, at times it might actually put someone at risk of forming false beliefs, and thus leave them epistemically worse-off. Therefore, the lack of diversity problem does not really explain what is specifically problematic about echo chambers, since its not always problematic, nor specific to echo chambers, and poses more problems treating it as such than the problem it outlines.

Lackey points out that each of these problems are structural problems, in the way that the echo chambers function as epistemic environments. These problems are independent of the content that is circulated within it, and thus “content-neutral”. She then goes on to argue that the issue is actually about the content of the information circulated, which we can take as the problem of misinformation that we just discussed[[108]](#footnote-108). Thus, is the problem of echo chambers just reducible to the problem of misinformation? I will argue that, as Nguyen outlines it, it is not. I believe that while it is tied to misinformation in the sense where the kind of information motivates the structural problems, the structural problems pose their own issues that are partially independent to the content of the information that echo chambers circulate.

### A Defense of Echo Chambers

 Firstly, before we get into the argument as to why Lackey’s core problems that she attacks do not encompass the echo chambers as Nguyen has defined. Let us take the first problem once more, the problem of non-independence. Nguyen directly addresses this problem and agrees with Lackey that not all cases of non-independence entail epistemic problems. Agents can have good epistemic practices that lead them to joining an environment that seems non-independent. However, it is only not epistemically problematic when they have good reasons for trusting a source. When epistemic agents do not have good epistemic practices or good reasons for believing in one source only, then there is where the epistemic problems arise. It is those cases of non-independence in epistemic environments like echo chambers that we should be concerned about[[109]](#footnote-109). For that is where people stop caring about the weight of reliability, trustworthiness, and facts, and are at the most risk of being misled. Nevertheless, I would not be inclined to still call this issue the main issue of echo chambers. Nor is it the issue of lack of diverse viewpoints, because as Nguyen explains in his paper, this is not exclusive to echo chambers. There are other epistemic environments that can adopt the same restrictive attitudes, and not be considered echo chambers.

The one Nguyen uses to differentiate from echo chambers is epistemic bubbles. Epistemic bubbles are an “epistemic network that has inadequate coverage through a process of exclusion by omission [that] need not be malicious or even intentional, but members of that community will not receive all the relevant evidence, nor be exposed to a balanced set of arguments.[[110]](#footnote-110)”. These epistemic environments suffer from seemingly similar effects, like that of lack of diverse opinion and non-independence. However, Nguyen argues that epistemic bubbles are different from echo chambers since epistemic bubbles are a case of just lack of exposure. He reasons that if members of an epistemic bubble were to be exposed to relevant information that is opposite to what their bubble circulates, then its reasonable to assume that the bubble will pop. It is fragile, as opposed to the sturdier echo chamber. In an echo chamber, which also suffers from lack of diverse opinion, even if one were to expose members to opposite views, it would be ineffective. That is because the biggest problem with echo chambers is, as we outlined, the problem of credence. It is the fact that they under-credit outside sources and over-credit inside sources, which cause them to have a disagreement-reinforcement mechanism, that makes them epistemically problematic.

Now, one may argue that this is still because of the kind of content that echo chambers circulate that create this problem. An argument could be that, because misinformation is misleading and it instills misleading defeaters that can affect how a hearer frames and treats a credible speaker and their testimony, it this that motivates individuals to under-credit/over-credit sources and thus constitute the problem of credence. In other words, there is no problem of echo chambers over and above the problem of misinformation. Now, I don’t disagree that misinformation has a big part to play in why echo chambers are epistemically problematic. That much is evident with how the attitudes of an echo chamber coincide with the intention behind misleading information, like the case of Pizzagate. What I disagree with is that the problem of credence, and thus the problem of echo chambers, is not independent of the problem of the misinformation. Yes, the problem of misinformation might motivate the mechanisms and structures of echo chambers to arise, that does not mean that those structures and mechanisms do not pose problems of their own. While misinformation might mislead and thus affect laymen (the hearers), echo chambers have further adverse affects. They take the initial effect that misinformation may cause and then they reinforce it. They make it so that one case of misleading defeaters can become a whole epistemic attitude. In other words, the structures of echo chambers take the issues of misinformation and systematize it to a point where it regularly amplifies and habituates the negative epistemic practices that are consequent of misinformation. It goes beyond what misinformation may simply do alone without a structure to organize its affects. Therefore, echo chambers do bring their own issues over and above the ones of misinformation; they make those problems worse.

As we will see later in Section III, the effect that echo chambers have on experts is one that goes beyond individual cases of epistemic defeaters being instilled. It is a case that, in conjunction with the next problem we will speak about which is the motivational problem of polarization, creates an entire flawed mentality that can extend beyond its borders and provide systemic effects against the role that experts undertake. For now, we will go over the last problem that Post-Truth provides for the hearers of credible testimony, which is polarization.

## Polarization

 While misinformation is a content-based problem for hearers of testimony because of how the content of misinformation can affect a hearer’s epistemic beliefs, and echo chambers is a structure-based problem since the structures of echo chambers turn problematic beliefs into problematic practices and attitudes, polarization is a motivation-based problem. It is a motivation-based problem because it motivates hearers to be willing to accept misinformation, even when it is not globally rational to do so, and what motivates them to join and embrace echo chambers, even when it promotes and established problematic epistemic practices. In other words, polarization is the driving force behind the appeal and efficiency of misinformation and the establishment of the structures of echo chambers. In the last part of this section, we will thus understand how it is that polarization forms a viable breeding ground for the issues of misinformation and echo chambers, and overall motivates people as hearers to distrust and dismiss information on irrational or non-rational bases.

 Before we begin, I want to make two point clear. Firstly, the aim of this section is not to explore *why* it is that people are becoming polarized in their beliefs. That investigation can be saved for another time. Nor is it on *if* polarization is an issue, since I will maintain that, based on the arguments we went over in the introduction, plus the added empirical data supporting it[[111]](#footnote-111), polarization is already being perceived as a big problem in our current world. Rather, the aim of this section is to explore the state of polarization and the epistemic implications that it has on agents. Thus, the aim of this section will be to explore *how* it is that polarization right now is affecting hearers of testimony, in relation to their motivation for believing or disbelieving good reasons for justified testimonial belief. Secondly, the problem of polarization is one that heavily involves the social dimension of people, and thus entails principles of more social practices, like political science and psychology. While I will bring up these applied concepts, I will utilize them to analyze their epistemic implications. That will allow us to get a better understanding of what the bigger picture is of how polarization affects the hearers of testimony. Now that that is established, we can move on the analysis

### Motivated Reasoning

 I will argue that the main problem of polarization is that it encourages and realizes a problematic kind of motivated reasoning. By motivated reasoning, I mean the phenomenon where a person has a prior desire or bias for a particular outcome, and so they allow that desire or bias motivate and influence their reasoning to be able to each said outcome. To further understand the nature of motivational reasoning, we will look at an account by Jon Ellis[[112]](#footnote-112), who inquires the if motivational reasoning, dependent on its conceptualization, is always problematic. In his article, Ellis gives three conceptions of motivational reasoning. The first is the way I initially explained it, which he calls the *directional* conception. It is the broad idea conception that one can find a justification for one’s a-priori desired outcome in one’s belief. The second conception is focused on the (ir)relevancy of the possible desire or goal, where one’s reasoning is motivated by some external goal or desire that has no normative bearing on one’s epistemic ends (i.e., non-epistemic desire affecting an epistemic process and aim). Ellis points out that this is formed on the idea that epistemic ends are always (or should always) be about accuracy and/or truth. The last one, which Ellis denotes is one that is often not taken up by philosophers, is the conception of motivated reasoning as *affective* (or emotional) reasoning, where emotions and affects are what affect the reasoning that one does[[113]](#footnote-113).

 Ellis then moves on to see if these conceptions are epistemically problematic. He takes the common conception of the problem, in which it is a token of epistemic irrationality that leaves us with less justified and rational beliefs and applies it to the three conceptions. He begins with the second conception, the epistemically extrinsic conception. Ellis argues that just because the desire is not necessarily related to the epistemic ends of truth and accuracy, does not mean that it is irrelevant or problematic. For a non-epistemic desire can still accurately and reliably get you to the truth. If I, as an example, believe my neuroscientist father’s testimony about neuroscience matters because I have the desire to always trust in my father, even though said desire is non-epistemic, it still guides my reasoning to likely more accurate and truthful outcomes. The desire still points towards a reliable belief, even if it is not epistemic in nature. Of course, such attitudes all the time may be problematic, but there are cases like these where it is not[[114]](#footnote-114). As for the directional conception, Ellis argues that the same thing can be said about the second conception as this first one. Just because one has a prior bias, does not mean it will be epistemically problematic. If I have a bias towards believing what science says over non-scientific sources, I may still result in having good epistemic beliefs, virtually indistinguishable from someone who may not have said bias but still trust science on good reasons[[115]](#footnote-115). Thus, motivated reasoning on this conception is also not necessarily problematic. Where Ellis admits that the case is not as clear is in the third conception. He concedes that it is difficult to have a conclusive verdict on whether it is epistemically problematic to have emotion, or such affective aspects influence one’s reasoning, especially since it might be the case where much of how we reason in our cognition is affected by such influences. Nevertheless, he takes such inconclusiveness to also demonstrate that not all cases of motivational reasoning are epistemically problematic, since it might be the case where much or all of our reasoning is motivated or influenced by our emotions.

 Now, given this account, one might think that motivational reasoning then cannot be the biggest problem of polarization. However, in a similar move to Nguyen with echo chambers, I am not arguing that all cases of motivated reasoning are problematic. Rather, it is the particular case of motivated reasoning that is brought about by polarization that I argue is problematic. To understand the specific case of motivational reasoning brough about by polarization, let us go over the types of polarization we outlined earlier.

### Intertwining Polarization

 This conceptualization of motivated reasoning might seem familiar to how we outlined belief polarization. That is because they both describe similar phenomena. Belief polarization can be understood as involving motivational reasoning, where one’s previous beliefs influence how one frames and treats the information that is before them. These previous beliefs can cause the bias to exist and said bias can then motivate how one handles the information in front of them. Not all cases of motivational reasoning are belief polarizations, since the example of my neuroscientist father does not entail that I am rejecting opposite information in favour or on the basis of my own beliefs about him. Rather, we can understand belief polarization as motivational reasoning gone wild. It is when one is so biased in how one intakes information, that one is willing to maintain that bias and the desired outcome even in the face of certain doubt or falsities. It is this kind of motivational reasoning that is problematic. But to understand exactly why, let us go further into how I conceive belief polarization to be in our current world.

 The problematic nature of belief polarization can be seen in the relation between political polarization, group polarization, and belief polarization. Recall that in how we defined each of these three kinds of polarization, the difference between group and belief polarization was that group polarization entailed deliberation between group members to create and influence collective beliefs that tended to go to extremes, while belief polarization was an individual and private process of radicalization. This distinction is necessary because not all cases of belief polarization are influenced or constituted by collective beliefs. However, that does not mean that collective beliefs *can’t* influence individual beliefs and processes. The psychological concept of social influence explains that group beliefs and ideologies can influence individuals to adopt the same or similar beliefs[[116]](#footnote-116). This might because either it aligns with an individuals normative view, they seek acceptance and approval, or even positive self-conceptualization[[117]](#footnote-117). A particular kind of influence is private conformity, where an individual internalizes those beliefs of their group, even if they did not intend to or agree with them in the first place, and develop their own beliefs based and in accordance on them[[118]](#footnote-118). Thus, if a group that I am in really likes a band, even if I am not the biggest fan of it, the constant deliberation and conversation about it might result in me liking them over time. With this is mind, we can begin to understand how group beliefs can individual beliefs, even when they consider their beliefs privately, as is done in belief polarization.

However, this relation is not necessarily problematic in itself. For the fact that a group has collective beliefs that can influence individual ones say nothing of its epistemically normative status. Their problematic status depends on how they are polarized and that affects the group’s and the individual’s epistemic status. In our case, it is when these groups become polarized by political polarization and turns them into politically motivated polarized groups where we see problems arise. To show this, we will begin with uncovering the problematic sides of political polarization that then translate to groups. I mentioned in the introduction that political polarization was a blanket term that involved other specific kinds of polarization. I will outline three more right now: platform polarization, partisan polarization and affective polarization. According to Robert B. Talisse[[119]](#footnote-119), there are three ways to think about political polarization. The first way, platform polarization, is what is typically understood as the standard form of polarization and can be understood as the “ideological distance between the platforms of competing political parties[[120]](#footnote-120)”. The second way of viewing it is as partisan polarization, where it is more focused on the ideological uniformity of partisanship. In this sense, what is divided is not competing political parties, but those within an ideology themselves. What occurs is that those who are seen as not completely and utterly aligned with the ideology are ostracized and deemed not apart of the group. If one, for example, identifies as a Republican but maintains some democratic beliefs, then on this view, one would be cast off as a “false” Republican. What this does is it makes it so there is less common ground between the opposing parties by culling the moderates and neutrals[[121]](#footnote-121). The third way is affective polarization, which views the *affective* dimension of political polarization. By affective, Talisse means more of an issue of emotional reasoning, such as one of trust and empathy. On this understanding, affective polarization is “marked by high levels within a partisan group of distrust and antipathy toward the members of opposing groups…it is basically a systematic dislike and distrust of one’s political opponents [and so] might emerge in the absence of significant platform or partisan divisions[[122]](#footnote-122)”. In other words, when there is affective polarization, there is a large divide in trust and affection between one political group and its opposite.

These last two are of import because when I am talking about politically motivated polarized groups, I am talking about groups that discuss and deliberate political issues while maintaining a) a puritan attitude which allows for no space for moderates and b) a systemic dislike and distrust against the opposite party. One can see how b) can feed into a), since if one has such systemic dislike and distrust for all that your opposite party stands for, then any beliefs than may be attributed to them or reflective of them will be immediately seen as negative and contradictory to the ideology one represents. These attitudes also guarantees that no opposing information can try to threaten a revision of the respective ideologies beliefs and attitudes, since they refuse to accept or entertain opposite viewpoints, and thus their beliefs and attitudes can become even more polarized. It is when groups are polarized in this sense, and then only polarize themselves further by deliberating based on a bias against their opposition (which includes moderates) which is founded on distrust and puritan thinking, that it becomes problematic for individual beliefs. For if these kinds of attitudes and stances are filtering in the kind of information one is using to deliberate in one’s group, which then influences how one privately assess similar information, then one is going to have a greater risk of having epistemically problematic beliefs. This is what we will now explore to account for the problem of polarization.

### The Epistemic Problem of Polarization

 Ellis did mention that not all cases of non-epistemic desires and biases mean that one’s motivational reasoning is going to turn out epistemically problematic. However, in this case, I do believe it will be more often than not. This is because, based on our conception of rationality, these biases influenced by politically motivated polarized groups will have a direct affect on how one appropriately responds to the reasons for/against belief. On the purity side, this sort of attitude of exclusivity will make it so that you engage in less diverse views, which as we can recall for echo chambers, can be problematic in its own right, but not always. However, it is the affective side that I am more concerned about. For in this regard, it not about the quality of the reasons that may support my acceptance/rejection of a piece of information nor its source, but rather the feeling that I have towards the source of the information. Regardless of whether there are good reasons to believe the statement in the first place or trust in the source, because I have an active dislike and affective distrust towards the opposite group, who is anyone who does not exclusively subscribe to my view, I will most likely dismiss it if it comes from said group. This dismissal is based on affective rather than epistemic grounds.

This may prompt other philosophers to look for a different explanation since, as Ellis said, the affective dimension of beliefs is not one that is commonly taken up by philosophers, as it is mostly studied as a phenomenon of cognition, but I believe that it is *exactly this reason* that makes it problematic. It is exactly because it involves affective dimensions that are difficult to integrate into epistemology that make it problematic because they *still have epistemic implications*. If we have two political groups who grow despise each other, such as how Republicans and Democrats are becoming, then how can we expect them to agree rationally agree to anything when such affective dimensions prevent them from ever distinguishing the statements from the speaker, thus making the epistemic status of the statement redundant. Moreover, it not only makes you less responsive to good epistemic reasons for belief, and thus irrational in a global sense, but it can make you completely unresponsive to epistemic reasons. As we will see with echo chambers on social media in the next section, many polarized members of these groups will simply ignore any counter evidence and instead promote their own beliefs. This is what forms the basis of the problematic nature of echo chambers. When you are in these kinds of groups, you are in a similar but inverse way of being like the bullshitter: you care not about the truth or accuracy of the information, but rather who it comes from and how that affects you. In other words, in a global sense, you are being *non-rational*, which by definition means that, since your emotions are driving what you believe, your beliefs are not based, nor being guided by, reason[[123]](#footnote-123). However, if we are able to consider the affective dimensions of these groups in a more accepting manner as opposed as immediately deeming it as irrational or non-rational, then we can understand how they get to those levels. For if they distrust in their opponent and they believe they have all the reason in the world to not believe a single thing that comes out of their mouths, then, all things considered, it is rational in a local sense. And that is what makes it so difficult to remedy. For in a global sense, it was never about being completely rational (if such a state can even exist), and in a local sense, they were never irrational to begin with.

Thus, the problem of polarization can be seen as a case of motivated reasoning in belief polarization, one that is made problematic by being influenced by politically motivated polarized groups that create affective, non-epistemic biases that affect how one frames and treats incoming information, potentially leading one to be globally irrational or non-rational in how one dismisses or accepts it, but locally rational, thus making it difficult to counteract. To further demonstrate how being irrational or non-rational on this basis is problematic, we will have to wait until Section III, for our example of how polarization affects experts will also demonstrate the potential harm that this kind of motivated reasoning in belief polarization causes.

## From Situations to Applications

As we can see, the problem of all these components is not that they affect the experts or their testimony specifically, since none of these affect experts as being experts (in an epistemic sense), nor do they affect the testimony of the experts (for if the information itself is justified and/or veridical, then only justified reasons can dismiss it, and none of these three components are or provide justified reasons), but rather the problem lies in the hearer, and how the hearer frames and treats the statement of the speaker and the speaker themselves. In the next section, we will be looking at examples and arguments that demonstrate how these problems directly and indirectly affect the role of experts as good informants, and even give us some insight as to why.

# Interlude- The Modern Situation of Experts

## Introduction

 In this interlude, I want to set the scene for where experts are at in our modern times. The point of this section is not necessarily linked to the argument in itself, but rather gives some background context on some issues and views that laid the groundwork for these problems of Post-Truth to come and be troublesome. I am not claiming that Post-Truth in general or the problem of Post-Truth for experts can be reduced to these issues. I am simply providing what I feel is some needed context on how it is that experts can be so easily challenged and dismissed. Each one of these issues can explain, at least partly, how each aspect we outlined was able to come to be.

## The Post-Expert Challenge, Then and Now

 In real life, experts have always played an important role in society as outlets for knowledge. They are, as Hardwig stated in the last section, intellectual authorities. Historically, it is when one is in a bind of confusion or uncertainty that one goes to a relevant expert for advice or answers. In a war, soldiers go to their general, in the research fields, students go to their professors, and in politics, citizens look towards their political leaders. This is the common social understanding of their role that formed the basis for arguing their essential function. However, in our modern world, especially in the era of the Internet, the typical role and understanding of experts has changed, and certain problems have arisen. We will look at two specific issues that frame the current epistemic situation for experts: first; how the roles and efficiency of experts are being questioned in the face of expansive and globalized social networks, and second; how certain epistemic problems, like the lack of expert indicators and epistemic norms online has grown drastically in the era of social media. We will use these issues as a backdrop of what sort of situations experts are finding themselves in, and how they provide the grounds for how Post-Truth can affect experts. For the first issue, we will take a retrospective view on an old argument that challenges the traditional view of experts, what I will call the Post-Expert Challenge, and compare it to our current modern era. This will give us a little insight into why people are becoming more comfortable in rejecting expert testimony, which lays the ground for much of what we will discuss in the last section.

One of the biggest challenges that has been affecting the epistemic role and function of experts is the idea that social epistemic systems, like that of predictive markets, Wikipedia, and social media, can uncover and disseminate news and information better and quicker than traditional expert-based or expert-dependent systems (print media, TV media, etc.). I will call this the “Post-Expert” challenge, where the idea is that we are moving away from relying solely on experts and moving towards being able to rely more and more on social networks and systems to give us accurate and reliable knowledge of various domains online. This challenge does not entail, however, that all experts and expert-based websites and journals will become obsolete. Rather, the idea is that we may be developing new and more efficient ways to gather knowledge than the traditional expert route.

 Alvin Goldman[[124]](#footnote-124) is a proponent of this challenge, where he argues that expert knowledge “pales by comparison” to the amount of knowledge that society has dispersed between it. It is important to note that this was an argument around the early times of the internet, circa mid-2000s. Later we will look at how this argument has aged in 2022. He begins by looking at three different social epistemic systems that can potentially rival expert-based systems and mediums. He first uses the example of prediction markets, systems that take outcome values and give them a fixed probability depending on the “bets” made of such an outcome occurring in the future. One can think of prediction markets for elections, disease outbreaks, snowfall, box office tickets, etc. These prediction markets turn out to be quite reliable, giving very near accurate results based on large pools of information that were extracted. For example, popular election prediction system InTrade predicted the 2008 U.S. Presidential election the night before based on voter information and missed the actual margin of the Elective College split by 1[[125]](#footnote-125). Goldman takes this to suggest that they can even outperform groups of experts in such tasks.

His second example is that of community curated online encyclopedias, like Wikipedia. Marketed as this free encyclopedia that can be edited by whoever, whenever, it is seen as a democratic system that sees every collaborator as equal[[126]](#footnote-126). Goldman takes Wikipedia to be the “antithesis” of expert-based institutions, since they are much more “elitist”[[127]](#footnote-127), while democratically-based community sources are not, treating experts like everybody else (we will come back to this point later on). On the face of it, it may seem that such a democratic system can be less reliable than an expert one since anyone can edit it, and thus have equal opportunity to fill it with false information as they do in filling it with true information. However, democratic systems like Wikipedia have similar ways of ensuring reliability as the ways we ensure reliable testimony.

Don Fallis[[128]](#footnote-128) examines some of the issues with Wikipedia, specifically the two main concerns of *reliability* and *verifiability* (i.e., whether the source can be verified by others as accurate). With reliability, there is concern with misinformation since most people are not experts, are biased and sometimes are not serious when editing/creating pages on the website. This ties in with verifiability, since because collaborators are equal amongst millions, and most times anonymous, they can be indistinguishable. With experts, as per Goldman, one can look at their track record and spot bias, inconsistency or irresponsibility, but with Wikipedia contributors, it seems nigh impossible. Thus, it is hard to verify if information is true using nontestimonially-based reasons as we have come to learn. However, Fallis argues that it isn’t as bad. In a study published by *Nature*, Wikipedia actually sized up to traditional encyclopedia Britannica in accuracy and error margin, rendering it only slightly less reliable[[129]](#footnote-129). Fallis considers that Wikipedia’s reliability may come down to the fact that Wikipedia benefits by what is called the “Wisdom of Crowds”, where “*large* and *decentralized* groups made of *diverse* and *independent* members seem to be very good at getting the right answer to many questions[[130]](#footnote-130)”.

Moreover, with verifiability, while one may not be able to identify a collaborator and look at their personal past, one *can* look at their collaborations on Wikipedia itself. One can see at their post history, the content of their posts, and evaluate their credibility based on this. As well, one can look at the general history of a page, and see what has changed, been edited or omitted in the course of a page’s life. In other words, instead of checking the *collaborator’s* track record, you can check the *pages* track record. These can also give insights towards verifying whether the information is accurate or not. Thus, Wikipedia is actually more reliable than often given credit, and is, *prima facie,* easier to access, sift through and understand than most other traditional, expert-based encyclopedias, though there are some arguments against this[[131]](#footnote-131).

Goldman’s last example is that of the blogosphere, the predecessor to our current social media. While this argument itself is outdated due to this fact, some of the argument’s insights are still useful and applicable to our current times. Goldman argues that the rise in the blogosphere has begun a shift of mediums for news dissemination. It is shifting away from the traditional print news media, who rely on expert testimony more often, to the more democratic, decentralized system of the blogosphere, where everyone has equal opportunity to contribute to what is reported. He considers an argument by Richard Posner[[132]](#footnote-132), who argues that social epistemic systems like the blogosphere are better at error detection than conventional media (who relies more on experts). They benefit from the same thing that Fallis spoke about, which was the Wisdom of Crowds, where the sheer number of people entails more checks and balances of information than usual.

While Goldman does not dispute this, he does argue that Posner underplays an important part of the blogosphere system, which is its reliance on conventional media. To demonstrate this, he uses the example of investigative journalism. Goldman states that investigate reporters are necessary because they are the primary source for information about something. A social epistemic system may be able to be better at error detection and/or news dissemination than traditional news outlets that rely on experts, but that system still requires the first story to be told to disseminate and check it for error. Importantly for our case, Goldman argues that there needs to be this first step or else risk being content with “let[ting] bloggers fabricate whatever comes into their heads[[133]](#footnote-133)”. Thus, reporters and experts have to come first before the rest of the social system. In this sense, Goldman argues that these social systems still rely on the expert individuals, stating that “the blogosphere free rides on the conventional media by picking up their reportage and commenting on it… [and] if all of conventional media disappears… how will the blogosphere supplant them with unpaid amateurs?[[134]](#footnote-134)” Therefore, Goldman maintains that while social epistemic systems might be challenging traditional systems that rely on experts in terms of news dissemination and error detection, and eventually overtake them, the role of experts in traditional media systems is still important as an initial source of knowledge and information.

Are these claims still relevant in 2022? In terms of predictive markets, it seems like they continued their positive trend of accuracy in the 2012 US election, nearly getting every state correct[[135]](#footnote-135). However, that quickly changed in 2016, for both the 2016 US election and the Brexit vote. According to a Bloomberg article, various prediction markets put the odds of both a Trump victory and a Leave decision for Brexit at just 7.5 percent. Both ended up happening. Nonetheless, some still had accurate predictions, like that of PollyVote, who accurately predicted Hilary Clinton winning the popular vote in the 2016 US election, with less margin of error (1.9) than six other types of forecasts (2.3), including experts opinions[[136]](#footnote-136). Therefore, it is the case where perhaps predictive markets can still be reliable, but are not at the level where they blow expert opinions out of the water as initially expected, at least until now

While for Wikipedia, the general optimism towards it become reliable has continued. Various academic journals over the years have fact-checked Wikipedia articles on their relative domain, and found them to be mostly accurate, but encountered issues of omission: not enough (good quality) citations, small yet important details, and distinguishable formatting between trivial and important facts, amongst others[[137]](#footnote-137). However, Wikipedia’s overall reputation as a reliable source seemingly has risen, especially since the WHO (World Health Organization) has teamed up with Wikipedia to become a reliable outlet for important scientific information on COVID-19, with the aim to fight against misinformation[[138]](#footnote-138). While Wikipedia seems to be on the right course, with people developing even better ways to make it more reliable[[139]](#footnote-139), I would not say that Wikipedia can (or will ever be in its current format) completely replace other expert-based journals and websites. Their articles still rely on the information of those expert-based journals and websites, hence their need for heavy citation, and much of the gaps that Wikipedia are criticized for can be filled by going to these expert-based works. In the end, perhaps we can see Wikipedia as a complimentary tool, one that can be used in tangent with expert-based information outlets, since, due to its open access and constant revision by experts and non-experts alike, often times Wikipedia articles are more legible and accessible than specialized expert studies.

Last but not least, is the claim of the blogosphere. It is clear that we have moved on from the older blogosphere format to the modern social media age. Moreover, social media has picked off where the blogosphere left off and has almost entirely replaced print media as a popular source for news. A recent survey in the US[[140]](#footnote-140) has shown that social media and news websites combined makeup for 43% of how adults get their news often, while print media is left in the dust with only 16%. It is evident that social media is quickly taking over as one of the most popular ways to transmit information right now. What’s more is that the same survey reported that social media, at 36%, was the main news source that adults between the age of 18-29 used, with news websites coming second at 27%. That is a significant amount of the population that relies mostly on social media for their information. Now, the claim that we need primary reports of events and happenings in the world for such information to be disseminated is still evidently true even on social media. However, the question worth asking is if we still need *experts* to be those who give us those accounts. This is not to say that we do not need experts at all, for we still need experts like scientists to do their research and experiments to provide the information to be disseminated. Rather, the question focuses on if their presence on social media as an epistemic authority is required, or if we are better off with just relying on these social systems, and having experts take a more background role. This question is further exacerbated when considering some of the issues that experts face already in social media, and that will be what we move on to next.

## The Epistemic Problem of Social Media

### Expert Identification on Social Media

 There are two problems that occur on social media that I want to discuss. Each one focuses on the lack of epistemic indicators or norms on online platforms like social media, respectively. I believe that this will give us some more insight into how things can become so epistemically vicious online.

 The first is the problem of expert identification. Perhaps the best way to introduce this problem of expert identification on social media is by giving an example of a true expert who is on social media. Dr Kizzmekia “Kizzy” Corbett, PHD, is a leading researcher in COVID-19 and COVID vaccines. She is a Harvard grad who has played a major part in creating vaccines for COVID-19[[141]](#footnote-141). On Twitter, she has amassed over 167k followers, and frequently tweets both about scientific advances and studies to do with COVID, and also personal thoughts and interests[[142]](#footnote-142). Lots of people engage with her tweets, either liking them or retweeting them, so it would be reasonable to assume that many of her followers use her tweets as either a direct (her own studies) or indirect (tweeting other’s studies) means to form their beliefs on COVID-19 and vaccines, in the same way they would if she was speaking to them directly about these matters. Therefore, she fits the role of an expert who is on social media, giving her expert testimony in her relevant field. Such experts like Kizzy are easy to identify as experts. However, not every expert is as easy to identify, for various reasons.

 In a paper that discusses this expert identification problem, Horne et al[[143]](#footnote-143) delineate the three challenges that make up this problem, first; that these social media platforms like Twitter and Reddit don’t have “knowledge structures”that users can use to identify experts more precisely. These knowledge structures are structures that clearly distinguish who has knowledge, and where it is found. Dr. Kizzy is verified on Twitter, thus giving her a further sense of credibility for her followers to justify their testimonially-based belief, but many other experts who may not have such a large following lack the verification. This is because verification is based more on notability (i.e., popularity and following) than credibility[[144]](#footnote-144). This also plays into the second challenge, that social media platforms allow all users to participate on the platform equally, making it difficult to tell the difference between experts and non-experts. If various popular non-experts can get the same verification badge as other experts, then it becomes dangerous to assume that a verification badge entitles added layer of credibility. Joe Rogan has a check mark on Twitter, but we would not call him an expert on certain things, especially with his history of misinformation that we saw an example of in the Freedom Convoy section. Thus, the fact that multiple kinds of people can get the same verification statues blurs the lines of who is and who is not an expert. The third and final challenge is that the high-volume of user-generated content leads to a high variability of quality in the content that is posted on social media. Thus, even if you are not verified, if you form part of certain groups, you can proliferate the number of perspectives and opinions on a certain subject matter, and render it even more difficult to distinguish good, reliable and truth-conducive information from all the rest.

The reason why these issues arise is because of what kind of systems these social media platforms are. Aside from notability-based verification, there is no discernable way for an expert to distinguish themselves from non-experts. Everyone on Twitter gets the same number of characters for their tweets, the same spaces for their bio and profile pictures, and the same profile outlay as everyone else. Social media, like its predecessor the “blogosphere”, is a democratic and egalitarian socially epistemic system[[145]](#footnote-145). It a space where everyone can come and share their opinion with little to no restrictions or present hierarchies. In other words, its an epistemic environment that seems to be lacking clear epistemic norms. This lack of epistemic norms on social media is the second issue we will be discussing.

### The Bent Form of Testimony of Social Media

This exact idea is covered by Regina Rini in her paper *Fake News and Partisan Epistemology[[146]](#footnote-146)*. She argues that the reason that people believe such stories is that they mistake it and accept it as a reasonable form of testimony. She states that while spreading fake news can be a form of testimony, such as when Trump flat out lied in a speech about the murder rates of the US in 2017[[147]](#footnote-147), when it is shared on social media, it is a form of *bent* testimony. She gives two reasons as to why this kind of testimony is bent. The first, is that it has unstable norms in place. What Rini means by this is that it is ambiguous at times on social media when someone is actually asserting a piece of information as truth. In other words, there are instances where it is not clear if an alleged testifier is taking responsibility for the transmission of information, in such a way where they are claiming it as their own testimony.

For example, if I, on Twitter, were to retweet a post about how the Pizzagate conspiracy, which was a conspiracy from right-wing reddit that theorized that Hilary Clinton and Barack Obama had a child sex trafficking ring in the basement of a pizza store[[148]](#footnote-148), was real, would that count as me testifying on behalf of this story? Would it count as me asserting it as a sort of testimony of which others could base their beliefs off of? For one could imagine that, if I am simply retweeting it with no context of my own stance on it, it could be the case where I am either endorsing the narrative of the post by retweeting it or retweeting it because I find it absurd and want to share it so that others could laugh along with me. In either case, if I were questioned on my involvement, it is not evident if I could be classified as a testifier of this information. Since, in this case, I am not the originator of the tweet, but does that fact entail that I am absolved of being seen as a testifier even if did share it on my own page? These are the questions that Rini points out that make it so the nature of testimony on social media is unclear. She calls the ideas surrounding these questions of endorsement, asserting and implication “disputed norms of communication”, where we lack a clear understanding of what actions entail what responsibility and role[[149]](#footnote-149). This affects how people frame and treat information both from a position as hearer and testifier, since it is always not clear when someone is actually testifying for a piece of information, and when they are simply “passing it along”.

The second way that this kind of testimony is bent is because more and more people are believing in crazy ridiculous instances of fake news. Rini explains how a norm in regular testimony is that we “suspend confidence when a piece of testimony is radically at odds with what we know about the world[[150]](#footnote-150)”. On social media, that norm is often violated, and people believe crazy stories that do not align with how we commonly view the world to be. Let us consider the Pizzagate story once more. As Rini explains, even if you believed that the actors in that conspiracy were evil or conspiring together, why would they do execute their evil plans in the basement of a random pizza restaurant? There is something about social media testimony that makes it so that these crazy conspiracies are spread so far and so fast that people begin to actually accept it as real. One aspect that could motivate this, as we will see later in Section III in the subsection on polarization and also what Rini considers in her later section on partisanship in the same article, is the political motivations behind such instances of fake news dissemination. Polarization can affect how one frames and responds to certain information, but even still, it is particularly incredulous that people will believe everything about story, even the most absurd aspects, just because it aligns with their political ideology.

There seems to be further trouble beyond just polarization in how people accept fake news, and Rini notions that it can be because both of these ways, the ambiguousness of testimony on social media and the uncritical acceptance of fake news, are connected. As Rini explains it:

“Perhaps people are less inclined to subject ridiculous stories to scrutiny because we have unstable testimonial norms on social media. A friend posts a ridiculous story, without comment, and *maybe* they don’t really mean it. But then other friends ‘like’ the story, or comment with earnest revulsion, or share it themselves. Each of these individual communicative acts involves some ambiguity in the speaker’s testimonial intentions. But, when all appear summed together, this ambiguity seems to wash away. Perhaps the implicit thought is like this: could it really be that *all* these people aren’t *really* testifying to this?[[151]](#footnote-151)”

The instability of these norms is definitely not conducive to good epistemic practices. Without proper epistemic norms to follow and abide by when intaking or revising a belief, it is not difficult to see how people could then start to just believe anything. This spells further trouble for experts, since testimony relies on epistemic norms for it to come across properly, like in a form of knowledge. If an expert tweets something out and it gets a hundred retweets, does that mean that those that retweeted are forming beliefs off of the initial tweet or just sharing it to make fun of it and thus dismissing it? If an expert retweets another expert’s tweet, is that sufficient for a non-testimonial reason to endorse the content (statement) of the tweet? Perhaps these questions can be argued and answered, but prima facie they are not clear, and that allows further room for error in the two-way interaction that is testimony.

## Setting the Scene

If we look now, based on what we have gone over, it seems that experts are in a difficult situation. The rapid development of the Internet has allowed for other epistemic systems and methods of gather information to pop up and challenge the traditional view of experts as epistemic authorities. While these aforementioned democratic social systems might not have the capacity and capability currently to replace expert-based work online as perhaps some might have predicted, they’re existence and reputation as a reliable source has at least raised some suspicion and skepticism about the traditional role of experts (of which’s consequences will be made evident later in the section). Moreover, as these systems have come into popularity, maintaining expert opinion on these platforms so as to ensure that reliable information is transmitted and shared, has become increasingly more difficult. These systems are inherently democratic, and thus experts are not given much of a special treatment to differentiate them from non-experts. Therefore, perhaps part of the reason why people are skeptical of experts is that it is becoming more arduous to be able to tell who is and is not an expert on these popular platforms and are becoming more liable to believing unjustified conspiracy stories that go against expert’s testimony. Regardless, it seems that experts online are having a harder time to take on their roles as epistemic authorities and guide laymen to acquiring accurate and reliable information. The presence of doubt, skepticism, confusion surrounding experts is creating a certain hostile environment and opinion on them; one that has provided a perfect breeding ground for the worst parts of Post-Truth. Now let us move on the application section of this argument, where we can see exactly how experts are affected by Post-Truth.

# Section III- How Post-Truth Affects Experts

## Criteria and Applications

If we are to understand how it is that Post-Truth can affect the role of experts, we need to create a criterion for us to analyze these effects. In the first section I argued that the role of experts was to be good informants for laymen, capable of giving reliable and accurate information on their respective domains. Moreover, being a good informant relies on the testimonial transmission of good information, which, if we recall what we learned from Lackey and Faulkner in the first section, requires both the speaker and the hearer to be epistemically responsible. The transmission of good information is what I argued was the function and role of experts in our world. I then argued that how Post-Truth can affect experts by affecting not necessarily the speaker not their testimony directly, but rather the hearer and how they frame it. Now that we have outlined what I believe to be the main problems of Post-Truth for experts, we can apply the problems to the role of experts and demonstrate how and why these issues of Post-Truth are problematic for experts. Thus, our criteria will be as follows:

We will look for how the respective feature affects expert testimony by affecting a specific aspect of the hearer’s epistemic status, whether that be instilling problematic defeaters for misinformation, establishing troublesome epistemic structures in their environment for echo chambers, or motivating irrational responses to just or potentially just reasons for belief in polarization. In any of these scenarios, the hearer must be affected in some way to make them reject otherwise reliable and accurate information from the expert. This would result in the expert unable to effectively inform the laymen with their respective knowledge and expertise, and thus hamper their role as experts.

However, to do this we will not be looking necessarily at particular examples of how experts are directly affected by Post-Truth, for such research has yet to be compiled. Instead, we will be looking at institutions that either rely on or are constituted by experts and their testimony. The two specific institutions are that of news media, and that of science. Science is obviously a field that relies on experts because it is essentially composed of experts, namely scientists. Thus, if something is contesting or challenging science as an institutions, then it is by composition affecting the experts within it. As for news media, which will be the primary target for our analysis for misinformation, many of these accredited news sources that we form our beliefs off of rely on experts and their testimony since, according to Erik Albæk, expert sources give news journalists a way to legitimatize, add depth and critical analysis, and overall present more factual and knowledgeable reports[[152]](#footnote-152). Therefore, while there may not be enough data on how these features have directly affected experts in Post-Truth, we can see the direct effects that it has on institutions like science which is composed of experts and news media that utilize expert testimony as their source.

As we will see later on, misinformation brings down the reliability of news sources even if they are not the ones intentionally spreading or creating misinformation. Moreover, even the accredited news sources that are trying to actively address and dismiss misinformation, are playing a part in its dissemination. Thus, if the reliability of news media is going down, and much of news media uses expertise to base their reports, then it is not difficult to see how that can affect the reliability of and trust in experts and their testimony

## Misinformation and Experts

### The Misinformation Effect on News Media

We will first analyze how misinformation affects experts. When I claim that misinformation affects experts, I am arguing that misinformation instills unjustified psychological defeaters that then affect how a hearer frames or decides whether or not to accept an expert’s testimony. It is therefore an issue that occurs either before or after the testimony of an expert is transmitted, but before the hearer develops a strong belief based on the expert’s statement. For our analysis, since there is not enough data on how misinformation directly affects individual experts, we will be looking at news media, for the reasons just mentioned.

If we are to use the effect misinformation has on news media as indicative of the potential effect it has on experts specifically, then we will begin by investigating the effect it has on the testimonial justification of news media testimony. In the same article we read before, Jeroen De Ridder discusses the effects that misinformation has on reliable sources like news media. Just having misinformation online already affects the reliability of reputable sources, with De Ridder arguing that the average reliability of expert-based news outlets like newspapers, news websites and TV news decreases with misinformation around. This is because sometimes misinformation can “slip through the cracks” and be reported by seemingly reliable sources. Perhaps some news media, especially smaller ones, do not have the resources or facilities to be able to fact-check everything that they report, and inadvertently spread misinformation. In other circumstances, well-established and popular news outlets willingly participate in disinformation. Fox News is a famous example. In 2021, Fox News participated in disinformation of COVID-19 vaccines 129 times, with popular hosts like Tucker Carlson and Laura Ingraham downplaying the need for vaccines and falsely pinning the motivations of vaccines to governmental control[[153]](#footnote-153). De Ridder calls the content that news outlets like Fox News disseminate, “branded content”, in which the content is sponsored, siding with certain political groups, and/or catering to specific social groups and niches[[154]](#footnote-154). This ulterior motivation not only makes it so that their information is seen as misleading, but it makes it so that anything that comes from that source will be questioned for its potential ulterior motives.

And while to some it may be obvious that such hosts like Tucker Carlson and Laura Ingraham are not “experts” about COVID-19 and vaccinations, the mere fact that they are notable speakers talking to a broad public from a popular news channel makes it difficult to determine it as misinformation, since we typically see news reporters as factual reporters of events. This sort of “journalistic betrayal” to the core values of journalism (to accurately inform the public as Soe explains it) makes it so that people are more skeptical and lest trusting of media journalism in general[[155]](#footnote-155). But misinformation does not just spread by those who willingly do so. Even popular news sources, who are actively trying to oust fake news and misinformation as false, may be actually contributing to the further dissemination of misinformation. According to Yariv Tsfati et al[[156]](#footnote-156), direct exposure to the original sources of misinformation is low, with a value of ≤10%. Given this, they surmise that, since mainstream media has focused on attacking misinformation more frequently in the last few years, the exposure that a majority of people are getting of cases of misinformation are coming from mainstream media. De Ridder calls people and organizations who talk about or share misinformation, either with intention to share it as truth or to debunk them, *misinformation conduits*. He argues that as more misinformation is circulated, more misinformation conduits are created, and the chances of encountering misinformation rises[[157]](#footnote-157). And as Tsfati et al claim, while mainstream media isn’t the “only conduit of fake news and other disinformation, [they] are thus probably a significant amplifier and disseminator of false stories – even if they, for the most part, cover fake news with an intent to set the record straight and correct the fabricated information[[158]](#footnote-158)”. Thus, mainstream media, who are expert-based and supposedly reliable news outlets, become part of the problem, even if they try to fix the problem. This increases the level of dissemination of misinformation, and in turn makes the reliability of all news sources, whether addressing it or publishing it, go down.

If we conjoin this with De Ridder’s earlier account that outlined how misinformation affects testimony, we can understand the relation between misinformation, individuals and news media. If news media is spreading misinformation, either intentionally or unintentionally, then it is risking instilling misleading defeaters about potentially important information. This results in individuals losing trust in news media. This trust lost is based off of the fact that even trusted news sources are participating in misinformation. In this case, one could argue that the defeaters to not trust these specific sources is justified, since it is based on the fact that they are spreading misinformation when they are supposed to be reliable informants. In this case, if individuals recognize that what they are receiving or have received is misinformation from allegedly reliable sources, then they have good reasons to at least harbor some doubt. However, these are not the cases of misinformation that cause the most damage. Rather, it is the cases of fake news, disseminated by specific news media outlets that are most problematic for experts, and that is what we will explore next.

### What this means for Experts

 In De Ridder’s analysis, he mentioned the example of FOX News spreading misinformation about vaccinations and government control. One can interpret the claims of governmental control in vaccinations as a “fringe” narrative that is intended to sow distrust between their public and the Democrat government that was freshly in power. That would mean that misinformation that they disseminate would be fake news. The intention of this specific kind of fake news is targeted at the government, but it not the only target that outlets. A frequent target is mainstream media and experts themselves. A majority of the followers of FOX News are Republican, as shown by a survey from Pew Research Centre, and a majority of them us it as their main source for news[[159]](#footnote-159). According to another survey done by Pew Research Centre, 35% of individuals surveyed that identified as Republicans state that they have “some” or “a lot” of trust in mainstream media. This is down from 70% in 2016[[160]](#footnote-160). That is coincidentally around the same time that former Republican President Donald Trump, a long-time fan and advocate for Fox News, came into office and not only declared them his favourite source for news[[161]](#footnote-161), but, throughout his term, berated and attacked various other sources of accredited news media outlets outside of FOX News, ironically citing them of spreading fake news[[162]](#footnote-162). We can then reasonably assume that fake news from Trump against mainstream media not only encouraged more individuals to mistrust accredited news sources, but also left them trusting specific right-wing news sources that frequently spread misinformation.

 Perhaps the most clear-cut case of how this then affects experts was in the reporting of the COVID-19 Pandemic. According to a study done by Matt Motta, Dominik Stecula and Christina Farhart[[163]](#footnote-163), right-wing media outlets had a direct affect on public health beliefs about COVID-19 in the early months. They discovered that a lot of the denial and disinformation that was spread by media outlets like FOX News influenced Republicans to endorse the messages of said misinformation and their actions in accordance with it. Listeners of Fox News reported to be considerably less worried (38%) about COVID-19 than listeners of other mainstream media outlets like CNN (72%)[[164]](#footnote-164). Perhaps this is because outlets like CNN were and still are using expert testimony to inform the public with facts about the dangers of COVID-19[[165]](#footnote-165). Nevertheless, that did not stop from a large majority of right-wing news media listeners from getting influenced by misinformation. Motta et al’s study also reported that a good number of listeners of these fringe news outlets believed that COVID-19 was made in a lab (34%), and that of those who believed in this conspiracy theory were significantly more likely to believe that expert-based institutions like the CDC were exaggerating the health risks of COVID-19[[166]](#footnote-166). This is extremely telling for our purposes because that means that these people are dismissing expert testimony based on the fake news that they received from right-wing media. This results in tragic consequences; according to a report by the WHO, nearly 6000 hospitalizations from COVID-19 in the early months were caused by COVID misinformation[[167]](#footnote-167).

 What we can see then is an example of how fake news and misinformation can have direct affects on expert testimonies, by instilling psychological defeaters that mislead the hearer to believe information that contradicts news media’s expert-based testimony or simply frame experts is a negative light. It makes experts unable to inform the hearer of good information about the matter, in this case was COVID-19, and thus blocks them from being able to fulfill their function. And, as we saw in this last example, the results in certain cases can be lethal. Now we will move on to what happens when misinformation and its damaging effects become organized and placed into structures that end up worsening the situation for experts and their testimony.

## Echo Chambers and Experts

### Echo Chambers on Social Media

 The effects that echo chambers have on experts are not too dissimilar to what we just discussed for misinformation. However, as I argued previously, the difference is in how echo chambers construct and organize epistemically problematic structures that build off of the issues of misinformation and establish troublesome norms in this twisted environment. Thus, to demonstrate both how these structures function in practice and how they affect experts, we will explore the existence and nature of echo chambers on social media, and later see its affects on experts. First up is establishing that echo chambers do live on social media.

 Echo chambers can be characterized not only by the features we outlined last section, which is the credence attitudes and the disagreement-reinforcement mechanism, but also in their relation to the other features we discussed. Misinformation is the blood that runs through the body of echo chambers, or at least the problematic ones we are discussing about. Polarization is what gives way to both misinformation and echo chambers to form, since it is what motivates people to engage and create them. Therefore, to identify these problematic echo chambers, one must not only see the structures in play but the forces behind and within the structures that bring it to life. This is what Walter Quattrociocchi, Antonio Scala and Cass R. Sunstein searched for when trying to find if echo chambers really do exist on social media. In their experiment[[168]](#footnote-168), Quattrociocchi et al complied large data sets that potentially indicate the existence of echo chambers on Facebook, scouring over hundreds of pages whose descriptions and promoted content indicated polarization and belief in conspiracy theories. What they found were high levels of polarization and problematic information dissemination in various groups.

They distinguished between groups that were science-focused and groups that were conspiracy-focused. While they call both kinds of echo chambers, we shall see that in the end, due to some key differences between them, the science-focused groups are not the problematic echo chambers that Nguyen defined. In their analysis, they analyzed the attitudes and behaviour of each type of group on Facebook. They found that Facebook allowed a lot of polarization within these groups, through the way one could interact with one another on the pages such as liking, sharing and commenting on posts. As well, through a machine learning approach to evaluate the emotional attitude of users, they uncovered that the more that people commented under one post, the more negative they became in their views. This was more the case for conspiracy-focused groups that scientific ones. Moreover, the more that an individual overall was engaged in the group that they were part of, the more extreme they with their negative emotions, across both types of groups. And this extended to those around them as well. Further analysis demonstrates that the higher the engagement by an individual, by means of commenting, liking, and sharing, the more likely those that are in proximity to them in their polarized nature are going to be further polarized as well[[169]](#footnote-169). This means that these groups are being polarized further together when under deliberation. In other words, they are examples of group polarization. Therefore, there is sufficient evidence that there is polarization in these groups, a kind of polarization that fits in very well with the motivations behind echo chambers as we formulated them.

 As for how information is disseminated, we can see how the structures of echo chambers are formed by analyzing what Quattrociocchi et al call “information cascades”, which they found present in these kinds of groups. According to Cass Sunstein[[170]](#footnote-170), information cascades are a kind a phenomenon where a group of people, who perhaps lack the competency or knowledge about a specific kind of information, believe said information on the basis of other people around them believing it. We can imagine it as if person A and B believe in P, then C will tend to believe in P, and then if person D and E see that person A, B, and C believe in P, then they will be inclined to believe it further, and so on and so forth. In this sense, information can be accepted by large amounts of people as it “cascades” down the line to more and more people[[171]](#footnote-171). Quattrociocchi et al find that in certain science-focused and conspiracy-focused Facebook groups, the information that is passed down is disseminated quickly, and cascades only through people of similar minds, with little chance of individuals from differing groups coming across it. However, it is here where conspiracy-focused and science-focused differ in terms of information dissemination:

“News [between the two types of groups] is assimilated very differently. Science news reaches a higher level of diffusion more quickly, and a longer lifetime does not correspond to a higher level of interest but most likely to a prolonged discussion within a specialized group of experts. By contrast, conspiracy rumors diffuse more slowly and show a positive relation between lifetime and size. Long-lived posts tend to be discussed by a higher number of users[[172]](#footnote-172)”

In other words, when scientific news is disseminated, it is discussed at length but by less people, and thus overall impacts the group less since it is continued mostly by a smaller group of experts after the initial diffusion, while conspiracy theories are more widespread and last longer as a widespread phenomenon longer than science news. They do not specify why it is as such, but what this does show is how misinformation (since conspiracy theories are a type of misinformation) can stick around long enough to potentially systematize some of its major issues, which then creates the structures that echo chambers are known for.

However, what really proves the existence of echo chambers is how these aspects become encompassed by the reaction that individuals of these groups have to certain kinds of information. They exposed members of each of these groups to two kinds of information: 1) satirical or “troll” information that would mock conspiracy theories and conspiracy thinking, such as ironically agreeing with some of their ludicrous claims, and 2) contradictory or “debunking” information that had the direct intent to dismiss the claims that these conspiracy theories asserted. What Quattrociocchi et al found was that when exposed to the satirical false information, science-focused groups barely interacted with it. Conspiracy-focused groups, on the other hand, heavily interacted with it. What is interesting is that, according to Soe’s account, satire is inherently not a kind of misinformation. However, what Soe does not explain is that it *can* become misinformation if someone who shares it goes against its original intention and changes its meaning. Quattrociocchi et al allude to this, stating that “even when information is deliberately false and framed with a satirical purpose, its conformity with the conspiracy narrative transforms it into suitable (and welcome) content for the conspiracy echo chamber[[173]](#footnote-173)”. And such transformation can only occur when someone either intentionally or unintentionally changes its meaning and defies its original intention, thus creating it into a kind of misinformation. Therefore, this shows how conspiracy-focused groups tend to involve and engage in misinformation, as opposed to science-focused ones.

And while conspiracy-focused groups readily accept these satirical types of information as credible, they do the inverse with the second, debunking type of information. Quattrociocchi et al found that as little as 1.3% of nearly 10 million conspiracy users, across various pages, interacted with debunking information. What is more, is that after debunking information is posted and ignored, the rate of likes and comments on other non-debunking posts (assumedly related to conspiracies) increased. This shows that users not only dismiss the actually credible debunking information, but their reaction to that information is to reinforce their previous beliefs by engaging with that kind of (mis)information more. In other words, we can see the disagreement-reinforcement mechanism present. At the end, Quattrociocchi et al conclude by describing what is essentially the problem of credence we outlined earlier:

“In the discussions here, users show a tendency to seek out and receive information that strengthens their preferred narrative (see the reaction to trolling posts in conspiracy echo chambers) and to reject information that undermines it (see the failure of debunking) The absorption of trolls’ intentionally false conspiracy theories into echo chambers shows how confirmation bias operates to create a kind of cognitive inoculation”

Therefore, we can see not only that echo chambers can and do exist on social media platforms like Facebook, but that they can and do exist as we described them to be. They are created out of polarization, powered by long-lasting misinformation in informational cascades, and structured by their polarized attitudes towards information that suits their narrative and information that goes against it, creating defensive mechanisms that perpetuate these attitudes. Now that we know they exist and function as described, let us move on to see how they affect experts.

### Echo Chambers Effect on Experts

To see how these structures of an echo chamber negatively affect experts (and even laymen themselves), we will explore a specific real-world issue in which social media echo chambers play a pivotal role: vaccine hesitancy in recent years. We will see how these echo chambers establish problematic attitudes and norms, and how these then cause a habit of discrediting and dismissing important expert-based medicinal information, which negatively affects both the function of experts and the laymen themselves.

In a large-scale study done by Bjarke Mønsted and Sune Lehmann[[174]](#footnote-174), they gathered data to try to understand better the role of social media in vaccine hesitancy. They analyzed over 60 billion tweets from Twitter and found that a lot of the main offenders of spreading this narrative were sharing and interacting more with one another, forming close-knit yet disjointed communities that nevertheless refrained form interacting with any diverse groups by maintaining a highly dissimilar “information landscape” (network of sharing, accepting, and negating incoming and outgoing information) to the others. What’s more is that they found that in these groups, the consistent spreading of misinformation caused “fringe narratives” (narratives that are contrasted from mainstream narratives) to form which then resulted in individuals becoming entrenched in their beliefs[[175]](#footnote-175). Based on these findings, they conclude that what they found were the workings of echo chambers.

However, the effect that these specific kinds of echo chambers were doing were increasing the amount of vaccine hesitancy that certain individuals were having. This is problematic for experts because vaccines are a science-based medicinal products that help protect an individual by boosting their immune system response to potentially harmful viruses[[176]](#footnote-176). Scientific experts have been urging individuals to get vaccinations to protect themselves and their communities, especially since the rise of COVID-19, but there has been a plateau in recent years[[177]](#footnote-177). Mønsted & Lehmann’s study indicates that echo chambers might have a more pivotal role than initially imaged in this phenomenon because of their polarizing and entrenching nature. They argue that this is because such communities can affect individuals who are initially skeptical or hesitant to vaccine, for upon encountering these communities, they might be drastically more inclined to opt out of vaccinations due to the way it is framed in the respective communities. What’s more is that these kinds of communities are really good at finding and reaching out to these individuals, resulting in them growing their ranks and being able to reach even further than before[[178]](#footnote-178). Thus, what occurs is that these communities, due to their nature as echo chambers, entrap and insulate individuals in their beliefs which counteract all the evidence that might be provided by experts. The resulting effect is that expert-based products and treatments such as vaccines are rejected and expert endorsement for it is quickly dismissed. These health and medical experts are unable to effectively inform the public of the dangers of vaccine hesitancy and/or benefits of vaccines, resulting in them failing at their primary function.

To really illustrate this effect, let us explore the example of the current vaccine hesitancy for HPV vaccines in Ireland. There has been a dramatic fall of the HPV vaccine in Ireland[[179]](#footnote-179), even though it has been proven as efficient[[180]](#footnote-180), in recent times. According to an investigation by Elżbieta Drążkiewicz Grodzicka[[181]](#footnote-181), local experts and supporters of the vaccine believe that a lot of the reason why there is this hesitancy is because of a local anti-vaccine group named REGRET, composed mostly of parents of daughters who experienced side effects to the vaccine. They claim that this group spreads egregious amounts of misinformation and conspiracy theories about the HPV vaccine, especially online. They have a big presence online, and consistently spread misinformation about the HPV vaccine to try to convince other parents to refrain from vaccinating their children[[182]](#footnote-182). If one looks at their Facebook page with over 25k likes[[183]](#footnote-183), it follows the same schema as the groups that Quattrociocchi et al and Mønsted & Lehmann discuss in their respective papers: lack of diverse views, flagrant misinformation being spread and endorsed, and spiteful and hateful comments and posts when alluding to scientists and supporters of the vaccine. Given its profile fitting that of echo chambers, in conjunction with the study done by Mønsted & Lehmann, it should not be surprising how such a group can have an affect on the rise of vaccine hesitancy in Ireland, and why everyone blames them for it as well.

Overall, we can see that echo chambers affect experts by establishing problematic structures based on the issues of misinformation, which then allow individuals to from collective attitudes that go against the testimony of experts. This last example demonstrates how echo chambers on social media can have a pivotal role in counteracting the good and justified lengths that scientists go to, to try to fulfill their function as good informants. What we will now move on to is how these communities and individuals can threaten a complete assault on science and thus science-based experts testimony, through the polarization of science.

## Polarization and Experts

### Polarization and Science

 The problem of polarization as a motivational problem for laymen for experts, can perhaps be best shown by how polarization affects science. We will be investigating a conceptualization of science polarization by Roderik Rekker[[184]](#footnote-184). He distinguishes between two processes that motivate science polarization, *psychological science rejection* (PSR) and *ideological science rejection* (ISR)*.* We will use these two processes to demonstrate both how belief polarization as we described it can have negative epistemic effects by influencing the hearer’s framing of the statement in testimony, and also how that then affects scientific experts. To begin, we will go over what exactly science polarization is.

#### Science Polarization

 Science polarization is a domain-specific kind of polarization. Rekker paints a clear picture of what science polarization is and is not. He argues that science polarization is in the milieu of scientific claims, facts and political beliefs. To better understand what this means, let us view it as a sort of three-ringed Venn Diagram (as he uses in his article) between these three concepts, and explore the interconnections between these three. The first interconnection is between scientific claims and facts, which he calls *scientific knowledge*. In this interconnection, scientific claims, that are proposed but not yet proven, are being backed by facts (which one can take as claims that are objectively true in the Popperian “intersubjective agreement” sense[[185]](#footnote-185)), thus transforming them into scientific knowledge. Rekker uses the example of water being two hydrogen molecules and one oxygen molecules as a token of scientific knowledge, since it’s a claim that has been backed by facts[[186]](#footnote-186). The second interconnection is that of scientific claims and political beliefs, in which how an individual believes the world ought to be is reflected in and constitutive of their political belief, which then affects how they frame and interpret scientific claims. He calls this *science-based ideology*. We can understand this interconnection by imagining a given political debate, like one based on economics, that can be supported or discredited by scientific claims (but not yet facts). In this debate, how one frames whether some given policy or law is good or not partially depends on how it stands in regard to one’s political ideology, since it will most likely be directly aligned or contested by one’s political stance. Thus, one can use scientific claims to support one’s politically motivated argument, as long as its based *on* good scientific claims, not based on “fake” or faulty scientific claims like those of pseudoscience. It is also important to note the difference of rejection *based* on science and the rejectionof science *as a whole* (we will come back to this later)[[187]](#footnote-187).

 The third interaction is between political beliefs and facts, which he calls *factual belief polarization*. In this case, how one accepts/rejects facts is based on how one frames certain facts in relation to one’s political ideology, which then makes the rejection/acceptance of the facts based on whether they fit well according to one’s ideology. Rekker uses the example of the US government spending more money on healthcare than on their military. This is a fact. However, Democrats are less willing to accept this because of how they frame the US government and their spending on military, even when presented with good evidence[[188]](#footnote-188). Thus, one’s political ideology can directly affect how one views and accepts/rejects facts. The final interconnection is the one between all three concepts we have discussed. This is what Rekker calls science polarization. Let us use Rekker’s example of man-made climate change. There is scientific knowledge that humans have caused (or at least accelerated/worsened) climate change. There is factual belief polarization because many people interpret and take this scientific knowledge differently depending on one’s political ideology. As well, science-based ideology is included because many scientists are using scientific claims about how to potentially stop or decelerate climate change to fuel policy changes on CO2 emissions. Thus, this topic of man-made climate change is an example of the polarization of science.

 As we can see, science polarization involves many different components, but the ones of note are how ideology affects science and facts. In these angles, we can see the effect that group and political polarization have, by affecting how a group frames factual evidence and scientific claims. What we will see next is how belief polarization plays a part, and then how it relates to the other two kinds.

#### Psychological vs Ideological Science Rejection

Let us now investigate the difference between PSR and ISR. According to Rekker, PSR has to do more with how individuals respond to scientific claims or facts that challenge or usurp their political and ideological identity. In other words, it is “the process through which individual citizens implicitly disregard scientific claims that are inconsistent with their group identity[[189]](#footnote-189)”. It is evaluated more as a cognitive phenomenon, trying to understand how people implicitly reject science because it threatens the beliefs and ideas that constitute who they are and which group they align with. Hence the name of *psychology* science rejection. The core explanation that psychology gives us for why there is science polarization, according to Rekker, is because people use politically motivated reasoning to satisfy their psychological need to align with and remain in their political group. Many people identify part of their selves with their political ideology, since much of their moral, prudential and even epistemic beliefs are usually reflected in the political ideology they align with (ref). Moreover, people find comfort and stability in being with groups that align with their political ideology (ref). Thus, more people are willing to reject or ignore facts that may threaten their personal or group identity. Rekker calls this the process of *identity-protective cognition*[[190]](#footnote-190). In summary, we can call this process as one that is about the *rejection* of *specific* scientific *facts* by specific *individuals*, based on the *cognitive* process of protecting their personal and group *identity*. In the case of PSR, we can see how group polarization takes a starring role. This politically motivated, identity-protective bias that one has when one confronts information, affects how one frames and takes said information. In other words, PSR is a domain-specific case of belief polarization, as described through the perspective of psychology.

ISR, on the other hand, is quite different. It is a phenomenon that comes before PSR, in the sense that it explains why it is that ideologies reject scientific claims and facts in the first place. Therefore, this shifts away from looking at individual people and their psychology and looks more towards the institutions of politics that form, maintain and promote political ideologies. Rekker explains that the difference between science and political ideology can be understood as the difference between “what is” (science) and “what ought to be” (political ideology). Given this, many political institutions with certain ideologies will try to incorporate “what is” into their ideologies so that it is cohesive with that they think the world “ought to be”, even if that means framing it in a particular way. Therefore, ISR takes a stance from science-based ideology[[191]](#footnote-191). Rekker describes four levels of contestation for ideological rejection of science, ranging from specific contestation to general contestation. The first level is that of *specific claims*, where political institutions will reject specific scientific claims, like that of right-wing nationalists often rejecting the idea of man-made climate change[[192]](#footnote-192). These institutions reject certain claims, like that CO2 emissions are worsening our atmosphere, because these claims do not match how they view the world. The second level is the rejection of specific *research fields*. Rekker uses the example of how the right-wing institutions are critical of “regulatory science”. In other words, they are against the idea that science can be used to regulate the economy and capitalist system to avoid ecological or health issues[[193]](#footnote-193). In this case, the political institutions are rejecting not the claims that this research field is making, but rather the field itself.

Notice that this does not mean they necessarily reject science in general, but just a particular field (they might still believe in theoretical physics, for example). The former rejection is actually the next level, which is rejection of *science as a whole*. In this level, political institutions target the authority and legitimacy of science *in toto*. Rekker identifies this level generally with right-wing political institutions, who, according to Rekker, treat science as just “just one source of knowledge among others such as religion, tradition, or ‘common sense’”, since they have “traditionally been uncomfortable with the notion that science should have a monopoly on truth claims[[194]](#footnote-194)”. In this sense, right-wing institutions reject that science can give us “objective” (or as close to it as possible) truth, thus rejecting the role and jurisdiction science currently has. The fourth and final level is one that is not even a direct rejection of science, but rather a broader rejection of the current societal system and its “elite”. Rekker identifies this solely with Populism (though he does say one can have a mix of the fourth and third level with right-wing populism). Rekker explains that the philosophy of Populism rejects the idea of “higher education” and “public institutions” and treats universities and scientists as part of the “social elite”. It can exist on either side of the spectrum since it is vague on exactly how the system is flawed, so that either extreme left-wing or extreme right-wing groups can subscribe to its “thin ideology”[[195]](#footnote-195). Thus, individuals on either side can take up this ideology and reject science, not any specific scientific grounds, but rather on the general grounds that it represents, reflects and propagates the issues within the societal elite system we currently live in.

 These are the four level of ISR, and Rekker points out that there is no particular correct order that one follows to go from one end to the other. The first natural idea is that someone who is at the bottom with specific contestations can eventually rise up to the general contestation of science or that of public institutions. But Rekker argues that one can follow the reverse, with what Rekker calls the *application of general contestation*, which is just applying that general distrust of science or public institutions to reject specific claims or research fields. While there may be a popular idea that these ISR is predominately or solely a right-wing issue (given the examples we saw), Rekker maintains that the first two levels and even the fourth level can come from any political ideology, since it all depends on how you view the world and how you think it should be. In sum, ISR can be seen as a process that is less about a direct rejection of science, but more about *aligning* with a certain ideology from *political institutions* that then can reject science. It deals with specific claims but can *range* from this to *general contestation and* is held or maintained by individuals or *groups.* In other words, PSR deals more with the individuals and how they implicitly reject science to protect who they are, and ISR deals more with how political institutions polarize and politicize science so that more people are divided on how they frame science, the world, and how it should all fit together.

We can think of these political institutions that people align with as polarized groups. Through deliberation, these groups, with their puritan selectiveness and affective distrust, go to extremes with their beliefs, as is evident by how high along the 4 levels of contestation one finds them at. And while ISR and PSR are quite different, that does not mean that, in the same way we understand how group polarization and belief polarization can be related, there is no relation. For one can imagine that an individual’s ideology, one that they align with so much that it becomes part of their core identity, must be constituted from or at least partly inspired by an existing, established ideology, of which they already probably align with. Those who identify as Republican will align with Republican ideologies, and vice versa with Democracy. In this picture, I believe we can see how the beliefs and philosophies that individuals subscribe to in ISR feed into the beliefs that form part of their identity and of which they staunchly defend in PSR. Thus, the relation between ISR and PSR can be understood as the same as how politically motivated group polarization affects and influences individual belief polarization.

### What this means for Experts

Now we can move on to understanding how it is problematic for hearers to be polarized in this way, by looking at the effect that it has against scientific experts. Let us evaluate the four levels of contestation once more. It is not necessarily that problematic for experts when polarized groups and individuals are at the lower levels, since being critical of specific scientific claims or fields can be acceptable under certain circumstances (e.g., the economic science-based ideology example). However, it becomes necessarily problematic when they reject science and/or institutions as a whole. For this is where it becomes a dramatic issue for experts.

With everything that we know, we should be able to easily frame this in an epistemic sense. Through mediums like misinformation and structures like echo chambers, politically motivated polarized groups can introduce and establish some psychological defeaters into the individuals who align with or are directly part of that group. In the case of science rejections, these defeaters are not necessarily rational (in the global sense). These are not necessarily rational because, on our view, the defeaters are not normative defeaters. If there is ample evidence and good reasons to believe the testimony of a scientific experts, then one should not reject it because such a testimony aligns with a certain kind of ideology. That aspect should not defeat the testimony of the expert. But yet they do. What then can happen is that, if they are formed on an ideology that lives on one of the top two levels of contestation, these defeaters will not only reject the individual testimony of scientists, but reject *all* testimony of scientists. These defeaters, if it is not undefeated, invalidate all potential expert testimony. It renders the experts function as impossible. Thus, this is the biggest danger that experts like scientists face. That polarization motivates individuals to distrust all expert testimony because of their political ideology that they identify with.

What is adds to the problematic nature of this, is that in an epistemic sense, there seems to be little we can intuitively do. This is because, as I mentioned before, this kind of polarization brings with it an affective dimension that has epistemic effects on agents (such as being irrational by inappropriately responding to reasons) but cannot be necessarily dismissed on solely epistemic grounds. For the affective reasons behind these decisions and motivations are still present. And this is why we distinguished polarization from the other two Post-Truth features in the first place: to understand why it is that simple exposure on echo chambers is not sufficient, or why people so readily accept misinformation when there should be defeaters and doubts present about the information. It is because polarization, as we understand it, utilizes and weaponizes something that is not often discussed in epistemic discussions but heavily affects one’s epistemic status. It rejects or ignores rationality because it doesn’t really have much to do with global or “objective” rational norms. In other words, rationality is a non-starter. Therefore, we must understand this point and figure out a different manner of approach to be able to remedy the problematic nature of polarization, because this problem is what spawns and empowers the problems of misinformation and echo chambers and bring about the dangers of Post-Truth in general.

## Problems Recapped

 Throughout this section, we have seen how each of these problems that experts face in their testimony are based on how they affect the hearer of testimony. Each do it in their own way, by affecting a different aspect of a hearer’s epistemic status, but it is also clear that many of these features of Post-Truth are intertwined and either motivate, constitute, or strengthen the other. This demonstrates a high level of complexity for the problem of Post-Truth for experts because one cannot dispel one without essentially dispelling them all. Moving forward, what I believe this section shows is how the problems that experts like scientists face must be brought out of their specific context and seen from a bigger perspective that involves, but need not be limited to, all three of these issues.

# Conclusion

 As we have seen, the problem of Post-Truth is one that has been discussed thoroughly, and its impact on certain institutions like science and news media today is an important subject within it. In this thesis, I believe I have provided, from a social epistemological perspective, an elaborate analysis of how Post-Truth, through the three features of it that I identified, affects the role and status of experts. I argued this by firstly going over what is an expert and how to determine its function in Section I. I went over Thomas Grundmann’s criteria for experts and then claimed that an essential part of being an expert, from a social epistemology perspective, that was missing from that account was the role of experts, which I argued was to be a good informant through a practical account of expertise by Christian Quast. In the rest of Section I, I argued what being a good informant entailed. I outlined that being a good informant entailed being able to transmit good information effectively to laymen. I then gave a hybrid account of what transmitting good information required, through Jennifer Lackey’s account of testimonial justification. This account encompassed both reductionist and nonreductionist aspects, as well as reliabilist and evidentialist notions. By the end of her argument, she demonstrated why trust in an epistemic sense was useless or insufficient, before outlining her account of testimonial justification. Lastly for this section, I gave an instrumental and externalist account of rationality, one that defined rationality as reason responsiveness. This account not only explained how we are to understand irrationality when we are later speaking of hearers discounting good testimony or accepting bad testimony, but it also allowed to understand how individuals are able to maintain and defend objectively irrational beliefs, by viewing it from a more local and internalist perspective.

 From here, we moved on to Section II where we went over what I argued were the biggest problems of the three features of Post-Truth for experts, based on the definitions given in the introduction. I described the interconnected nature of the three aforementioned issues but outlined their differing methods of affect on hearers. I argued that the main way that these features of Post-Truth affected expert testimony was by affecting the hearer of testimony, and thus set out to outline the issues that affected hearers in different ways. This resulted in classifying each as a separate kind of problem. Firstly, I classified misinformation as a content-based problem, where the content of the misinformation affected the content of their background beliefs going into expert testimony. I argued through an account of Sille Soe that misinformation is essentially information that, unintentionally or intentionally, misleads the hearer to believe something that is against what it should mean. I claimed that the epistemic issue of this was that it risked the hearer of said testimony to not only hold false beliefs but be misled to dismiss established and justified beliefs and epistemic processes. I then gave an example of a specific kind of misinformation, called fake news, and explained its Frankfurtian bullshit nature, to exemplify the issue and set up the kind of misinformation that is most problematic to the institution of news media.

Secondly, I classified echo chambers as a structural problem that turned the negative aspects of misinformation into epistemic structures that curated problematic attitudes and habits. I used Thi Nguyen’s account of echo chambers to distinguish the epistemic practices and structures that echo chambers established when they are created. I then defended the idea of echo chambers being distinguished from misinformation by demonstrating how the problem of echo chambers builds upon misinformation to create a parasitic epistemic environment, thus creating its own issues. Lastly, I classified polarization as a motivation problem, where political attitudes and group polarization influence individual beliefs and practices and motivate them to dismiss or accept information on epistemically questionable grounds. I introduced the phenomena of motivated reasoning and agreed with an account by Jon Ellis that not all cases of motivated reasoning were epistemically problematic. However, I then argued that the specific cases of motivated reasoning that are influenced by politically motivated groups do provide epistemic issues. I did this by explaining how political polarization, group polarization and belief polarization were intertwined as well, with political polarization and its affective and puritanical nature motivating groups to become polarized, which in turn influenced its individual members to not only participate in the deliberation of these polarized groups beliefs and views, but potentially internalize them into their own personal beliefs. These results in individuals dismissing and demonizing political opponents, which in reality is anyone who does not majorly conform to the overall ideology of their choice, on grounds that are not entirely epistemic nor rational, since there is an affective dimension to their behaviour. I concluded by stating that this affective dimension, and its lack of epistemic conceptualization in the face of severe epistemic implications, was what made polarization so problematic for people to reason with polarized individuals, since it has to do more with their internal logic, motivated by their affective traits, than global rationality.

Before moving on to Section III, I outlined some background information that allowed us to get some insight on the modern situations of experts. We went over an old challenge against experts, which I deemed the Post-Expert challenge, that basically argued that there are systems and features of the internet and its online community that potentially overthrow experts as authorities on truth and knowledge, by being more accurate and accessible, and applied it to our modern times. We maintained that experts would still be needed as primary sources of information, but the questioned remained if, to disseminate the information to laymen, they were the best form to do so. Then we went over some issues of social media, primarily the lack of testimonial norms…

 Lastly, in Section III, we took the problems that I explained in Section II, and how they affected the hearer of testimony based on what I argued in Section I and outlined real-world situations where these problems actually affect the role of experts as good informants. I specified that the analysis would be based off the impact that these features of Post-Truth had on two institutions that were reliant on or constituted of experts, those being news media and science respectively. For misinformation, we went over an account of Jeroen De Ridder and explained how the misleading nature of misinformation led hearers to gain a general distrust of news media amongst the large amount of misinformation that was being transmitted by both reliable and unreliable news sources, resulting in the content of their established beliefs about news media in general being reliable, being dismissed. While I admitted that in some cases acquiring defeaters about unreliable news sources was not epistemically problematic, we then saw a case of misinformation that was problematic, in the fake news that right-wing news media sources were disseminating about COVID-19. This demonstrated how the content of this kind of misinformation can make people less trusting in experts, instilling misleading defeaters that make them dismiss or ignore expert testimony, even if they have good reasons to trust them. For echo chambers, we established the existence of echo chambers in social media, and demonstrated, through studies done by Quattrociocchi et al and Mønsted & Lehmann, how they functioned online by creating structured environment that not only ignored and evaded opposite and diverse views, but systemically dismissed and discredited them. We then demonstrated their problematic nature for experts by using the example of vaccine hesitancy and the impact of echo chambers being environments full of misinformation on HPV vaccinations rates for young women in Ireland.

Lastly, for polarization, we introduced the notion of science polarization through Roderick Rekker, and the effect that politically motivated groups had on individuals in their rejection of science. We outlined Rekker’s two motivations behind science rejection, one based on the psychological protection of an individuals ideologically constituted identity, and one based on their alignment with said ideology and what said ideology has to say about science. For the latter, we explored four stages of science rejection, which encapsulated how individuals and the politically polarized groups they form part of can cause severe problems not only against individual scientists and their research fields, but science and public institutions as a whole. In the end, the applications we outlined gave what I believe to be convincing evidence that if Post-Truth were to affect experts in the way that many philosophers such as (insert names) believe, they would affect it in this manner with these issues.

Overall, I believe this argument gives a convincing analysis for how Post-Truth would affect experts from a social epistemological perspective. I think conceptualizing experts by their function as good informants and testifiers (alongside their abilities), as well as highlighting the hearer as the crucial part of the testimonial interaction between expert as speaker and laymen as hearer, allows us to understand better understand the impact that Post-Truth has on experts and their roles. With this perspective, we can understand and address the ineffectiveness of the irrationality charge, since many of these problems are motivated by seemingly irrational aspects or safeguarded by their structures. Moreover, this allows us to focus our efforts as philosophers not on these Post-Truth features individually, but altogether, with a careful understanding of how they interact and impact each other. This argument is not necessarily to convince the reader that we are definitely living in the Post-Truth era that many claim we entered in 2016, but rather to show how various proposed aspects of that era do have some negative effects in our current worldview for experts and expert institutions alike. My hopes are that with this conceptualization of the issue of Post-Truth on experts, we can approach the various issue within it in a new manner that acknowledges and incorporates the social and affective side of Post-Truth, in our epistemic analyses and argumentations. For if we are living in a Post-Truth era, what we have been doing is not enough and we must think of new techniques and solutions to potentially remedy the situation if it ever can be remedied.

# Bibliography

Albæk, Erik. “The interaction between experts and journalists in news journalism”. *Journalism.* 12(3), (2011) p. 335-348. doi: 10.1177/1464884910392851

Bottomley, Mitchel (@farminglife1973). “Convoy in SC”. *TikTok,* January 21, 2022. https://www.tiktok.com/@farminglife1973/video/7055869743521353006?is\_copy\_url=1&is\_from\_webapp=v1&lang=en

Bragues, George. “Prediction Markets”, *Episteme,* 6(1), (Cambridge: Cambridge University Press, 2009), 91-106. doi:10.3366/E1742360008000567

Broderick, Ryan. "How Facebook Twisted Canada’s Trucker Convoy into an International Movement”. *The Verge.* February 19, 2022. https://www.theverge.com/2022/2/19/22941291/facebook-canada-trucker-convoy-gofundme-groups-viral-sharing

Broncano-Berrocal, Fernando and Carter, J. Adam. *The Philosophy of Group Polarization Epistemology, Metaphysics, Psychology* (1st ed.). (Routledge: 2021). doi: https://doi.org/10.4324/9781003023654

Carter, Adam. “Ontario declares state of emergency in response to convoy protests”. *CBC News.* February 11 2022. https://www.cbc.ca/news/canada/toronto/ford-announcement-ontario-protests-1.6347810

Chianello, Joanne. “No end in sight to Ottawa protests, not enough resources, says police chief”. *CBC News.* February 5, 2022. https://www.cbc.ca/news/canada/ottawa/ottawa-protests-police-chief-no-end-in-sight-1.6341192

Chignell, Andrew. "The Ethics of Belief". *The Stanford Encyclopedia of Philosophy,* (Spring 2018 Edition), Edward N. Zalta (ed.). https://plato.stanford.edu/archives/spr2018/entries/ethics-belief/

Cialdini, Robert and Goldstein, Noah. “Social Influence: Compliance and Conformity”. *Annual review of psychology*, 55, (2004), p. 591-621. doi: 10.1146/annurev.psych.55.090902.142015.

“The convoy crisis in Ottawa: A timeline of key events”. *CBC News.* February 17, 2022. https://www.cbc.ca/news/canada/ottawa/timeline-of-convoy-protest-in-ottawa-1.6351432

Corley, Cheryl. “Floyd's Death Leads To Disinformation About Black Lives Matter Movement”. *Morning Edition.* NPR Podcast, May 25, 2021.

Coyne, Todd. “Convoy opposed to COVID-19 mandates will 'occupy' Victoria for months, says organizer”. *CTV News.* March 8, 2022. https://vancouverisland.ctvnews.ca/convoy-opposed-to-covid-19-mandates-will-occupy-victoria-for-months-says-organizer-1.5811210

Crawford, Blair. “Who is Tamara Lich — the 'spark that lit the fire'”. *Ottawa Citizen.* February 4, 2022. https://ottawacitizen.com/news/local-news/who-is-tamara-lich-the-spark-that-lit-the-fire

D’Ancona, Matthew. *Post-truth: The New War on Truth and How to Fight Back.* London: Ebury Press, 2017, p. 8

Dale, Daniel. “Fact check: Debunking false claims about the Canadian convoy protests”. *CNN Politics.* February 9, 2022. https://www.cnn.com/2022/02/09/politics/fact-check-canadian-convoy-protest-ottawa/index.html

De Ridder, Jerome. “What’s so bad about misinformation?”. *Inquiry,* p.1-23(Routledge: Taylor & Francis Group, 2021). doi: https://www.tandfonline.com/doi/pdf/10.1080/0020174X.2021.2002187

Ellis, Jon. “Motivated reasoning and ethics of belief”. *Philosophy Compass,* 17(6), (2022), p. 1-11. doi: https://doi.org/10.1111/phc3.12828

Ernström, Ulrika. “Climate change denial strongly linked to right-wing nationalism”. *Chalmers.* May 17, 2022. https://www.chalmers.se/en/departments/tme/news/pages/climate-change-denial-strongly-linked-to-right-wing-nationalism.aspx

Fallis, Don. “Wikipistemology”*. Social Epistemology: Essential Readings,* (Oxford: Oxford University Press, 2011).

Faulkner, Paul. “The Social Character of Testimonial Knowledge”. *The Journal of Philosophy,* 97(11), (November 2000). doi: 0022-362X/OO/9711/:"i81-601

“Fighting misinformation in the time of COVID-19, one click at a time”. *WHO.* April 27, 2021. https://www.who.int/news-room/feature-stories/detail/fighting-misinformation-in-the-time-of-covid-19-one-click-at-a-time

Freeman, Eugene. “Objectivity as ‘Intersubjective Agreement’”. *The Monist*, 57(2), (1973), p. 168–175. https://doi.org/10.5840/monist19735722

Gaffey, Conor. “A Short History of Donald Trump’s Relationship with Fox News”. *News Week.* March 29, 2017. https://www.newsweek.com/donald-trump-fox-news-576064

Gilles, Jim. “Internet Encyclopedias Go Head to Head”. *Nature*, 438 (2005): 900-901. http://www.nature.com/nature/journal/v438/n7070/full/438900a.html.

Gilmore, Rachel. “Majority of truckers are vaccinated, Trudeau says, as ‘freedom convoy’ heads to Ottawa”. *Global News.* January 24, 2022. https://globalnews.ca/news/8533779/truckers-convoy-canada-vaccine-mandate/

Goldman, Alvin. “A Guide to Social Epistemology”*, Social Epistemology: Essential Readings,* (Oxford: Oxford University Press2011), p. 24

---. “Experts: Which Ones Should You Trust*?”. Philosophy and Phenomenological Research*, 63, 2001, p. 85–110.

Gottfried, Jeffrey and Liedke, Jacob. “Partisan divides in media trust widen, driven by a decline among Republicans”. *Pew Research Centre.* August 30, 2021.https://www.pewresearch.org/fact-tank/2021/08/30/partisan-divides-in-media-trust-widen-driven-by-a-decline-among-republicans/

Graefe, Andreas., Armstrong, J. Scott., Jones, Jr. Randall J. and Cuzán, Alfred G. “Assessing the 2016 U.S. Presidential Election Popular Vote Forecasts”. in *The 2016 Presidential Election: The causes and consequences of an Electoral Earthquake,* (Lexington Books, Lanham, MD, 2017).

Gramlich, John. “Five Facts about Fox News”. *Pew Research Centre.* April 8, 2020. https://www.pewresearch.org/fact-tank/2020/04/08/five-facts-about-fox-news/

Grice, Paul. “Meaning”. In Paul Grice (Ed.), *Studies in the way of words*, (Cambridge, MA: Harvard University Press, 1989), p. 213–223.

Grimes, David Robert. “We know it's effective. So why is there opposition to the HPV vaccine”. *The Guardian.* January 11, 2016. https://www.theguardian.com/science/blog/2016/jan/11/why-is-there-opposition-hpv-vaccine-cervical-cancer

Grodzicka, Elżbieta Drążkiewicz. “Taking vaccine regret and hesitancy seriously. The role of truth, conspiracy theories, gender relations and trust in the HPV immunisation programmes in Ireland”. *Journal for Cultural Research,* 25(1), (2021), p. 69-87. doi: 10.1080/14797585.2021.1886422

Grundmann, Thomas. “Experts: What are they and how can laypeople identify them?”. *Oxford Handbook of Social Epistemology,* Oxford University Press, (forthcoming), p. 1-20.

Hardwig, John. “Epistemic Interdependence”. *Journal of Philosophy,* 82(7), (1985), p. 335-349.

Horne, Benjamin, Nevo, Dorit, and Adali, Sibel. “Recognizing Experts on Social Media: A Heuristics-Based Approach”. *The DATA BASE for Advances in Information Systems,* 50(3), 2019.

Horowitz, Jason. “Trucker Protests in Canada: What You Need to Know”. *The New York Times.* February 20, 2022. https://www.nytimes.com/article/canada-trucker-protests.html

Ibrahim, Erika. “Canadian Trucking Alliance condemns trucker protests”. *CTV News*. January 23, 2022. https://www.ctvnews.ca/health/coronavirus/canadian-trucking-alliance-condemns-trucker-protests-1.5751439

“Immunization: The Basics”. *CDC.* Date Accessed: June 27, 2022. https://www.cdc.gov/vaccines/vac-gen/imz-basics.htm

“Jan. 6 insurrection was the result of a continuing war on truth”. *The Los Angeles Times.* January 6, 2022. https://www.latimes.com/opinion/story/2022-01-06/jan-6-anniversary-insurrection-big-lie

Kiesewetter, Benjamin. “Rationality as Responsiveness”. *Australasian Philosophical Review*, 4:4, (March 2020), p. 334. doi: 10.1080/24740500.2021.1964239

Kulvi, Fizza. “Meet Rumble, Canada’s new ‘free speech’ platform — and its impact on the fight against online misinformation”. *The Conversation.* July 8, 2021. https://theconversation.com/meet-rumble-canadas-new-free-speech-platform-and-its-impact-on-the-fight-against-online-misinformation-163343

Lackey, Jennifer. “Echo Chambers, Fake News, and Social Epistemology”. *The Epistemology of Fake News*, (Oxford: Oxford University Press, 2021) p. 206-227. doi: 10.1093/oso/9780198863977.003.0010.

---. *Learning From Words: Testimony as a Source of Knowledge,* (Oxford: Oxford University Press,2008), p.177.

---. “Trust in Testimony and Experts”. *Social Epistemology: Essential Readings,* ed. Alvin Goldman and Dennis Whitcomb, (Oxford: Oxford University Press, 2011), p. 71-91.

Lamoureux, Mack. “Somehow, Joe Rogan and Elon Musk Care About Canada’s Anti-Vaxxer Convoy”. *VICE World News.* January 27, 2022. https://www.vice.com/en/article/g5qd8x/joe-rogan-elon-musk-trucker-anti-vaxxer-convoy

Lee, Ella. “Fact check: Canadian 'Freedom Convoy' protest didn't surpass size of country's army”. *USA Today.* February 3, 2022. https://www.usatoday.com/story/news/factcheck/2022/02/03/fact-check-canadian-freedom-convoy-didnt-outsize-countrys-army/9277919002/

Leuf, Bo, and Cunningham, Ward. *The Wiki Way,* (Addison-Wesley, 2001).

Ling, Justin. “5G and QAnon: how conspiracy theorists steered Canada’s anti-vaccine trucker protest”. *The Guardian.* February 8, 2022. https://www.theguardian.com/world/2022/feb/08/canada-ottawa-trucker-protest-extremist-qanon-neo-nazi

Lofaro, Joe. “'That's what scares me': Quebec MP gives impassioned speech condemning Confederate flags in Ottawa protest”. *CTV News.* Feb 3, 2022. https://montreal.ctvnews.ca/that-s-what-scares-me-quebec-mp-gives-impassioned-speech-condemning-confederate-flags-in-ottawa-protest-1.5765804

Lord, Errol. *The Importance of Being Rational,* (Oxford: Oxford University Press, 2018).

Lucassen, Teun, Dijkstra, Roald, and Schraagen, Jan M. “Readability of Wikipedia”. *First Monday*, 17(9), (2012), https://journals.uic.edu/ojs/index.php/fm/article/view/3916/3297

Malik, Saman and Peterson, Sarah. “How U.S. media lost the trust of the public”. *CBC News.* March 28, 2021. https://www.cbc.ca/news/world/media-distrust-big-news-1.5965622

“Managing the COVID-19 infodemic: Promoting healthy behaviours and mitigating the harm from misinformation and disinformation”. *WHO.* September 23, 2020. https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation

Marmot, Michael. “Post Truth and Science”. *The Lancet* 389 (10068), (2017), p. 497-498. doi: 10.1016/S0140-6736(17)30207-6.

McIntyre, Lee. *Post-Truth,* MIT Press. (ProQuest Ebook Central: 2018). https://ebookcentral.proquest.com/lib/uunl/detail.action?docID=5294979.

McKeen, Alex. “Three key ‘Freedom Convoy’ organizers pull back the curtain on the hopes, tension and infighting that marked the occupation”. *Toronto Star.* March 26, 2022. https://www.thestar.com/news/canada/2022/03/26/three-key-freedom-convoy-organizers-pull-back-the-curtain-on-the-hopes-tension-and-infighting-that-marked-their-protest.html

McNeil Jr., Donald G. “Wikipedia and W.H.O. Join to Combat Covid-19 Misinformation”. *The New York Times.* Oct. 22, 2020. https://www.nytimes.com/2020/10/22/health/wikipedia-who-coronavirus-health.html

Monroe, Tyler and Savillo, Rob. “Fox has undermined vaccination efforts in nearly 60% of all vaccination segments in a 2-week period”. *MediaMatters.* July 16, 2021. https://www.mediamatters.org/fox-news/fox-has-undermined-vaccination-efforts-nearly-60-all-vaccination-segments-2-week-period

Mønsted, Bjarke and Lehmann, Sune. “Characterizing polarization in online vaccine discourse—A large-scale study”. *PLoS ONE,* 17(2), (2022), p.1-19. doi: https://doi.org/10.1371/journal.pone.0263746

Moran, Richard. “Getting Told and Being Believed”. In Jennifer Lackey and Ernest Sosa (eds.), *The Epistemology of Testimony,* (Oxford: Oxford University Pres, 2006), 272-306.

Motta, Matt, Stecula, Dominik and Farhart, Christina. “How Right-Leaning Media Coverage of COVID-19 Facilitated the Spread of Misinformation in the Early Stages of the Pandemic in the U.S.”, *Canadian Journal of Political Science*, 53, (2020), p. 335–342.

Mukerji, Nikil. “What is Fake News?”. *Ergo,* 5, (2018), p. 923-946. doi: http://dx.doi.org/10.3998/ergo.12405314.0005.035

Newton, Paula. “Crowds of demonstrators join rallies across Canada as Covid-19 trucker protests spread”. *CBC News.* February 7, 2022. https://www.cnn.com/2022/02/05/americas/canada-trucker-protest-covid-19/index.html

Nguyen, Thi C. “Echo Chambers and Epistemic Bubbles”, *Episteme,* 17(2), (2020). doi:10.1017/epi.2018.32, p. 141-161

Nichols, Tom. *The Death of Expertise.* Oxford University Press USA, 2017, p. 1-4.

“Nonrational”. *Merriam-Webster.com Dictionary. Merriam-Webster,* Date Accessed: 23 June 2022. https://www.merriam-webster.com/dictionary/nonrational.

Paas-Lang, Christian. “Ottawa declares state of emergency as police boost enforcement, target protest's fuel supply”. *CBC News.* February 6, 2022. https://www.cbc.ca/news/politics/convoy-protest-ottawa-sunday-impasse-1.6341548

Parkhill, Maggie. “Who is who? A guide to the major players in the trucker convoy protest”. *CTV News.* February 10, 2022. https://www.ctvnews.ca/canada/who-is-who-a-guide-to-the-major-players-in-the-trucker-convoy-protest-1.5776441

Platt, Brian. “Elon Musk tweets support for the ‘freedom convoy’ of truckers protesting Canada’s vaccine mandates”. *Fortune.* January 27, 2022. https://fortune.com/2022/01/27/elon-musk-twitter-freedom-convoy-canadian-truckers-rule-covid-vaccine/

“Political Polarization in the American Public”. *Pew Research Centre.* June 12, 2024. https://www.pewresearch.org/politics/2014/06/12/political-polarization-in-the-american-public/#what-polarization-looks-like

Pollock*,* John. *Contemporary Theories of Knowledge*. (Savage, MD: Rowman and Littlefield, 1986), p.38.

Posner, Richard. “Bad News”. *New York Times Book Review.* July 31, 2005.https://www.nytimes.com/2005/07/31/books/review/bad-news.html

Power, Jack. “HPV vaccine uptake rate falls 15% among young girls”. *The Irish Times.* June 27, 2017.https://www.irishtimes.com/news/ireland/irish-news/hpv-vaccine-uptake-rate-falls-15-among-young-girls-1.3135927

Quast, Christian. “Expertise: A Practical Explication”. *Topoi* 37, (2018), p. 11-27. doi: https://doi-org.proxy.library.uu.nl/10.1007/s11245-016-9411-2

Quattrociocchi, Walter., Scala, Antonio. and Sunstein, Cass R. “Echo Chambers on Facebook”. *SSRN*, (2016) p. 1-15. doi: http://dx.doi.org/10.2139/ssrn.2795110

Rekker, Roderik. “The nature and origins of political polarization over science”. *Public Understanding of Science,* 30(4), (2021), p. 352–368. doi: 10.1177/0963662521989193

Reuters Fact Check. “Fact Check-Video does not show U.S. truckers travelling to 'Freedom Convoy' in Canada”. *Reuters.* January 26, 2022. https://www.reuters.com/article/factcheck-truckers-video/fact-check-video-does-not-show-u-s-truckers-travelling-to-freedom-convoy-in-canada-idUSL1N2U63FX

Rini, Regina. “Fake News and Partisan Epistemology”. *Kennedy Institute of Ethics Journal,* 27(2), (2017), p. E43-E64. doi: https://doi.org/10.1353/ken.2017.0025

Robb, Amanda. “Anatomy of a Fake News Scandal”. *Rolling Stone.* November 16, 2017.https://www.rollingstone.com/feature/anatomy-of-a-fake-news-scandal-125877/

Roig-Franza, Manuel. and Ellison, Sarah. “A history of the Trump War on Media — the obsession not even coronavirus could stop”. *The Washington Post.* March 29, 2020.https://www.washingtonpost.com/lifestyle/media/a-history-of-the-trump-war-on-media--the-obsession-not-even-coronavirus-could-stop/2020/03/28/71bb21d0-f433-11e9-8cf0-4cc99f74d127\_story.html

Shearer, Elisa. “Social media outpaces print newspapers in the U.S. as a news source”. *Pew Research Centre.* December 10, 2018. https://www.pewresearch.org/fact-tank/2018/12/10/social-media-outpaces-print-newspapers-in-the-u-s-as-a-news-source/

“Social Influence”. *Psychology World,* Date Accessed: June 27, 2022. https://www.psychologistworld.com/influence/social-influence

Soe, Sille Obelitz. “A unified account of information, misinformation, and disinformation”. *Synthese,* 198(11), (June 2021). doi: 10.1007/s11229-019-02444-x, p. 5929-5949

Sunstein, Cass R. "The Law of Group Polarization" in John M. Olin’s *Program in Law and Economics Working Paper*, 91, 1999, p. 1-40.

Talisse, Robert B. *Overdoing Democracy: Why We Must Put Politics in its Place*, (Oxford: Oxford University Press, 2019). doi: 10.1093/oso/9780190924195.003.0005

Tsfati, Yariv., Boomgaarden, Hajo., Strömbäck, Jesper., Vliegenthart, Rens., Damstra, Alyt., and Lindgren, Elina. “Causes and consequences of mainstream media dissemination of fake news: literature review and synthesis”. *Annals of the International Communication Association*, (Routledge: Taylor and Francis, 2020). doi: 1080/23808985.2020.1759443

Tunney, Catherine. “Federal government invokes Emergencies Act for first time ever in response to protests, blockades”. *CBC News.* February 14, 2022. https://www.cbc.ca/news/politics/trudeau-premiers-cabinet-1.6350734

---. “Trudeau rules out negotiating with protesters, says military deployment 'not in the cards'”. *CBC News.* February 3, 2022. https://www.cbc.ca/news/politics/trudeau-protest-1.6335086

Turner, John C. *Social Influence,* (Thomson Brooks/Cole Publishing Co, 1991).

“Vaccines and Immunization”. *WHO.* Date Accessed: June 27, 2022. https://www.who.int/health-topics/vaccines-and-immunization#tab=tab\_1

Vercellone, Chiara. “Fact check: Video shows South Carolina truckers during Special Olympics parade”. *USA Today.* January 31, 2022. https://www.usatoday.com/story/news/factcheck/2022/01/31/fact-check-south-carolina-truck-convoy-not-headed-canada-protest/9257998002/

Wang, Amy B. “‘Post-truth’ named 2016 word of the year by Oxford Dictionaries”. *The Washington Post.* November 16, 2016. https://www.washingtonpost.com/news/the-fix/wp/2016/11/16/post-truth-named-2016-word-of-the-year-by-oxford-dictionaries/

Ward, Myah. “What's happening with the Canadian trucker convoy? Here's what you need to know”. *Politico.* February 14, 2022. https://www.politico.com/news/2022/02/14/canadian-truckers-block-bridge-strike-protests-00008620

“Weekend Profile: James Bauder, con-voy artist”. *The Economist.* February 13, 2022. https://espresso.economist.com/9a9ca45c1a515ab0b82445bedc0563d3

Wong, KayYen, Redi, Miriam and Saez-Trumper, Diego. “Wiki-Reliability: A Large Scale Dataset for Content Reliability on Wikipedia”. *In SIGIR ’21: The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval*, June 2021. ACM, New York, NY, USA.

“Word of the Year 2016”. *Oxford University Dictionaries.* (Oxford University Press: 2016). https://languages.oup.com/word-of-the-year/2016/#:~:text=post%2Dtruth.,to%20emotion%20and%20personal%20belief'.

Yan, Holly. “You asked, we’re answering: Your top questions about Covid-19 and vaccines”. *CNN.* June 21, 2022. https://www.cnn.com/interactive/2020/health/coronavirus-questions-answers/

1. “Word of the Year 2016” *Oxford University Dictionaries,* (Oxford University Press: 2016), https://languages.oup.com/word-of-the-year/2016/#:~:text=post%2Dtruth.,to%20emotion%20and%20personal%20belief'. [↑](#footnote-ref-1)
2. Amy B. Wang, “‘Post-truth’ named 2016 word of the year by Oxford Dictionaries”, *The Washington Post,* November 16, 2016, https://www.washingtonpost.com/news/the-fix/wp/2016/11/16/post-truth-named-2016-word-of-the-year-by-oxford-dictionaries/ [↑](#footnote-ref-2)
3. Lee McIntyre, *Post-Truth,* MIT Press, (ProQuest Ebook Central: 2018), https://ebookcentral.proquest.com/lib/uunl/detail.action?docID=5294979. [↑](#footnote-ref-3)
4. McIntyre (2018), *Post-Truth,* p. 12 [↑](#footnote-ref-4)
5. Matthew D’Ancona, *Post-truth: The New War on Truth and How to Fight Back,* London: Ebury Press, 2017, p. 8 [↑](#footnote-ref-5)
6. “Jan. 6 insurrection was the result of a continuing war on truth”, *The Los Angeles Times,* January 6, 2022, https://www.latimes.com/opinion/story/2022-01-06/jan-6-anniversary-insurrection-big-lie [↑](#footnote-ref-6)
7. Cheryl Corley, “Floyd's Death Leads To Disinformation About Black Lives Matter Movement”, *Morning Edition,* NPR Podcast, May 25, 2021. [↑](#footnote-ref-7)
8. “Managing the COVID-19 infodemic: Promoting healthy behaviours and mitigating the harm from misinformation and disinformation”, *WHO,* September 23, 2020, https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation [↑](#footnote-ref-8)
9. Tom Nichols, *The Death of Expertise,* Oxford University Press USA, 2017,p. 1-4 [↑](#footnote-ref-9)
10. Tom Nichols (2017), *Death,* p. 2 [↑](#footnote-ref-10)
11. “The convoy crisis in Ottawa: A timeline of key events”, *CBC News,* February 17, 2022, https://www.cbc.ca/news/canada/ottawa/timeline-of-convoy-protest-in-ottawa-1.6351432 [↑](#footnote-ref-11)
12. Joe Lofaro, “'That's what scares me': Quebec MP gives impassioned speech condemning Confederate flags in Ottawa protest”, *CTV News,* Feb 3, 2022, https://montreal.ctvnews.ca/that-s-what-scares-me-quebec-mp-gives-impassioned-speech-condemning-confederate-flags-in-ottawa-protest-1.5765804 [↑](#footnote-ref-12)
13. Catherine Tunney, “Trudeau rules out negotiating with protesters, says military deployment 'not in the cards'”, *CBC News,* February 3, 2022, https://www.cbc.ca/news/politics/trudeau-protest-1.6335086 [↑](#footnote-ref-13)
14. Myah Ward, “What's happening with the Canadian trucker convoy? Here's what you need to know”, *Politico,* February 14, 2022, https://www.politico.com/news/2022/02/14/canadian-truckers-block-bridge-strike-protests-00008620 [↑](#footnote-ref-14)
15. Tunney, “Trudeau rules out negotiating with protesters…” [↑](#footnote-ref-15)
16. “The convoy crisis in Ottawa: A timeline of key events”, *CBC News* [↑](#footnote-ref-16)
17. Joanne Chianello, “No end in sight to Ottawa protests, not enough resources, says police chief”, *CBC News,* February 5, 2022, https://www.cbc.ca/news/canada/ottawa/ottawa-protests-police-chief-no-end-in-sight-1.6341192 [↑](#footnote-ref-17)
18. Christian Paas-Lang, “Ottawa declares state of emergency as police boost enforcement, target protest's fuel supply”, *CBC News,*  February 6, 2022, https://www.cbc.ca/news/politics/convoy-protest-ottawa-sunday-impasse-1.6341548 [↑](#footnote-ref-18)
19. Adam Carter, “Ontario declares state of emergency in response to convoy protests”, *CBC News,* February 11 2022, https://www.cbc.ca/news/canada/toronto/ford-announcement-ontario-protests-1.6347810 [↑](#footnote-ref-19)
20. Paula Newton, “Crowds of demonstrators join rallies across Canada as Covid-19 trucker protests spread”, *CBC News,* February 7, 2022, https://www.cnn.com/2022/02/05/americas/canada-trucker-protest-covid-19/index.html [↑](#footnote-ref-20)
21. Catherine Tunney, “Federal government invokes Emergencies Act for first time ever in response to protests, blockades”, *CBC News,* February 14, 2022, https://www.cbc.ca/news/politics/trudeau-premiers-cabinet-1.6350734 [↑](#footnote-ref-21)
22. Rachel Gilmore, “Majority of truckers are vaccinated, Trudeau says, as ‘freedom convoy’ heads to Ottawa”, *Global News,* January 24, 2022, https://globalnews.ca/news/8533779/truckers-convoy-canada-vaccine-mandate/ [↑](#footnote-ref-22)
23. Erika Ibrahim, “Canadian Trucking Alliance condemns trucker protests”, *CTV News*, January 23, 2022, https://www.ctvnews.ca/health/coronavirus/canadian-trucking-alliance-condemns-trucker-protests-1.5751439 [↑](#footnote-ref-23)
24. Ella Lee, “Fact check: Canadian 'Freedom Convoy' protest didn't surpass size of country's army”, *USA Today,* February 3, 2022, https://www.usatoday.com/story/news/factcheck/2022/02/03/fact-check-canadian-freedom-convoy-didnt-outsize-countrys-army/9277919002/ [↑](#footnote-ref-24)
25. Daniel Dale, “Fact check: Debunking false claims about the Canadian convoy protests”, *CNN Politics,* February 9, 2022, https://www.cnn.com/2022/02/09/politics/fact-check-canadian-convoy-protest-ottawa/index.html [↑](#footnote-ref-25)
26. Sille Obelitz Soe, “A unified account of information, misinformation, and disinformation”, *Synthese,* 198(11), (June 2021), doi: 10.1007/s11229-019-02444-x, p. 5929-5949 [↑](#footnote-ref-26)
27. Soe, “A unified account…”, p. 5933 [↑](#footnote-ref-27)
28. Soe, “A unified account…”, p. 5947 [↑](#footnote-ref-28)
29. Ibid. [↑](#footnote-ref-29)
30. Ibid. [↑](#footnote-ref-30)
31. Mitchel Bottomley, (@farminglife1973), “Convoy in SC”, *TikTok,* January 21, 2022, https://www.tiktok.com/@farminglife1973/video/7055869743521353006?is\_copy\_url=1&is\_from\_webapp=v1&lang=en [↑](#footnote-ref-31)
32. Chiara Vercellone, “Fact check: Video shows South Carolina truckers during Special Olympics parade”, *USA Today,* January 31, 2022, https://www.usatoday.com/story/news/factcheck/2022/01/31/fact-check-south-carolina-truck-convoy-not-headed-canada-protest/9257998002/ [↑](#footnote-ref-32)
33. Reuters Fact Check, “Fact Check-Video does not show U.S. truckers travelling to 'Freedom Convoy' in Canada”, *Reuters,* January 26, 2022, https://www.reuters.com/article/factcheck-truckers-video/fact-check-video-does-not-show-u-s-truckers-travelling-to-freedom-convoy-in-canada-idUSL1N2U63FX [↑](#footnote-ref-33)
34. Ryan Broderick, "How Facebook Twisted Canada’s Trucker Convoy into an International Movement”, *The Verge,* February 19, 2022, https://www.theverge.com/2022/2/19/22941291/facebook-canada-trucker-convoy-gofundme-groups-viral-sharing [↑](#footnote-ref-34)
35. Thi C. Nguyen, “Echo Chambers and Epistemic Bubbles”, *Episteme,* 17(2), (2020), doi:10.1017/epi.2018.32, p. 141-161 [↑](#footnote-ref-35)
36. Jason Horowitz, “Trucker Protests in Canada: What You Need to Know”, *The New York Times,* February 20, 2022, https://www.nytimes.com/article/canada-trucker-protests.html [↑](#footnote-ref-36)
37. Todd Coyne, “Convoy opposed to COVID-19 mandates will 'occupy' Victoria for months, says organizer”, *CTV News,* March 8, 2022, https://vancouverisland.ctvnews.ca/convoy-opposed-to-covid-19-mandates-will-occupy-victoria-for-months-says-organizer-1.5811210 [↑](#footnote-ref-37)
38. “Weekend Profile: James Bauder, con-voy artist”, *The Economist,* February 13, 2022, https://espresso.economist.com/9a9ca45c1a515ab0b82445bedc0563d3 [↑](#footnote-ref-38)
39. Fizza Kulvi, “Meet Rumble, Canada’s new ‘free speech’ platform — and its impact on the fight against online misinformation”, *The Conversation,* July 8, 2021, https://theconversation.com/meet-rumble-canadas-new-free-speech-platform-and-its-impact-on-the-fight-against-online-misinformation-163343 [↑](#footnote-ref-39)
40. Blair Crawford, “Who is Tamara Lich — the 'spark that lit the fire'”, *Ottawa Citizen,* February 4, 2022, https://ottawacitizen.com/news/local-news/who-is-tamara-lich-the-spark-that-lit-the-fire [↑](#footnote-ref-40)
41. Maggie Parkhill, “Who is who? A guide to the major players in the trucker convoy protest”, *CTV News,* February 10, 2022, https://www.ctvnews.ca/canada/who-is-who-a-guide-to-the-major-players-in-the-trucker-convoy-protest-1.5776441 [↑](#footnote-ref-41)
42. Brian Platt, “Elon Musk tweets support for the ‘freedom convoy’ of truckers protesting Canada’s vaccine mandates”, *Fortune,* January 27, 2022, https://fortune.com/2022/01/27/elon-musk-twitter-freedom-convoy-canadian-truckers-rule-covid-vaccine/ [↑](#footnote-ref-42)
43. Mack Lamoureux, “Somehow, Joe Rogan and Elon Musk Care About Canada’s Anti-Vaxxer Convoy”, *VICE World News,* January 27, 2022, https://www.vice.com/en/article/g5qd8x/joe-rogan-elon-musk-trucker-anti-vaxxer-convoy [↑](#footnote-ref-43)
44. Fernando Broncano-Berrocal and J. Adam Carter, *The Philosophy of Group Polarization Epistemology, Metaphysics, Psychology* (1st ed.), (Routledge: 2021), doi: https://doi.org/10.4324/9781003023654 [↑](#footnote-ref-44)
45. Broncano-Berrocal and Carter, *The Philosophy…,* p. 4-5 [↑](#footnote-ref-45)
46. Broncano-Berrocal and Carter, p. 6 [↑](#footnote-ref-46)
47. Thomas Grundmann, “Experts: What are they and how can laypeople identify them?”, *Oxford Handbook of Social Epistemology,* Oxford University Press, (forthcoming), p. 1-20. [↑](#footnote-ref-47)
48. Grundmann, *Experts*, p. 9 [↑](#footnote-ref-48)
49. Christian Quast, “Expertise: A Practical Explication”, *Topoi* 37, (2018), p. 11-27, doi: https://doi-org.proxy.library.uu.nl/10.1007/s11245-016-9411-2 [↑](#footnote-ref-49)
50. Quast, “Expertise…” p. 18 [↑](#footnote-ref-50)
51. Quast, “Expertise…” p. 16 [↑](#footnote-ref-51)
52. Andrew Chignell, "The Ethics of Belief", *The Stanford Encyclopedia of Philosophy,* (Spring 2018 Edition), Edward N. Zalta (ed.), https://plato.stanford.edu/archives/spr2018/entries/ethics-belief/ [↑](#footnote-ref-52)
53. Jennifer Lackey, “Trust in Testimony and Experts”, *Social Epistemology: Essential Readings,* ed. Alvin Goldman and Dennis Whitcomb, (Oxford: Oxford University Press, 2011), p. 71-91 [↑](#footnote-ref-53)
54. Lackey, “Trust in Testimony…”, p. 74 [↑](#footnote-ref-54)
55. Lackey, “Trust in Testimony…”, p. 75 [↑](#footnote-ref-55)
56. Ibid. [↑](#footnote-ref-56)
57. Lackey, “trust in Testimony…”, p. 77 [↑](#footnote-ref-57)
58. Paul Faulkner, “The Social Character of Testimonial Knowledge”, *The Journal of Philosophy,* 97(11), (November 2000), doi: 0022-362X/OO/9711/:"i81-601 [↑](#footnote-ref-58)
59. Lackey, “Trust in Testimony…”, p. 78 [↑](#footnote-ref-59)
60. Ibid. [↑](#footnote-ref-60)
61. Faulkner, “The Social Character…”, p. 587 [↑](#footnote-ref-61)
62. Faulkner “The Social Character…”, p. 588 [↑](#footnote-ref-62)
63. Faulkner “The Social Character…”, p. 596 [↑](#footnote-ref-63)
64. Faulkner “The Social Character…”, p. 589 [↑](#footnote-ref-64)
65. Lackey, “Trust in Testimony…”, p. 78 [↑](#footnote-ref-65)
66. Richard Moran, “Getting Told and Being Believed”, In Jennifer Lackey and Ernest Sosa (eds.), *The Epistemology of Testimony,* (Oxford: Oxford University Pres, 2006), 272-306; [↑](#footnote-ref-66)
67. Lackey, “Trust in Testimony…”, p. 79 [↑](#footnote-ref-67)
68. Lackey, “Trust in Testimony…”, p. 80 [↑](#footnote-ref-68)
69. Lackey, “Trust in Testimony…”, p. 81 [↑](#footnote-ref-69)
70. Lackey considers that the two people receiving the testimony, one with the trust extended and one without, have the same background information about the speaker and the situation, and form their beliefs solely on this testimony and no other considerations. [↑](#footnote-ref-70)
71. Jennifer Lackey, *Learning From Words: Testimony as a Source of Knowledge,* (Oxford: Oxford University Press,2008), p.177 [↑](#footnote-ref-71)
72. Lackey, “Trust in Testimony…”, p. 85 [↑](#footnote-ref-72)
73. Lackey, “Trust in Testimony…”, p. 84-85 [↑](#footnote-ref-73)
74. John Hardwig, “Epistemic Interdependence”, *Journal of Philosophy,* 82(7), (1985), p. 335-349 [↑](#footnote-ref-74)
75. Hardwig, “Epistemic…”, p.342. [↑](#footnote-ref-75)
76. Hardwig, p. 343 [↑](#footnote-ref-76)
77. Errol Lord, *The Importance of Being Rational,* (Oxford: Oxford University Press, 2018) [↑](#footnote-ref-77)
78. Benjamin Kiesewetter, “Rationality as Responsiveness”, *Australasian Philosophical Review*, 4:4, (March 2020), p. 334, doi: 10.1080/24740500.2021.1964239 [↑](#footnote-ref-78)
79. Paul Grice, “Meaning”, In Paul Grice (Ed.), *Studies in the way of words*, (Cambridge, MA: Harvard University Press, 1989), p. 213–223 [↑](#footnote-ref-79)
80. Soe, “A Unified…”, p. 5933-5934. [↑](#footnote-ref-80)
81. Soe “A unified account…”, p. 5935 [↑](#footnote-ref-81)
82. Soe “A unified account…”, p. 5939 [↑](#footnote-ref-82)
83. Jerome De Ridder, “What’s so bad about misinformation?”, *Inquiry,* p.1-23(Routledge: Taylor & Francis Group, 2021), doi: https://www.tandfonline.com/doi/pdf/10.1080/0020174X.2021.2002187 [↑](#footnote-ref-83)
84. De Ridder, “What’s so bad…”, p. 5 [↑](#footnote-ref-84)
85. John Pollock*, Contemporary Theories of Knowledge*. (Savage, MD: Rowman and Littlefield, 1986), p.38 [↑](#footnote-ref-85)
86. Ibid., p. 39 [↑](#footnote-ref-86)
87. De Ridder, “What’s so bad…” p. 6 [↑](#footnote-ref-87)
88. Nikil Mukerji, “What is Fake News?”, *Ergo,* 5, (2018), p. 923-946, doi: http://dx.doi.org/10.3998/ergo.12405314.0005.035 [↑](#footnote-ref-88)
89. Mukerji, “What is Fake News?”, p. 924 [↑](#footnote-ref-89)
90. Mukerji, “What is Fake News?”, p. 926 [↑](#footnote-ref-90)
91. Mukerji, “What is Fake News?”, p. 932 [↑](#footnote-ref-91)
92. Mukerji, “What is Fake News?”, p. 930 [↑](#footnote-ref-92)
93. Mukerji, “What is Fake News?”, p. 936 [↑](#footnote-ref-93)
94. Nguyen, “Echo Chambers…” p. 146 [↑](#footnote-ref-94)
95. Ibid. [↑](#footnote-ref-95)
96. Justin Ling, “5G and QAnon: how conspiracy theorists steered Canada’s anti-vaccine trucker protest”, *The Guardian,* February 8, 2022, https://www.theguardian.com/world/2022/feb/08/canada-ottawa-trucker-protest-extremist-qanon-neo-nazi [↑](#footnote-ref-96)
97. Nguyen, “Echo Chambers…”, p. 150 [↑](#footnote-ref-97)
98. Alex McKeen, “Three key ‘Freedom Convoy’ organizers pull back the curtain on the hopes, tension and infighting that marked the occupation”, *Toronto Star,* March 26, 2022, https://www.thestar.com/news/canada/2022/03/26/three-key-freedom-convoy-organizers-pull-back-the-curtain-on-the-hopes-tension-and-infighting-that-marked-their-protest.html [↑](#footnote-ref-98)
99. Nguyen, “Echo Chambers…”, p. 147 [↑](#footnote-ref-99)
100. Nguyen, “Echo Chambers…”, p. 148 [↑](#footnote-ref-100)
101. Jennifer Lackey, “Echo Chambers, Fake News, and Social Epistemology”, *The Epistemology of Fake News*, (Oxford: Oxford University Press, 2021) p. 206-227, doi: 10.1093/oso/9780198863977.003.0010. [↑](#footnote-ref-101)
102. Lackey, “Echo Chambers...”. p. 208 [↑](#footnote-ref-102)
103. Alvin Goldman, “Experts: Which Ones Should You Trust*?” Philosophy and Phenomenological Research*, 2001, 63, p. 85–110. [↑](#footnote-ref-103)
104. Goldman, “Experts…”, p. 214 [↑](#footnote-ref-104)
105. Lackey, “Echo Chambers...”. p. 214 [↑](#footnote-ref-105)
106. Lackey, “Echo Chambers...”. p. 215 [↑](#footnote-ref-106)
107. Lackey, “Echo Chambers...”. p. 216 [↑](#footnote-ref-107)
108. Ibid. [↑](#footnote-ref-108)
109. Nguyen, “Echo Chambers…”, p.145 [↑](#footnote-ref-109)
110. Ibid. [↑](#footnote-ref-110)
111. “Political Polarization in the American Public”, *Pew Research Centre,* June 12, 2024, https://www.pewresearch.org/politics/2014/06/12/political-polarization-in-the-american-public/#what-polarization-looks-like [↑](#footnote-ref-111)
112. Jon Ellis, “Motivated reasoning and ethics of belief”, *Philosophy Compass,* 17(6), (2022), p. 1-11, doi: https://doi.org/10.1111/phc3.12828 [↑](#footnote-ref-112)
113. Ellis, “Motivated…”, p. 3 [↑](#footnote-ref-113)
114. This is, I argue, a separate case than Lackey’s irrational agent, for in that case, not only is it an issue of perhaps a desire to trust everyone, but also a clear absence of epistemic competency in terms of responding to reasons, while in this “father” example, it is not evident that I lack such competency or rationality. [↑](#footnote-ref-114)
115. Ellis, “Motivated…”, p.4 [↑](#footnote-ref-115)
116. John C. Turner, *Social Influence,* (Thomson Brooks/Cole Publishing Co, 1991) [↑](#footnote-ref-116)
117. Robert Cialdini and Noah Goldstein, “Social Influence: Compliance and Conformity”. *Annual review of psychology*, 55, (2004), p. 591-621. doi: 10.1146/annurev.psych.55.090902.142015. [↑](#footnote-ref-117)
118. “Social Influence”, *Psychology World,* Date Accessed: June 27, 2022, https://www.psychologistworld.com/influence/social-influence [↑](#footnote-ref-118)
119. Robert B. Talisse, *Overdoing Democracy: Why We Must Put Politics in its Place*, (Oxford: Oxford University Press, 2019). doi: 10.1093/oso/9780190924195.003.0005 [↑](#footnote-ref-119)
120. Talisse, *Overcoming…,* p. 98 [↑](#footnote-ref-120)
121. Ibid. [↑](#footnote-ref-121)
122. Talisse, *Overcoming…,* p. 99 [↑](#footnote-ref-122)
123. “Nonrational”, *Merriam-Webster.com Dictionary, Merriam-Webster,* Date Accessed: 23 June 2022, https://www.merriam-webster.com/dictionary/nonrational. [↑](#footnote-ref-123)
124. Alvin Goldman, “A Guide to Social Epistemology”*, Social Epistemology: Essential Readings,* (Oxford: Oxford University Press2011), p. 24 [↑](#footnote-ref-124)
125. George Bragues, “Prediction Markets”, *Episteme,* 6(1), (Cambridge: Cambridge University Press, 2009), 91-106. doi:10.3366/E1742360008000567 [↑](#footnote-ref-125)
126. Bo Leuf and Ward Cunningham, *The Wiki Way,* (Addison-Wesley, 2001) [↑](#footnote-ref-126)
127. Goldman, “A Guide to…”, p.25 [↑](#footnote-ref-127)
128. Don Fallis, “Wikipistemology”*, Social Epistemology: Essential Readings,* (Oxford: Oxford University Press, 2011).  [↑](#footnote-ref-128)
129. Jim Gilles, “Internet Encyclopedias Go Head to Head”, *Nature*, 438 (2005): 900-901, http://www.nature.com/nature/journal/v438/n7070/full/438900a.html. [↑](#footnote-ref-129)
130. Fallis, “Wikipistemology”, p. 303 [↑](#footnote-ref-130)
131. Teun Lucassen, Roald Dijkstra, and Jan M. Schraagen, “Readability of Wikipedia”. *First Monday*, 17(9), (2012), https://journals.uic.edu/ojs/index.php/fm/article/view/3916/3297 [↑](#footnote-ref-131)
132. Richard Posner, “Bad News”, *New York Times Book Review,* July 31, 2005,https://www.nytimes.com/2005/07/31/books/review/bad-news.html [↑](#footnote-ref-132)
133. Goldman, “Guide..”*, Social Epistemology*, p. 27 [↑](#footnote-ref-133)
134. Goldman, “Guide..”*, Social Epistemology*, p. 28 [↑](#footnote-ref-134)
135. See this election map that displays InTrade’s prediction and the actual results: https://electoralmap.net/2012/2012final.php [↑](#footnote-ref-135)
136. Andreas Grafe et al, “Assessing the 2016 U.S. Presidential Election Popular Vote Forecasts”, in *The 2016 Presidential Election: The causes and consequences of an Electoral Earthquake,* (Lexington Books, Lanham, MD, 2017). [↑](#footnote-ref-136)
137. See Wikipedia’s own article about these investigations: https://en.wikipedia.org/wiki/Reliability\_of\_Wikipedia#Comparative\_studies [↑](#footnote-ref-137)
138. Donald G. McNeil Jr., “Wikipedia and W.H.O. Join to Combat Covid-19 Misinformation”, *The New York Times,* Oct. 22, 2020, https://www.nytimes.com/2020/10/22/health/wikipedia-who-coronavirus-health.html [↑](#footnote-ref-138)
139. KayYen Wong, Miriam Redi and Diego Saez-Trumper, “Wiki-Reliability: A Large Scale Dataset for Content Reliability on Wikipedia”, *In SIGIR ’21: The 44th International ACM SIGIR Conference on Research and Development in Information Retrieval*, June 2021. ACM, New York, NY, USA [↑](#footnote-ref-139)
140. Elisa Shearer, “Social media outpaces print newspapers in the U.S. as a news source”, *Pew Research Centre,* December 10, 2018, https://www.pewresearch.org/fact-tank/2018/12/10/social-media-outpaces-print-newspapers-in-the-u-s-as-a-news-source/ [↑](#footnote-ref-140)
141. See her Harvard profile: https://www.hsph.harvard.edu/profile/kizzmekia-s-corbett/ [↑](#footnote-ref-141)
142. See her twitter account: https://twitter.com/KizzyPhD [↑](#footnote-ref-142)
143. Benjamin Horne, Dorit Nevo and Sibel Adali, “Recognizing Experts on Social Media: A Heuristics-Based Approach”, *The DATA BASE for Advances in Information Systems,* 50(3), 2019 [↑](#footnote-ref-143)
144. See Twitter’s explanation of verification: https://help.twitter.com/en/managing-your-account/about-twitter-verified-accounts [↑](#footnote-ref-144)
145. Alvin Goldman, “A Guide…”*,* p. 26 [↑](#footnote-ref-145)
146. Regina Rini, “Fake News and Partisan Epistemology”, *Kennedy Institute of Ethics Journal,* 27(2), (2017), p. E43-E64, doi: https://doi.org/10.1353/ken.2017.0025 [↑](#footnote-ref-146)
147. Michael Marmot, “Post Truth and Science”, *The Lancet* 389 (10068), (2017), p. 497-498, doi: 10.1016/S0140-6736(17)30207-6. [↑](#footnote-ref-147)
148. Amanda Robb, “Anatomy of a Fake News Scandal”, *Rolling Stone,* November 16, 2017,https://www.rollingstone.com/feature/anatomy-of-a-fake-news-scandal-125877/ [↑](#footnote-ref-148)
149. Rini, “Fake News…”, p. E47 [↑](#footnote-ref-149)
150. Rini, “Fake News…”, p. E48 [↑](#footnote-ref-150)
151. Rini, “Fake News…”, p. E49 [↑](#footnote-ref-151)
152. Erik Albæk, “The interaction between experts and journalists in news journalism”, *Journalism,* 12(3), (2011) p. 335-348, doi: 10.1177/1464884910392851 [↑](#footnote-ref-152)
153. Tyler Monroe and Rob Savillo, “Fox has undermined vaccination efforts in nearly 60% of all vaccination segments in a 2-week period”, *MediaMatters,* July 16, 2021, https://www.mediamatters.org/fox-news/fox-has-undermined-vaccination-efforts-nearly-60-all-vaccination-segments-2-week-period [↑](#footnote-ref-153)
154. De Ridder, “Whats so bad…”, p. 7 [↑](#footnote-ref-154)
155. Saman Malik and Sarah Peterson, “How U.S. media lost the trust of the public”, *CBC News,* March 28, 2021, https://www.cbc.ca/news/world/media-distrust-big-news-1.5965622 [↑](#footnote-ref-155)
156. Yariv Tsfati et al, “Causes and consequences of mainstream media dissemination of fake news: literature review and synthesis”, *Annals of the International Communication Association*, (Routledge: Taylor and Francis, 2020), doi: 1080/23808985.2020.1759443 [↑](#footnote-ref-156)
157. De Ridder, “Whats so bad…”, p. 7 [↑](#footnote-ref-157)
158. Tsfati et al, “Causes and consequences…”, p. 159 [↑](#footnote-ref-158)
159. John Gramlich, “Five Facts about Fox News”, *Pew Research Centre,* April 8, 2020, https://www.pewresearch.org/fact-tank/2020/04/08/five-facts-about-fox-news/ [↑](#footnote-ref-159)
160. Jeffrey Gottfried and Jacob Liedke, “Partisan divides in media trust widen, driven by a decline among Republicans”, *Pew Research Centre,* August 30, 2021,https://www.pewresearch.org/fact-tank/2021/08/30/partisan-divides-in-media-trust-widen-driven-by-a-decline-among-republicans/ [↑](#footnote-ref-160)
161. Conor Gaffey, “A Short History of Donald Trump’s Relationship with Fox News”, *News Week,* March 29, 2017, https://www.newsweek.com/donald-trump-fox-news-576064 [↑](#footnote-ref-161)
162. Manuel Roig-Franza and Sarah Ellison, “A history of the Trump War on Media — the obsession not even coronavirus could stop”, *The Washington Post,* March 29, 2020,https://www.washingtonpost.com/lifestyle/media/a-history-of-the-trump-war-on-media--the-obsession-not-even-coronavirus-could-stop/2020/03/28/71bb21d0-f433-11e9-8cf0-4cc99f74d127\_story.html [↑](#footnote-ref-162)
163. Matt Motta, Dominik Stecula and Christina Farhart, “How Right-Leaning Media Coverage of COVID-19 Facilitated the Spread of Misinformation in the Early Stages of the Pandemic in the U.S*.”, Canadian Journal of Political Science*, 53, (2020), p. 335–342 [↑](#footnote-ref-163)
164. Motta, Stecula and Farhart, “How Right-Leaning…”p. 336 [↑](#footnote-ref-164)
165. Holly Yan, “You asked, we’re answering: Your top questions about Covid-19 and vaccines”, *CNN,* June 21, 2022, https://www.cnn.com/interactive/2020/health/coronavirus-questions-answers/ [↑](#footnote-ref-165)
166. Motta, Stecula and Farhart, “How Right-Leaning…”, p. 339-340 [↑](#footnote-ref-166)
167. “Fighting misinformation in the time of COVID-19, one click at a time”, *WHO,* April 27, 2021, https://www.who.int/news-room/feature-stories/detail/fighting-misinformation-in-the-time-of-covid-19-one-click-at-a-time [↑](#footnote-ref-167)
168. Walter Quattrociocchi, Antonio Scala and Cass R. Sunstein, “Echo Chambers on Facebook”. *SSRN*, (2016) p. 1-15, doi: http://dx.doi.org/10.2139/ssrn.2795110 [↑](#footnote-ref-168)
169. Quattrociocchi, Scala and Sunstein, “Echo Chambers…”, p. 4-7 [↑](#footnote-ref-169)
170. Cass R. Sunstein, "The Law of Group Polarization" in John M. Olin’s *Program in Law and Economics Working Paper*, 91, 1999, p. 1-40. [↑](#footnote-ref-170)
171. Sunstein, “The Law…”, p. 8 [↑](#footnote-ref-171)
172. Quattrociocchi, Scala and Sunstein, “Echo Chambers…”, p. 10 [↑](#footnote-ref-172)
173. Quattrociocchi, Scala and Sunstein, “Echo Chambers…”, p. 13 [↑](#footnote-ref-173)
174. Bjarke Mønsted and Sune Lehmann, “Characterizing polarization in online vaccine discourse—A large-scale study”, *PLoS ONE,* 17(2), (2022), p.1-19, doi: https://doi.org/10.1371/journal.pone.0263746 [↑](#footnote-ref-174)
175. Mønsted and Lehmann, “Characterizing…”, p. 8-9 [↑](#footnote-ref-175)
176. “Immunization: The Basics”, *CDC,* Date Accessed: June 27, 2022, https://www.cdc.gov/vaccines/vac-gen/imz-basics.htm [↑](#footnote-ref-176)
177. “Vaccines and Immunization”, *WHO,* Date Accessed: June 27, 2022, https://www.who.int/health-topics/vaccines-and-immunization#tab=tab\_1 [↑](#footnote-ref-177)
178. Mønsted and Lehmann, “Characterizing…”, p. 9 [↑](#footnote-ref-178)
179. Jack Power, “HPV vaccine uptake rate falls 15% among young girls”, *The Irish Times,* June 27, 2017,https://www.irishtimes.com/news/ireland/irish-news/hpv-vaccine-uptake-rate-falls-15-among-young-girls-1.3135927 [↑](#footnote-ref-179)
180. David Robert Grimes, “We know it's effective. So why is there opposition to the HPV vaccine”, *The Guardian,* January 11, 2016, https://www.theguardian.com/science/blog/2016/jan/11/why-is-there-opposition-hpv-vaccine-cervical-cancer [↑](#footnote-ref-180)
181. Elżbieta Drążkiewicz Grodzicka, “Taking vaccine regret and hesitancy seriously. The role of truth, conspiracy theories, gender relations and trust in the HPV immunisation programmes in Ireland”, *Journal for Cultural Research,* 25(1), (2021), p. 69-87, doi: 10.1080/14797585.2021.1886422 [↑](#footnote-ref-181)
182. Grodzicka, “Taking…”, p. 77 [↑](#footnote-ref-182)
183. See: https://www.facebook.com/REGRET.ie/ [↑](#footnote-ref-183)
184. Roderik Rekker, “The nature and origins of political polarization over science”, *Public Understanding of Science,* 30(4), (2021), p. 352–368, doi: 10.1177/0963662521989193 [↑](#footnote-ref-184)
185. Eugene Freeman, “Objectivity as ‘Intersubjective Agreement’”, *The Monist*, 57(2), (1973), p. 168–175, https://doi.org/10.5840/monist19735722 [↑](#footnote-ref-185)
186. Rekker, “The nature and…” p. 354 [↑](#footnote-ref-186)
187. Rekker, “The nature and…” p. 355 [↑](#footnote-ref-187)
188. Ibid. [↑](#footnote-ref-188)
189. Rekker, “The nature and…” p. 357 [↑](#footnote-ref-189)
190. Ibid. [↑](#footnote-ref-190)
191. Rekker, “The nature and…” p. 358 [↑](#footnote-ref-191)
192. Ulrika Ernström, “Climate change denial strongly linked to right-wing nationalism”, *Chalmers,* May 17, 2022, https://www.chalmers.se/en/departments/tme/news/pages/climate-change-denial-strongly-linked-to-right-wing-nationalism.aspx [↑](#footnote-ref-192)
193. Rekker, “The nature and…” p. 359 [↑](#footnote-ref-193)
194. Ibid. [↑](#footnote-ref-194)
195. Rekker, “The nature and…” p. 360 [↑](#footnote-ref-195)