The Storm Is Coming: Climate Change and Conspiracy Theories on TikTok

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We demand rigidly defined areas of doubt and uncertainty! -Douglas Adams, The Hitchhiker's Guide to the Galaxy

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Abstract

Conspiracy theories are sense-making tools that frequently arise during periods of high anxiety and uncertainty. It is a reasonable assumption that they may proliferate in response to the increasing devastation caused by anthropogenic climate change. While previous research into climate change conspiracy theories has explored the relationship between conspiracy theories and climate change denialism, little is known about their broader relationship with climate change as an experience of the material and social worlds. To examine this interaction, this thesis provides a qualitative analysis of 96 socio-ecological conspiracy theories on the social media platform TikTok. Collected via a user-centric, exploratory research methodology, these videos were found to contain six dominant themes: anti-oil, weather manipulation, fear of a "green agenda," supply control, science rejection, and apocalypse. Further analysis found that conspiracy narratives related to climate change in either cause, significance, effect, or response. These conspiracy theories were found to provide a means of interpreting climate change outside of a climate science framework. This conspiratorial framework of interpretation seemingly allowed users to experience climate change without attributing it to anthropogenic causes such as the dependence on fossil fuels. Using theoretical elements from political ecology as well as system justification theory from social psychology, these major themes were largely found to dismiss the need for urgent systemic climate action. While the consequences of climate change were recognized, users frequently attributed them to scapegoated groups or higher powers rather than to systems in which they are complicit.

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1. Introduction

In February of 2021, "Winter Storm Uri" swept across the U.S. Placing over 170 million Americans under various winter weather alerts and causing blackouts for nearly 10 million, the storm killed 136 people. Millions of homes were without electricity, heating, and clean drinking water when the government issued a major disaster declaration and dispatched federal aid. As the catastrophe unfolded, a viral conspiracy theory spread across TikTok, Facebook, and Twitter. Texans were filming themselves attempting to melt balls of snow with cigarette lighters and tea candles, and when the snow appeared to char instead of drip, social media users concluded it was fake. In one viral TikTok video, a woman holds a lighter to a snowball and says, "This goes out to our government and Bill Gates. Thank you, Bill Gates, for trying to f***ing trick us that this is real snow" (Reuters Staff, 2021).

The charring on the snowball was not because the snow was fake; it was soot from the lighters and candles adhering to the snowballs. Despite the scientific community's extensive debunking of this misinformation, the damage had already been done. Subsequent conspiracy theories that Bill Gates was using geoengineering to "block out the sun" or that the snow was a planned attack by the Biden administration to stop the state of Texas from seceding were already thriving in the virtual discourse (Greenspan, 2021).

The extreme cold weather in Texas in February of 2021 would later be explicitly linked to climate change. Accelerated arctic warming has been shown to increase stratospheric polar vortex stretching that results in periods of extreme cold in northern midlatitudes, such as Texas (Cohen et al., 2021). Evidently, many Texans did not interpret these events as an outcome of climate change. Instead, many turned to conspiracy theories for explanations to seemingly unusual events. This thesis seeks to explore this interaction between climate change and conspiracy theories by investigating their manifestation in digital environments, in this case TikTok.

1.1 Climate change and conspiracy theories

Conspiracy theories are no stranger to the world of climate science. Conspiracy theories that the scientific consensus on climate change and its anthropogenic causes have been invented or distorted for power and profit have been an integral component of climate denial for decades (Cook, 2020; Uscinski, Douglas, & Lewandowsk7, 2017; Cook et al., 2019; Franta, 2021). In his 2012 book, *The Greatest Hoax: How the Global Warming Conspiracy Threatens Your Future*, U.S. Senator James Inhofe argued that climate science was manufactured to arouse fear in the public, promote anti-business regulations, and sell newspapers, and therefore humans

should not reduce their greenhouse gas emissions (Inhofe, 2012). Conspiracy has consistently proven to be a key component of climate change denialism.

Climate change denial and climate change conspiracy theories are deeply intertwined but not synonymous. Climate change denial is the denial, dismissal, or unwarranted doubt which contradicts the scientific consensus on global climate change and its anthropogenic causes (Cook, 2017; Dunlap, 2013). Initially funded by the fossil fuel industry and later by conservative foundations and think tanks, climate denial is intended to confuse the public and policymakers, thus delaying climate action and protecting fossil fuel business interests (Cook, et al., 2019; Dunlap & McCright, 2010; McCright & Dunlap, 2000). While climate change denial does not always take the form of conspiracy theories, it frequently uses conspiracy theories to cast doubt on the scientific consensus. Conspiracy theories are considered a rhetorical strategy of denial more broadly (Cook, 2020; Diethelm, & McKee, 2009). Endorsement of conspiracy theories has been found to predict rejection of climate science (Lewandowsky, Oberauer, & Gignac, 2013; Lewandowsky, Gignac, & Oberauer, 2013). Climate conspiracy beliefs have been found to reduce support for pro-environmental policy and behaviors (Biddlestone, Azevado, & van der Linden, 2022). While not all climate change deniers may not explicitly endorse specific conspiracy theories, research has shown that denial is at least partially driven by underlying conspiratorial thinking (Lewandowsky et al., 2015; Uscinski, Douglas, & Lewandowsky, 2017). The pseudo-scientific arguments that form the basis of climate change denial are mutually incoherent, which is also a known attribute of conspiracy ideation (Lewandowsky, Cook, & Lloyd, 2016).

The fossil fuel industry has been promoting climate change denial via disinformation campaigns since the early 1990s (McCright & Dunlap, 2000; Cook et al., 2019). Accordingly, much of the research regarding the relationship between mis- and disinformation and climate change has investigated the promotion of denialism (Treen et al., 2020; Oreskes & Conway, 2010; Lewandowsky et al., 2019). Recent research, however, indicates that climate change misinformation may be evolving away from denialism and toward a complex set of narratives. When researchers fed 21 years of climate change denial blog posts from conservative think tanks into a machine learning program, they found science denialism to be decreasing. These major sources of climate denial have seemingly been moving away from attacking the integrity of climate science and scientists and increasingly challenging climate policy and renewable energy (Coan et al., 2021).

In a report on climate misinformation which analyzed the major narratives of 6.67 million publications by 2.25 million unique accounts or sources from across Twitter, Facebook, Instagram, Reddit, YouTube, and the open internet, U.K. intelligence firm Logically found that

popularity of conspiracy theories during the COVID-19 pandemic has had a profound impact on the climate change misinformation landscape (Logically, 2021). The parallels between increased extreme weather events and the conspiracy theories are especially difficult to ignore. From fake snow conspiracy theories in Texas to a U.S. congresswoman claiming that wildfires were started by Rothschild-controlled "space lasers" (Lee, 2021), aspects of climate change seem to be appearing in many modern conspiracy theories. These extreme weather events are interpreted by some not as consequences of a changing climate but as secretly plotted events manipulated by powerful, malicious groups of elites.

1.2 TikTok: A novel component

The Texas fake snow conspiracy theory of 2021 spread across multiple platforms, including TikTok, where videos rapidly garnered millions of views (Reuters Staff, 2021). In September of 2021, TikTok surpassed 1 billion active monthly users. A milestone that took Facebook, Instagram, and YouTube eight years to achieve and one that Twitter has never reached, TikTok achieved in just five years. Across the world, the short-form video platform was the most downloaded app in 2021 (Koetsier, 2021). TikTok's userbase, as of April 2022, was 41.7% 18-24 years old and 31% 25-34 years old, meaning nearly three-quarters of its active users are under 35 (Statista, 2022). **Figure 1** illustrates the percentage of users on popular social media platforms who regularly get news on the platform (Pew Research Center, 2022). TikTok's dramatic increase in users seeking news is strikingly in opposition with other, more established platforms.



Figure 1: Percentage of each social media site's users who regularly get news there. Source: Pew Research Center, 2022.

Alongside TikTok's meteoric rise, conspiracy theories have also found great success on the video-sharing platform. **Figure 2** depicts the growth of high-performing videos using five popular conspiracy-related hashtags on TikTok (#conspiracy, #conspiracytheory, #conspiracytiktok, and #woketok) from January 2019 to October 2021.



Figure 2: Top videos for each of five conspiracy theory TikTok hashtags (#conspiracy #conspiracytheory #conspiracytok #conspiracytiktok and #woketok) over time. Note: "Woketok" is a conspiracy-related term derived from the word "woke," which originated in Black communities and described an individual's awareness of systemic injustices. It has since been incorporated into conspiracy rhetoric to describe being awake to secret conspiratorial plots. Source: author and Viral Moment, 2021.

The recommendation-based algorithm that is the backbone of the platform has been found to push users into more-extreme belief systems (Little & Richards, 2021b). Conspiracy theories and misinformation have also been found to flourish on TikTok in the wake of tragedies (Richards & Little, 2021; Richards, 2022a). With billions of views on popular conspiracy theory hashtags, the amplification and culture on TikTok make researching on-platform conspiracy discourse an imperative.

TikTok's young userbase and their appetite for conspiracy theories present an interesting opportunity to research emerging climate change misinformation narratives. There is a lack of research into the forms of climate change misinformation popular among those who have grown up surrounded by the effects of a warming planet. Digitally native generations likely engage with climate mis- and disinformation in novel ways (Papapicco, Lamanna, & D'Errico, 2022). TikTok's unique platform architecture, which is heavily reliant on a poorly understood algorithmic recommendation system, presents new challenges for researchers and thus requires the creation of new research methodologies.

1.3 Problem statement

While outright denial has dominated the climate change misinformation sphere for decades, research indicates that climate change misinformation may be evolving away from denialism and toward a complex set of narratives, including conspiracy theories (Logically, 2021; Coan et al., 2021). As a result, the prevalence of conspiracy theories is emerging as a major challenge in climate change communication and as a threat to implementing effective climate policy (Tyagi and Carley, 2021; Douglas & Sutton, 2015).

As complex and dynamic conspiracy narratives thrive in digital ecosystems, it is crucial to understand the formats they take and their relationships to support for climate action. Despite this, there is a lack of academic research dissecting these narratives, highlighting emerging themes, and examining them in relation to the fossil fuel status quo. Additionally, relationships between conspiracy narratives and climate change are still unclear. I have also identified no existing qualitative research into climate change conspiracy theory discourse in short-form video content on platforms like TikTok.

1.4 Research aim and questions

This analysis of climate change conspiracy narratives on TikTok will contribute to knowledge regarding the evolution of climate change mis- and disinformation. Existing academic research frequently approaches climate change misinformation from an understanding of denialism— and for good reason, considering the history of climate change denial. However, this research

aims to explore a framework of climate misinformation beyond outright rejection of the scientific consensus. While existing knowledge about climate change conspiracy theories is frequently focused on the social and psychological (Douglas & Sutton, 2015; Uscinski, Douglas, & Lewandowsky, 2017; Jolley & Douglas, 2014), I have chosen to employ a political ecology framework to understand how this discourse interacts with both society and its environment.

While many conspiracy theories—climate change-related or other—appear to challenge political and economic powers, this is not universally true (Nera et al., 2021). Political power holders have historically employed conspiracy theories to influence the populace (Plenta, 2020). Conspiracy theories also allow their believers to attribute problems to the negative actions of a small group and avoid questioning social systems (Jolley, Douglas, & Sutton, 2017). Conspiracy theories purport to challenge existing unjust power structures, but they frequently function to reinforce these systems.

This research aims to expand on Uscinski, Douglas, & Lewandowsky's (2017) argument that conspiracy theories are one of only a few rhetorical devices capable of countering the overwhelming scientific consensus that humanity's social, political, and economic systems are causing the climate to change. This thesis has three central components: firstly, providing a preliminary exploration of climate change conspiracy discourse on TikTok; secondly, probing the evolving relationship between climate change and conspiracy theories; and thirdly, examining the ways in which these narratives either challenge or support the need for urgent climate action.

Following this objective, the main research question of this thesis is this:

In what ways are the socio-ecological ramifications of climate change interacting with conspiracy theories on TikTok?

With the following sub-questions:

- What major themes of climate change conspiracy theory discourse are currently popular on TikTok?
- In what ways do conspiracy theories relate to climate change?
- How do these narratives function in relation to support for climate action?

2. Conceptual Framework

Conspiracy theories are a form of discourse; they are socially constructed ideas. Climate is typically understood as a description of the physical world. In this thesis, I unite the abstractions of conspiracy discourse with the measurable reality of climate. To do this, I utilize concepts from the fields of political ecology and social-psychology. In this chapter, I outline the theoretical framework employed in this thesis. First, I introduce theories borrowed from political ecology to describe the relationship between "climate" and "society." Then, I outline the social-psychology concept of system justification function that I use for interpreting climate change conspiracy theories.

2.1 Political ecology

Throughout history, conspiracy theories have emerged during times of heightened anxiety and uncertainty. They have been documented as far back as ancient Rome (van Prooijen & Douglas, 2017). Just as conspiracy theories cannot be separated from human society, neither can climate or environment. Fueled by social inventions ranging from wars and revolutions to celebrities and economic recessions, conspiracy theories are shaped by the societies which create them. They are also shaped, however, by the environment, which sparks the floods, droughts, famines, and pandemics which, in turn, feed conspiracy theories. Similarly, the climate cannot be parsed apart from society. Humans have been altering their environments for thousands of years. From the earliest forms of agriculture to nuclear bombs to cruise ships, as long as there has been society, it has shaped our environment. Of course, our material environments have also shaped society. Environment determined where cities were built, which foods were grown, and what clothes were worn.

This inherent interconnectedness of society and the environment forms the basis of political ecology. Political ecology is a field within socio–environmental studies which examines power relations in environmental governance as well as the coproduction of nature and society within a wider political economy (Robbins, 2012). A central premise of this framework is that ecological change cannot be understood outside of the political and economic structures and institutions within which it is embedded. The world is built upon power relations, and no environmental issue can be accurately understood outside of the power relations with which it is deeply intertwined. The global web of human-environment linkages is so vast and interwoven that any tug on its strands reverberates throughout the system as a whole (Robbins, 2012).

The division between the social and the natural is itself a social construct. Humanity does not exist in a social world that runs parallel to the natural world. As Tim Ingold eloquently puts it:

"Nature is not a surface of materiality upon which human history is inscribed; rather, history is the process wherein both people and their environments are continually bringing each other into being" (2000, p. 87). Eric Swyngedouw similarly describes the world as a "process of perpetual metabolism in which social and natural processes combine in a historical-geographical production process of socio-nature." (1999, p. 447). Chemical, physical, social, economic, political, and cultural processes are the manifestations of this perpetual metabolism. The concepts of process and metabolism, as articulated by both Ingold and Swyngedouw, illustrate that our world is not divisible into "social" and "natural." Rather, the world is an unceasing composite of biological, geological, and physical forces interacting with the social realm, producing and reproducing themselves.

From this perspective, the separation between climate and society also begins to disintegrate. In his 2015 book "The Political Ecology of Climate Change Adaptation," Marcus Taylor critiques the representation of climate change as a "series of external shocks and disturbances to an otherwise coherent society" (p. xiii). He argues that as human and meteorological forces increasingly become interconnected, neither climate change nor "nature" more broadly can be separated from the human activities that affect them. Climate change is not an external force to which humans must adapt; rather, it is "co-produced" (**Figure 3**) in ongoing and unequal ways (p. 42). Rather than understanding climate change as a biophysical domain of natural atmospheric processes, Taylor argues it can be better understood as the entwining of meteorological forces, social organization, technological infrastructures, and discursive frameworks interacting at various spatial scales, which he calls "material climates" (p. 26). I



Figure 3: The co-production of climate and society (Taylor, 2015, p. 41).

employ Taylor's model of climate and society co-production in the structure of this thesis. To do this, I use the term "socio-ecological," which is borrowed from the socio-ecological system framework (Ostrom 2007, 2009). I define climate change conspiracy theories as socio-ecological phenomena, a product of socio-ecological systems. I use this term to encompass the wide range of biological, geological, and physical systems constantly interacting with social, political, economic, and technological forces. This broader definition allows for the exploration of conspiracy theories outside of their relationship to the validity of climate science, instead examining how these beliefs surround the metabolic process that creates the socio-ecological world.

On a macro-level, this thesis aims to explore the relationships between climate and society. I am interested in understanding how conspiracy theories can serve as a means of interpreting climate change. To do this, I must first highlight a persistent problem in climate change communication: sterility. The scientific understanding of climate is created through meteorological measurements. Weather is captured, quantified, and aggregated. Then, this data is fed into models which enable the production of an abstraction of "global climate"; weather and climate exist as digitized concepts, completely detached from human and cultural setting (Hulme, 2007). Climate is an idea that represents an amalgamation of measurable meteorological processes such as variations in temperature, humidity, atmospheric pressure, precipitation, wind, and atmospheric particle count (Taylor, 2015). While these processes are crucial for creating accurate models of atmospheric systems, they do not account for the human experience of climate. Hulme describes this phenomenon:

Through this circuitry, weather – and its collective noun climate – becomes detached from its original human and cultural setting. A rainstorm which offers an African farmer the visceral experience of wind, dust, thunder, lightning, rain – and all the ensuing social, cultural and economic signifiers of these phenomena – is reduced to a number, say 17.8 mm. This number is propagated into the globalised and universalising machinery of meteorological and scientific institutions and assessments where it loses its identity. (2007, p. 7)

I employ political ecology to understand conspiracy theories as a means of reinviting the human experience into climate change. A conspiracy theory does not need to relate to climate science to function as a means of understanding climate change. Furthermore, I approach this research from the perspective that conspiracy theories are a social-psychological phenomenon, not necessarily problems of their own accord. And I stress that I do not use the term "conspiracy theory" in a pejorative or dismissive manner. I use the term to refer to the rhetorical device used to interpret events. Conspiracy theories may be a social means of coping with a drastically

changing climate. They could also be a response to the scientific sterilization of climate or to a lack of climate literacy. These are possibilities I explore in this thesis.

2.2 System-justifying function of conspiracy theories

To understand the political ecology of conspiracy theories, I employ system justification theory. System justification theory posits that our assessments of social systems and institutions are influenced by epistemic, existential, and social needs (Feygina, Jost, & Goldsmith, 2009). People are drawn to conspiracy theories when they promise to satisfy these needs (Douglas, Sutton, & Cichocka, 2017; Douglas et al., 2019). Though intuition, popular belief, proponents, and some scholars suggest that conspiracy theories challenge power and subvert social systems (Sapountzis & Condor, 2013), research suggests that conspiracy theories may reinforce the status quo (Jolley, Douglas, & Sutton, 2017). Conspiracy theories identify a small group of wrongdoers, a tangible group who are responsible for the ills of society. These wrongdoers are not representations of social issues; rather, they are perceived as what is wrong with society. In this sense, conspiracy theories deflect blame for societal problems to small evil groups often with nearly supernatural power. By attributing problems to malevolent individuals, conspiracy theories appear to divert people away from questioning the inherent limitations of their society and toward accepting the status quo (Jolley, Douglas, & Sutton, 2017). This acceptance of the status quo also aligns with Douglas and Sutton's (2014) findings that exposure to conspiracy theories weakens political engagement. After all, what is the point in voting if the outcome is already decided by reptilian overlords?

The reality of anthropogenic climate change is not only a threat to our safety and well-being but also to our identities. It challenges the belief systems of those who have benefited the most from the fossil fuel status quo and see the existing political and economic structures as fair. Daggett (2018) and Nelson (2019), argue that it is therefore no coincidence that white, politically conservative men, at all socioeconomic levels, have consistently been found to endorse climate change denial more than members of any other demographic in the United States. Accepting the reality of a changing climate also requires accepting that the political, social, and economic beliefs and norms that govern our world are imperfect and require change. For those whom this fossil-fueled society most serves, it may be easier to accept conspiracy theories than to change their political and economic worldview. In this sense, conspiracy theories, like all discourse, are a means of enacting power upon socio-ecological systems. These rhetorical devices tug on the political-ecological web of connections, shaping everything from consumer habits to global climate policy.

3. Methodology

To conduct this research, I designed a methodology that provides unique insight into discourse on TikTok. In this chapter, I first discuss the unique research challenges presented by the platform that prompted me to create my own methodological approach. I then describe my procedures for data collection and data analysis. Finally, I discuss the ethical considerations regarding social media research as well as my approach to data protection.

3.1 Research challenges on TikTok

TikTok's interface is distinct from other major social media platforms, complicating researchers' attempts to apply traditional social media research methods. As but one example, a text-based search for keywords on TikTok would be insufficient to accurately assess what is circulating on the platform. Instead, this search will provide a researcher with only videos that include that specific text in their captions, often missing viral videos about the subject that do not include relevant terms in the captions. Although other social media platforms are also not engineered with researchers in mind and can frequently pose data collection challenges, TikTok's interface (and the nature of the platform's content itself) prevents targeted searching and chronological video sorting, creating additional research barriers. Users often use coded language and symbols to avoid censorship, making key term analysis more difficult. This system of modified spelling, known as "leetspeak" or "algospeak," is a consistent component of TikTok culture (Lorenz, 2022).

Many of TikTok's popular videos involve the combination of viral audio with user-created videos and text. These videos can be thought of as three-dimensional memes composed of video, audio, and text, all of which combine into one meme which requires context and cultural literacy to understand. This contextual literacy has been regularly employed to evade moderation. **Figure 4** demonstrates an example of this memetic format being employed to convey a violent, anti-LGBTQ message. The video depicted the user pretending to cry at the text on his screen, reading, "50% of transgenders take their own lives. This fills me with so much sadness." However, the accompanying audio was the line "We're halfway there," cut from Bon Jovi's "Livin' on a Prayer"—implying that the user wanted the rate of suicides to be

higher. While the text itself might not explicitly promote hatred, put in context, this video is promoting a violent, anti-trans message.



Figure 4: A TikTok meme which employs layered meaning and requires cultural literacy to understand its violent, anti-trans message (Little & Richards, 2021b).

Because of TikTok's unique "For You" page (FYP) recommendation feature that curates personalized feeds for each user, misinformation may be less driven by influencers than on other social media platforms. On the FYP, users can be fed content posted by obscure accounts with low follower counts, even if that account has never posted a video before. There are two implications of this. First, viral videos are substantially user driven, meaning that simply following specific influencers will provide researchers with an incomplete picture of what is circulating on the platform. Second, because the FYP increasingly filters content to a user based on their previous behavior, people can be exposed to increasingly extreme content that they may not have sought out or found otherwise (Little & Richards, 2021b).

Unless a computer program is capable of locating relevant videos, accurately transcribing audio, deciphering coded speech patterns, and understanding ever-shifting cultural norms, most meaningful qualitative TikTok research still must be conducted manually. This manual research methodology requires a deep understanding of the platform, its communities, and its culture. Though it is extremely time and labor intensive, it has resulted in profound insights into information ecosystems on TikTok.

3.2 An exploratory user-centric methodology

To meet the research needs of this new platform, I will be using an exploratory user-centric research method. This is a research methodology that I co-developed with my colleague Olivia Little and have used to research COVID-19 vaccine misinformation, algorithmic radicalization, Russian propaganda efforts, and conspiracy theories all on TikTok (Little & Richards, 2021a; Little & Richards, 2021b; Richards & Little, 2021; Richards, 2022a; Richards, 2022b). By centering the unique user experience within a research methodology (rather than emphasizing specific text searches), researchers can use TikTok's algorithm to their advantage, gaming their FYP to find and monitor specific communities and discourse. While this manual method alone cannot collect and measure immense amounts of data, it can reveal particularly viral narratives and characterize how various communities use TikTok.

While a traditional text-based search method may ask, "How many videos posted on TikTok this week mentioned climate change denial?" a user-centric manual research method asks, "What kind of content would a climate change denier most likely show interest in while scrolling their FYP?" By engaging exclusively with this type of content, researchers can strategically develop a personal FYP that introduces them to related content, accounts, hashtags, audios, and even networks.

For this thesis, I created a conspiracy-interested TikTok account which I prompted to feed conspiracy theory content to my "For You" page. Then, by engaging with the content displayed on my feed, I discovered various conspiracy-related hashtags. I watched "top videos" (as determined by TikTok when a user views the videos under a particular hashtag) and evaluated them for environmental themes. Additionally, as I continued to interact with socio-ecological conspiracy content, the recommendation algorithm fed me related content, thus introducing me to new narratives. All narratives which either contained previously identified climate change conspiracy theory narratives or contained both conspiracy rhetoric and a socio-ecological component were then sent to a unique Junkipedia tip line. Data collection occurred between May 24, 2022, and July 20, 2022; two additional videos were added to the data set during the coding process.

To qualify collection, videos must have either mentioned a previously identified climate change conspiracy theory (Douglas & Sutton, 2015; Tyagi & Carley, 2021; Logically, 2021) or contained conspiracy rhetoric *and* a socio-ecological component. **Table 1** outlines the search parameters.

Climate change conspiracy theory: "climate change hoax" or "global warming hoax" or "climate change fake" or "global warming fake" or "climate conspiracy" or "Great Reset" or "green scam" or "chemtrails" or "direct energy weapon" or "DEW" or "flat Earth" or "hollow Earth" or "NASA lies" or "unknown planet" or "ninth planet" or "Nibiru" or "firmament" or "local sun"

OR

Conspiracy rhetoric: "conspiracy" or "conspiracy theory" or "conspiracy tiktok" or "conspiracytok" or "spiritualitytok" or "woketok" or "conspiracies coming true" or "open your eyes" or "awake" or "awakened" or "awakening" or "great awakening" or "wake up" or "spiritual awakening" or "end times" or "media lies" or "matrix" or "redpill" or "blackpill" or "truth seeker" or "deep state" or "illuminati" or "new world order" or "NWO"

AND

Socio-ecological component: "Climate" or "climate change" or "global warming" or "weather" or "snow" or "rain" or "storm" or "hail" or "drought" or "flood" or "heat" or "heat wave" or "high temperature" or "gas" or "gasoline" or "red meat" or "animal agriculture" or "food shortage" or "water shortage" or "blackouts" or "power outage" or "ESG" or "Agenda21" or "Agenda 2030" or "United Nations" or "HAARP" or "green agenda" or "LED lights" or "electric vehicle" or "green energy" or "renewable energy" or "power" or "electricity" or "renewable" or "recycle" or "plant-based" or "vegan" or "geoengineering" or "weather modification" or "weather manipulation" or "cloud seeding" or "block out the sun"

Table 1: A noncomprehensive list of sample terms which qualified a TikTok for collection.

Additionally, during this exploratory phase, I documented common relevant climate change conspiracy theory terms, phrases, and tropes which appear in this TikTok content. During the exploratory phase, during which I watched thousands of videos, I selected a total of 111 videos, all with a minimum of 5,000 engagements.

3.3 Data analysis

Using Junkipedia, I performed two rounds of coding the content. First, I performed an initial review during which I marked irrelevant or duplicate videos and coded for major narratives. For instance, if a video discussed the Great Reset and geoengineering, I assigned it those codes. Alternatively, if a video discussed "living under a dome," I grouped it within the broader flat Earth conspiracy narrative. The codes were not mutually exclusive, and most videos contained multiple codes (e.g., extreme weather AND heat wave AND New Earth). I did not intend for

the coding system to provide quantitative data regarding the narratives. Instead, I used it as a means of assessing the contents of the data set in order to understand major themes.

Following coding, the remaining 96 videos were transcribed, and the data was exported into a csv. The data points gathered for each video are outlined in **Table 2**. I did not collect any personal data. While Junkipedia's system collected the usernames of each poster, I excluded them from the final data sheet. Using the narratives previously identified, I performed a third round of coding, this time analyzing the broader themes in the data set.

| Data Point | Description |
|---------------------|---|
| URL | URL of the video on TikTok |
| Engagement | Cumulative number of views, likes, comments, and shares |
| Caption | All text, symbols, and hashtags in the video |
| Collection Date | Date video was collected |
| Audio Transcription | Full transcription of speech in the video |
| Codes | Narratives and terms identified in the video |
| Themes | The major themes identified in the video |

Table 2: Final data points analyzed for each video.

3.4 Ethics and Data Protection

With the creation of a novel methodological approach comes unique ethical concerns. As TikTok is a relatively young platform, discussion surrounding research ethics on the platform is limited. I approached the ethics of this research from a standpoint of harm reduction. As the researcher, I have a responsibility to protect the individuals discussed in my work. To ensure best practices, I employed the core ethical considerations laid out in the "SAGE Research Methods: Doing Research Online" (Connelly, 2022) with additional context from "A Guide to Internet Research Ethics" (NESH, 2019).

I had no interaction with participants in this study. I utilized TikTok's algorithmic recommendations to discover publicly available content. While my online identity certainly shaped what content I was shown, I never used that identity to communicate with participants. Additionally, I never posted content, public or private, using that account. While I engaged

with content on my FYP and I followed accounts that published conspiracy content, I took no actions to draw users to my account.

The issues of privacy and anonymity also present new questions within the emerging realm of TikTok research. According to TikTok's Terms of Service, by posting content on the platform, users "waive any and all rights of privacy, publicity, or any other rights of a similar nature in connection with [their] User Content, or any portion thereof" (2019). Additionally, the Terms of Service inform the user that "you control whether your User Content is made publicly available on the Services to all other users of the Service or only available to people you approve." Legally speaking, all users, when posting publicly, have agreed that their content is publicly available.

| Who can watch this video | × |
|---|---|
| Only me | |
| Friends Followers that you follow back | |
| Everyone | |

Figure 5: TikTok's publicity selection prompt which is required for each unique upload on the platform. Source: author, 2022.

However, ethical compliance does not begin and end with agreements that few users even read. For this reason, I will elaborate with my analysis regarding the public character of the videos analyzed in this thesis. All videos were publicly available, largely from accounts that regularly create and publish video content for a large audience. The creators of these videos expect and want their content to be seen by strangers. This is how they grow their audiences. Whereas users in a Facebook group may consider their interactions in that space to be private, the same cannot be said for TikTok users uploading content for a potential audience of millions. When uploading a video, the platform prompts users "Who can watch this video?" Users must select one of three options: only me (private), friends (followers that follow the user back), or everyone (**Figure 5**). TikTok does not require that someone have an account in order to see content and accounts on the platform. Therefore "everyone" means everyone on and off the platform. For every video collected in this research, the creator must have posted it as available to "everyone."

Due to the nature of my research, obtaining informed consent was not possible, as I had no means of communicating with the video creators. While I believe it is reasonable to assume that these TikTok videos have public character, I still took precautionary measures to protect the subjects and their personal data. For this study, I considered popular accounts with over 100,000 followers that regularly share conspiracy content to be "public figures." I refer to these accounts only by their usernames, never by their legal names. Accounts not considered "public figures" have their usernames and any identifiable features blurred. I have included direct quotes from some of the TikTok videos. TikTok's platform design is not compatible with searchable transcriptions, meaning that these texts will not lead interested parties to individuals' online profiles. My decision to prioritize the privacy of certain creators has ramifications for my ability to include citations for all image sources. While this is not ideal, I believe it is the responsible decision. I have also taken measures to exclude analysis of accounts clearly run by underage individuals.

In regard to data collection, I exclusively gathered information regarding each particular video. I submitted each individual TikTok to a "tipline" created with a database called "Junkipedia." For each video, Junkipedia recorded the caption, total engagements over time, a link to the TikTok, a screenshot of the TikTok, a copy of the video, the name of the account that posted, the publication date, and the user who submitted the video (me). All of this data, except that relating to my collection, was publicly available on TikTok. Only the Junkipedia administrative team and I could access the list of videos I compiled.

It is difficult to parse the public from the personal in the TikTok ecosystem. My data set includes videos ranging from individuals speaking to the audience while alone in their cars to highly produced and edited content of a self-proclaimed alien princess translated into upwards of five languages. The personal and the public intermingle as they are consumed simultaneously on the FYP. This research context presents a unique set of ethical challenges. I believe I have done my due diligence in ensuring that this research was conducted with care and caution.

4. Climate change conspiracy theory themes on TikTok

In this chapter, the mechanisms, narratives, and themes found in climate change conspiracy theory discourse on TikTok are investigated. Understanding the specific narratives and the techniques that perpetuated them allows for a deeper interpretation of the broader conspiracy theory themes that underlie this branch of climate discourse. These findings address the first sub-research question regarding the major themes of climate change conspiracy theory discourse on TikTok. These findings partially fulfill the objective of the thesis, in that they shed light upon the broader climate change conspiracy theory landscape beyond traditional denialism.

4.1 Landscape overview

The final data set contained 96 unique videos with a cumulative engagement count (views, likes, comments, and shares) of over 156 million. Many of the videos took one of two forms: a user talking to a camera or footage of natural surroundings taken by a user with either text on top or narration in the background. Some videos featured or included clips from TV shows, news segments, articles, and podcasts (**Figure 6**). It was common for the videos to feature images and videos using TikTok's greenscreen and other editing features. Several videos used



Figure 6: Electric car conspiracy theory clipped from footage of a podcast. Source @thebullevans on TikTok. 2022.

the platform's "duet" feature, which allows them to record a reaction video to an existing video on the platform. Other videos in the data set utilized TikTok's "stitch" feature, which permits the user to clip up to 5 seconds of another video and incorporate it into the beginning of their video (see **Figure 7**). Both duets and stitches can be used to amplify messages or counter them, depending on the circumstance.



Figure 7: Sinkhole conspiracy theory video employs TikTok's stitch function. Source: @drelawsonjr on TikTok, 2022.

Though not the center of this research, it is still interesting to briefly consider the audios used underneath the videos in the data set. TikTok's audio feature is the backbone of the platform, which was first used as a lip-synced app on which users could take existing audios and film their own video on top. This feature is what creates many of the TikTok memes which garner millions of views every day.

Not all videos in the data set included an added audio on top, but those that did were often notable in their tone. While some featured mainstream music from artists like Hozier, XXXTentacion, and even the Vienna Mozart Orchestra, many audios were instrumentals focused on setting moods of horror anxiety. For instance, here are some examples of the titles of audio tracks used in the climate change conspiracy theory content:

- "Suspense, horror, piano and music box"
- "Occult/Mystery/Horror Suspense"
- "Amityville Horror Scary Halloween Sound Effects"
- "Sad and a little creepy song"
- "Horror oriented. Spooky creepy piano song"
- "Suspicious, slow and simple song"
- "Spooky, quiet, scary atmosphere piano songs"
- "Horror, suspense, weirdness, ghost, UFO"
- "Creepy and simple horror background music"
- "Anxiety, suspicion, suspense, mystery"
- "Primal Fear Drama Effect"

It is noteworthy that so many videos used these audios and audios with similar titles, implying they are designed to provoke feelings of fear, anxiety, and suspense. The application of this mood music to climate change discussion must be considered when parsing the themes of climate discourse in a digital space.

4.1.1 Conspiracy narratives

A range of conspiracy narratives was identified within the data set, a complete list of which can be found in **Table 3**. While some of these narratives have a direct relationship to climate change (e.g., climate lockdowns, Great Reset), others have no direct relationship to climate change (e.g., illuminati, 13 families, New World Order, Save the Children). Notably, many of the narratives exist in a gray area in which they can relate to climate change depending on the context (e.g., chemtrails, ley lines, two suns, flat Earth). That is to say, in certain circumstances, conspiracy theories about non-climate-related topics were found to frequently be applied to climate discourse. While these conspiracy narratives are not explicitly conspiracy theories about climate change, it is imperative to understand them as a component of climate change conspiracy discourse. While many individual narratives were identified, the rest of this chapter is dedicated to exploring the overarching themes that appeared within the broader narratives.

Conspiracy Narratives

13 families, 5D, aerial spraying, Agenda 2030, Agenda 21, aliens, ancient civilizations, Antarctica mysteries, apocalypse, Atlantis, awakening, Big Oil, Big Pharma, blackouts, "block out the sun," car control, carbon footprint tracker, cataclysm cycles, chemtrails, climate change caused by water vapor, climate change hoax, climate lockdowns, CO2 does not cause climate

change, communication with plants/nature, communism, depopulation, Direct Energy Weapons, emotional control grid, ESG, fake clouds, fake snow, fake sun, flat Earth, food control, fuel/gasoline control, Gaia, gas lost its smell, genetic engineering, geoengineering, Great Reset, HAARP, hollow earth, ice wall, illuminati, Klaus Schwab, LED lights spyware, ley lines, local sun, mark of the beast, massive vaccination, meat and liberty, mountains are trees, national parks missing people, New Earth, new sky/sky splitting, New World Order, one world currency, reptiles, Save the Children, schizo, skinwalker, social credit system, spiritual warfare, strange skies, threat of green agenda, two suns, unknown planet, walking trees, water control, water powered engine murder, water shortage, weather manipulation

Table 3: List of all 72 conspiracy narratives identified within the data set.

4.1.2 Diversity in ideology and demographics

Though climate change denialism has been found to correlate most strongly with white conservative men (McCright and Dunlap, 2011; Krange, Kaltenborn, & Hultman, 2018), it remains unclear if the same is true for socio-ecological conspiracy theories. Conspiracy narratives in the data set were more frequently shared by male-presenting people (45.8% of videos) than female-presenting people (24%). Additionally, they were more frequently presented by white-presenting people (36.5%) than non-white-presenting people (28.1%). While white, male-presenting individuals composed the largest demographic in the data set, the significant presence of women and people of color should not be overlooked.

| Gender | Representation in Data Set |
|-------------------|----------------------------|
| Male-presenting | 45.8% (44 videos) |
| Female-presenting | 24.0% (23 videos) |
| Unknown | 30.2% (29 videos) |

Table 4: Gender composition of narrative presenters in the data set. If gender presentation was unclear or the video had no visible or audible presenter, the video is marked as "unknown."

| Race | Representation in Data Set |
|----------------------|----------------------------|
| White-presenting | 36.5% (35 videos) |
| Not white-presenting | 28.1% (27 videos) |
| Unknown | 35.4% (34 videos) |

Table 5: Racial composition of narrative presenters in the data set as defined by either white-presenting or non-white-presenting. If race was unclear or the video had no visible presenter, the race was marked as "unknown."

This data set was not designed to provide a large-scale analysis regarding the demographics of climate change conspiracy theory believers. However, my findings indicate that individuals spreading this content on TikTok may not be as white and male as traditional climate change

deniers. Furthermore, while some of these videos fall within traditional conservative vs. liberal ideological lines, many prove to be more dynamic and ideologically complex. Some creators of the videos in this data set also have created content which aligns with issues like racial inequity or consumerism. Initial analysis from this data set would indicate that climate change conspiracy theory believers are more ideologically and racially diverse. For instance, take this video about the increase in 1,000-year flood occurrences:



Figure 8: Environmental racism concepts depicted in a conspiracy context.

I realized all these cities is designed to drain the water in certain areas. And at the end of these drainage areas is always a hood. Like everything we see is by design to the T. Like it'll blow your mind. For instance, if you've ever heard of ley lines, right? They literally place all the hoods on negative ley lines and place the upper-class people on positive ley lines. This helps control your mind and frequency right here. Everything we see on TV is all a PSYOP. It is real now. But at the same time, it's fake because it's manmade. Y'all need to be careful if you're staying in the hoods, 'cuz you know who they targeting. It's all of God's children, and we all know who they really are.

This conspiracy theory is structured around two major realities of climate change: environmental racism and the increase in flooding events. It is accurate to say that the increase in flooding will disproportionately affect Black communities in the United States. However, instead of anthropogenic climate change, they are attributing this phenomenon to ley lines, the theory that specific lines across the world which are dotted with monuments and natural landforms carry along with them rivers of supernatural energy (Jacobs, 2022). Furthermore, the user claims that this is the consequence of a group or power that is trying to control the masses' minds and that media narratives about weather are part of a PSYOP (psychological operation). Within this conspiracy theory, climate change is both real and fake. It is real in that the effects, in this case, floods that disproportionately affect communities of color, are undeniable. However, it is fake in that its effects are orchestrated by some immensely evil and powerful group.

4.2 Six major themes

The data set presented dozens of conspiracy narratives which I evaluated and grouped into six major themes. The narratives can be thought of as individual conspiracy theories (e.g., New World Order, reptile elites) or components of conspiracy theories (e.g., aliens, ancient civilization, geoengineering). The themes place these individual stories into the bigger picture of a changing global climate. The six themes are anti-oil (4.3), weather manipulation (4.4), fear of a "green agenda" (4.5), supply control (4.6), science rejection (4.7), and apocalypse (4.8). Ninety of the 96 videos fit into at least one of these thematic categories; many of them were labeled with two or three of these themes. Six of the videos did not fit into these themes and were labeled "other." Videos labelled "other" contained socio-ecological elements but did not clearly relate to climate change (e.g., conspiracy theories about people going missing in national parks or about whether plants can walk or talk).



Figure 9: Composition of six major themes (anti-oil, weather manipulation, fear of "green agenda," supply control, science rejection, apocalypse, and other) in a data set of 96 climate change conspiracy theory TikToks.

4.3 Anti-oil conspiracy theories

I defined anti-oil conspiracy theories as any conspiracy theories which positioned the fossil fuel industry as actors in a malicious and secretive plot. Some of the most popular videos within the data set (three videos with a cumulative engagement of over 37 million views) were freeenergy-suppression narratives (conspiracy theories that posit that technologically feasible, pollution-free, zero-cost energy sources are being withheld from the public). These three videos promoted the narrative that oil companies murdered an individual who invented a car engine powered by water. Two of the videos iterate the popular conspiracy theory that Stanley Meyer was killed for his invention of a "water fuel cell." The myth of a miracle water-powered car is a long-standing hoax known to reappear whenever gas prices rise (Moseman, 2022). Shortly before his death, Meyer was found guilty of fraud in an Ohio court case brought by his investors. His patents are expired and now exist within the public domain (Nguyen, 2021).

The third video adapted the same conspiracy theory to apply to the death of Aaron Salter Jr., a security guard at Tops Supermarket in Buffalo, NY, who was killed in a racially motivated



Figure 10: Viral water-based engine murder conspiracy after the terrorist attack in Buffalo, NY, in 2022.

terrorist attack in May of 2022 (Somoano & NcNeil-Willson, 2022). In his spare time, Salter worked on an invention to fuel cars with water electrolysis; however, there is no evidence that he was killed for this work (Settles, 2022). Free-energy-suppression conspiracy theories are not denying the harm of fossil fuels; however, they do spread misconceptions about green infrastructure. Nevertheless, while they represented only a small portion of the data set, the popularity of these anti-oil conspiracies demonstrates the diversity in ideology within the broader climate change conspiracy theory genre.

4.4 Weather manipulation

With 25 instances in the data set, weather manipulation conspiracy theories were one of the most numerous I identified. These are conspiracy theories that ascribe weather and, more broadly, climate to groups allegedly capable of altering or controlling atmospheric systems. Like many other popular conspiracy theories, these contain elements of historical fact. Weather modification is the act of intentionally manipulating weather and it is most commonly used in the form of cloud seeding in certain drought-prone regions to stimulate precipitation. Similarly, geoengineering (sometimes called climate engineering) refers to carbon dioxide removal and solar radiation management when applied at a planetary scale. Weather modification is a regional and local practice, whereas geoengineering is a global one. I found that both terms were incorporated into conspiracy discourse on TikTok, frequently used interchangeably and vaguely.

These videos also frequently incorporated chemtrail conspiracy narratives (the belief that the condensation trails formed from the jet engines of aircraft consist of biological or chemical agents). This theory has persisted despite extensive debunking for decades, and it can fit into climate discourse positioned as either a cause of weather events or as an oppressive and violent measure used against the public under the guise of geoengineering. Within the data set, chemtrails functioned both as an explanation for weather, usually as a component of weather engineering, as well as a supposed response to climate change by malevolent elites. As most of the discourse was concerned with regional and local weather, I grouped chemtrails and geoengineering under the umbrella of weather manipulation.

Many videos positioned chemtrails as a component of a larger weather manipulation conspiracy theory, explaining weather events as man-made or controlled. For instance, in one video (Figure 11), a woman holds a lighter up to a snowball—an act that leaves a black residue on the snowball from the gas emitted by the lighter. The user considers this to be evidence of unnatural weather and speculates about the involvement of chemtrails.



Figure 11: A TikTok user holds a cigarette lighter to a snowball to test a theory that the snow is fake.

The user details their process of testing the snow:

Alright, so I saw a video on TikTok the other day, and it said go outside and get some snow ... it just snowed. It's still snowing. I'm in southwest Missouri. It feels super fluffy. But anyways, I saw this video the other day that said go outside and get some snow. Someone said the snow is fake. Ball it up. It's cold ... it's definitely cold. And then they said to burn it, and they said it's not real so let's ... here we go. And it'll turn black and it'll smell like plastic (holds lighter up to a ball of snow). Look at that! And it smells like plastic. Really bad. That's not snow, and don't let your kids eat that, that's for sure. A lot of people been talking about chemtrails. Whether you believe in those or not, something's going on, but I'm from Minnesota and that is not what snow does. Something's going on, guys.

The video, which used the hashtags "government," "man-made," "chemtrails," "conspiracy theory," "fake," and "snow," demonstrates the connection between chemtrail and weather manipulation conspiracies. It is unclear precisely what fake snow means and what mechanisms could create it.

Another frequent component of weather manipulation conspiracy theories was solar radiation management, often described as "blocking out the sun." **Figure 12** illustrates a TikTok claiming that Bill Gates and the World Economic Forum are using chemtrails to "block the sun" and manufacture food shortages.



Figure 12: Video alleging that Bill Gates and the World Economic Forum are spraying the skies with the intent to block out the sun and cause food shortages.

Voice-over: "The days of blue sky are over. You will never get to enjoy the sun again. Say thanks to Bill Gates and the World Economic Forum." On-screen text: "Step 1: Spray the skys Step 2: Block the sun. Enjoy your food shortages"

Other videos contained similar narratives about chemtrails as a tool for "blocking out the sun." One TikTok (**Figure 13**) featured footage of the sun shining through clouds with a narrator offcamera saying, "*They are trying to block out the sun right now using geoengineering which is when they spray at a high altitude with heavy metals like aluminium and barium.*"

The broader category of weather manipulation conspiracies uses language and concepts from weather modification and geoengineering but approaches them with distrust. Extreme weather events were interpreted as intentional rather than climatic responses to rising global temperatures. Additionally, an assumption that seemingly underlies this narrative is that climate change is a political excuse for the elites to manipulate and control the masses.



Figure 13: A TikTok user films the sun shining through clouds as evidence of a geoengineering conspiracy.

4.5 Fear of a "green agenda"

Another frequent conspiracy theory narrative positions climate policies and green technology as a means of oppression by a tyrannical elite. I summarize all social, political, economic, and technological pro-environmental measures as the "green agenda." This discourse appears to be most concerned with specific notions of freedom, such as the freedom to drive a gasolinepowered car or the freedom to eat meat. Believers view pro-environment policies and technologies as a means of government overreach. This is sometimes incorporated into a broader conspiratorial belief in which these measures are a set of tools used by a malevolent. evil group to work toward their goal of world domination. This framework considers LED lights a tool for spying on civilians, electric cars a means to control people's mobility, and carbon footprint calculators a pretense for tracking individuals' every move.

Many of these videos either directly mentioned or indirectly referred to components of the "Great Reset" conspiracy, a narrative which emerged from "The Great Reset" initiative, an economic recovery plan created by the World Economic Forum (WEF) to reduce global inequality and advance environmental initiatives in response to the COVID-19 pandemic. The "Great Reset" is not so much a singular conspiracy narrative as an umbrella term for a loose grouping of conspiracy theories, sometimes described as a "conspiracy smoothie" (Klein, 2020). However, the core theme is that Klaus Schwab and the WEF are acting as a Machiavellian hidden hand, using the pandemic and climate change as an excuse to advance their interests and potentially implement a tyrannical global regime. While "Great Reset" may not be explicitly referred to in each of these narratives, it serves as a unifying theme under which many of these conspiracy narratives exist.
The video depicted in **Figure 14** offers an imagined future scenario in which criticizing the government results in citizens losing access to their electric vehicles. Here, green technology serves as a support mechanism for an oppressive regime.



Figure 14: Great Reset video paints image of a near future in which EVs are a means of punishing civilians for dissent.

The TikTok, which is composed of blocks of text sequentially shown over a cityscape background and instrumental music, reads:

The year is 2030. You try to start your electric vehicle but... you recently questioned the new government mandates. Your car won't start for 48hrs. Your social credit score isn't high enough now. The government has frozen your bank account. You're no longer the ideal citizen of the new world order. Your freedoms are now 'limited.' Maybe next time... you will just comply. Look how far complying has gotten you. If you just comply you will get your freedoms back. They promised us that after 2 weeks to flatten the curve. They don't have any reason to lie to us.... Right? Several of the videos in the data set were concerned with loss of freedom with regard to eating meat. In this sense, the green agenda threatens individuals' perception of choice over the food they eat. A video of internet personality Andrew Tate also featured a future scenario in which green policy is used as a means for control. Tate says:



Figure 15: Internet personality Andrew Tate claims that "You can't eat meat anymore because of the environment."

You can't drive your car past 8 p.m. anymore because of the environment. You can't eat meat anymore because of the environment. Stay home. Eat the bugs. Be a slave. Be a slave. Be a slave.

Another video referred to the conspiracy theory of "climate lockdowns," a narrative which emerged in response to COVID-19 lockdowns. According to this conspiracy theory, governments will implement further lockdowns, supposedly to reduce greenhouse gas emissions.

If the whole pandemic narrative is not what some of the evil powers that be are looking for it to become, they will begin to cause ... and I'm going to say this again ... I've been saying this for months, but there's going to be climate change. Now this sounds wild, but listen to me ... lockdowns. You're going to see some of this begin to unfold, and you say "climate change lockdowns?" Yep, I think that they'll begin to say all the urgency of the greenhouse gases and all the things that are happening are so severe that we need to do this for the good of humanity.

While this genre of climate change conspiracy theory does not overtly deny the existence of climate change, it considers climate policy to be a veiled attempt to implement oppressive governmental regimes.

4.6 Supply control

Another prominent theme within this data set was an anxiety surrounding access to basic needs like food, water, and electricity. This discourse featured food shortages, water shortages, and power outages. Rather than depicting these problems as the results of a global market impacted by climate, politics, economics, or technologies, this discourse considers these events intentional. They are viewed as a means through which the powerful elite attempt to exert control over the populace. These conspiracy theories offer alternative explanations for ramifications of climate interacting with society.

In response to warnings of rolling blackouts during the increasingly hot summer months in the U.S., users took to TikTok to frame the power outages within a conspiratorial context.

OK, we all knew it was coming. You're always have power outages in the real hot heat of the summer, but this one's going to be different. It's going to affect everybody for a long period of time. And food shortage ... not a food shortage: famine. All-out famine. And if you want to know about famines, read the Old Testament. They're not good. Anytime they besieged the city and wanted to take over the city, they cut off food supply and water supply. And that's what they're gonna do to us because they want to weaken us to where we can't fight back. That's what their goal is.

Food, water, and power are all viewed as weapons of the elite who control the masses' access to these basic necessities. In another video, a TikTok user films their garden while a conspiratorial audio plays:

Growing food will be banned by saying it isn't safe, and the state and corporations will control all food production. The supply and distribution of food will be monitored so that no one can give food to a fugitive of the system. That's what's unfolding. In 1913, corn is 100% farmer owned. 2013 corn is 95% owned by corporations, and 90% of the United States was genetically modified. Kissinger [said], 'Control oil and you control nations. Control food and you control the people.'' This is what it's about. And the same is happening to water again under Agenda 2021. These corporations are buying up all

the water sources. This freaking idiot, the CEO of Nestlé is saying water is not a human right. Excuse me, mate, if you don't get access to it, you freaking die. That's what he wants. Sorry, I gotcha! Water is not a human right should be privatized. U.S. corp. ends private property rights, all water to be controlled by government. All over the world because of this global network."

These narratives paint an image of a society under the complete control of the state. The effects of climate change on access to resources, as well as climate policy that aims to mitigate these effects (Agenda 21), are framed as tyrannical power grabs. Again, we see climate change overlooked while its consequences are highlighted.

4.7 Science rejection

The fifth major theme I identified within the climate change conspiracy theory discourse was science rejection. These are conspiracy narratives that dispute the foundational scientific understandings upon which climate science is built. These conspiracy theories may not directly relate to climate or weather; however, if true, they would render the majority of climate science baseless. For instance, advocates of the flat Earth conspiracy theory believe that the planet is disk-shaped with a dome-like atmosphere, rather than spherical. This belief conflicts with fundamental scientific understandings of physics and Earth systems. These bodies of science are the bedrock on which climate science is based; rejecting them simultaneously rejects climate science. Rejection of foundational principles of science is similarly present in conspiracy narratives that argue that the Earth is hollow or that it is orbiting two suns.

One notable video with over 4 million engagements combined the flat Earth ice wall theory with the melting ice caps, an effect of anthropogenic climate change. User @dontghostme, states that the ice wall that surrounds the disk-shaped Earth is melting at the fastest rate in thousands of years.



Figure 16: User connects melting ice caps, geoengineering, and the flat Earth ice wall conspiracy. Source: @dontghostme on TikTok, 2022.

The elites might be nervous about the ice melting, because if you remember, Bill Gates was actually trying to spray dust into the atmosphere to block out the sun. Probably to stop the melting. If Antarctica turns out to be an ice wall and it melts, it would give people easy access to the lands beyond.

The user seemingly accepts the effects of climate change as real but incorporates them into a conspiratorial belief system. In this case, themes of weather manipulation and science rejection are employed to process climate change through a conspiratorial lens. Interestingly, the cause of the melting ice caps is excluded from the discussion.

4.8 Apocalypse

Of the 96 videos in this data set, 14.9% contained themes of apocalypse. These are conspiracy narratives that claim that the destruction of the world by means of some higher force or power is approaching or already happening. These narratives were typically either explicitly related to a religious rapture or related to a more nebulous spiritual catastrophe.

While religious content and conspiracy theory content are separate and distinct realms of content, they also contain significant overlap. Because the scope of this study focused on

English-language conspiratorial content, there was a strong overlap with Christian content. As there is an established relationship between the extent of a religious worldview and the endorsement of conspiracy theories (Jasinskaja-Lahti & Jetten, 2019), it was unsurprising that religious content also appeared within climate change conspiracy theory content on TikTok.

This caption from one video in the data set about gasoline dilution demonstrates the crosscontamination between Christian content and conspiracy rhetoric:

Yeshua bring us together! #pastoralan #butgodministries # #god #yeshua #holyspirit #christiantiktok #trending #viral #fyp #nwo #illuminati

Additionally, certain key terms commonly associated with conspiracy theories can also be used in religious content (e.g., Satanic, spiritual warfare, awaken, end times). While this content may not be best understood within the framework of conspiracy theories, the major narratives within the data set are still worth briefly exploring.

Several of the videos framed the effects of climate change within a religious worldview, generally as evidence of an imminent rapture. Extreme weather, heat waves, floods, droughts, famines, or water shortages are therefore interpreted not as the consequences of anthropogenic climate change, but instead as God's will. For instance, the Euphrates River drying up was cited in several of the videos as evidence of both Christ and Muhammad's returns. Notably, these catastrophic events are implied to be morally good and necessary to those who expect to be saved during a religious rapture. Climate change is thus a force to be accelerated, not mitigated.

One video with almost 2 million total engagements says:

A mass shooting, a food shortage, inflation, pandemic, monkeypox, tornados, wildfires, wars. It seems to me like we're in the end times. And I'm telling you to keep the faith, because it's only gonna get worse. It's only gonna get worse. Stay prayed up, because it's only going to get worse. Jesus is testing our faith right now because it's only going to get worse. We have to have faith in him. The devil is throwing everything he can right now to Christians. There is spiritual warfare.

Narratives of apocalypse were not limited to videos concerned with religious rapture. God is not the only force capable of bringing about the end of the world. Themes of cataclysmic intergalactic cycles or interdimensional shifting were also present in the data set. The New Earth conspiracy theory was particularly popular, as it was identified in six videos with over 7.8 million engagements. The New Earth conspiracy narrative claims that the vibrational frequency of the Earth is shifting as the planet is entering another dimension. According to its proponents, all "negative energy" will remain on the "Old Earth," while all "positive energy" transcends along with the planet into a higher dimension. Rid of all its negativity, this "New Earth" will be a shining utopia. The tragedies of famine, war, inequality, natural disasters, and illnesses are left to plague those remaining in the lower dimension. Effects of climate change, ranging from higher temperatures to social unrest, are depicted as evidence of an imminent shift. Individuals are encouraged to raise their own vibrational frequency so that they can ascend alongside the planet into a new dimension. While this is not technically a religious rapture, it functions similarly. Rather than an omniscient god dictating good and evil and ushering the worthy into the Promised Land, positive and negative are instead governed by some universal force of frequencies.

One New Earth video with over 690,000 engagements responds via "Stitch" to a video showing people lying down, with towels over their heads, in New York during a heat wave.



Figure 17: People in New York lie down indoors to escape heat wave. This clip is then stitched and incorporated into a New Earth conspiracy theory.

Original video: This is what's going on in New York. This shit is crazy.

Stitch:

See that, bro? I told you in my recent videos that the sun is emitting a different frequency. You can see people saying it's two suns. People got actual footage of this. People saying it's a shift behind it. All these things that are vibrating hot, that are vibrating at a higher state of consciousness. We told ya how they wouldn't be able to take that heat. Y'all know who can take that beat, bro. Thought it was a game. This heat is for the ones that's in tune with nature. That's the reflection of nature. I'm telling ya, bro, y'all ought to be seeing way more—way, way, way more. It was more of them laid out too, bro, in the rest of the video. Sun getting hot for sure. It's a good time to be outside us. Y'all just stay wary though. Love y'all. Peace.

This narrative accepts the reality of the lived experience of climate change—in this case, extreme heat waves. However, the heat waves are attributed to the sun's increasing vibrational frequency and subsequent higher temperatures. The creator claims that these high temperatures are suitable only for spiritually enlightened individuals who are also "vibrating at a higher state of consciousness." He says, "This heat is for the ones that's in tune with nature." It is implied that the harmful effects of climate change can be avoided through internal contemplation, and those who are negatively affected are culpable and somehow deserving of this fate.

4.9 A note on inter-relatedness and connectivity

While this qualitative analysis found several prominent narratives within the data set, many of the videos incorporated a multitude of climate change conspiracy narratives. The beliefs expressed in these videos did not exist as isolated ideas, but as interconnected relational concepts. For instance, this video (**Figure 18**) from labeled "Meat Police" details a conspiracy theory that Bill Gates is releasing genetically modified ticks which will make more people allergic to red meat and thus further the environmental movement.



Figure 18: Conspiracy theory connects the climate change mitigation goal of consuming less meat with a rise in tick bites as well as the release of genetically modified mosquitoes.

Creator:

So, Bill Gates just released 5 million mosquitoes over the Florida Keys. This video is not about that. Keep it in the back of your head. [Shows headline] See? Not really sure how to make a clean transition here, but with the mosquitoes in the back of your mind, if you're not already aware, you should be that (makes air quotes) 'they'' are really pushing hard for us to eat way less, if not no meat at all eventually, and go completely on bug- and plant-based diets. Uh, in case you're not good at pattern recognition, check this out.

[Video montage]

Clip 1:

It looks like meat. It smells like meat. This is all going to be gluten free, vegan, and better for the environment.

Clip 2:

A new report from the UN says eating less meat is crucial to saving the planet. The planet we're discussing: Earth.

Clip 3:

The way we produce food and what we eat contributes to the loss of natural ecosystems and declining biodiversity.

Clip 4:

A little bit more conscious about it, trying to minimize and reduce the amount of red meat is a rational and logical response to try to combat climate change.

Clip 5 (Bill Gates quote on screen in text):

I do think all rich countries should move to 100% synthetic beef. You can get used to the claim is they're going to make it taste even better over time. Eventually, the green premium is modest enough that you can sort of change the people or use regulation to shift the demand.

Creator:

And there's plenty more where that came from. So pretty crystal clear that they want to phase meat out of our diet. Here's the thing and remember the mosquitoes—and I got videos attached just so you don't think I'm going off on some wild tangent. Tick bites making people allergic to meat. This is not a completely new thing. I heard of this years ago, but my understanding was that it was relatively rare, and this is saying that it's on the rise. Manipulating bugs and genes and they really want us to quit eating meat and now ticks are making us allergic to meat. I'm not saying nothing. I'm just saying.

The narrative articulated in this video presents an amalgamation of several different conspiracy narratives, relationships to climate change, and citations of various media sources and direct quotations from leaders in the climate space. Taken individually, many of the components of this conspiracy theory contain truths about climate change. The Bill and Melinda Gates Foundation did award grants to a company that released 150,000 genetically modified mosquitoes in Florida; however, this particular project was not funded by the foundation (Dapcevich, 2021). Additionally, rising global temperatures and ecological changes have been found to be increasing the geographic spread of multiple tick species. One of these tick species, the lone star tick, is associated with Alpha-gal syndrome which results in an allergic reaction to red meat (Molaei et al., 2019). This increase has been attributed to the lengthened active season of some ticks due to a changing climate. The major conspiracy narrative seems to be formed in the connection of these events to an environmental agenda.

4.10 Conclusion

The personalized and dynamic nature of conspiracy beliefs ensures that there are an incalculable number of individual conspiracy narratives circulating at any given time. Attempting to understand every one may be a futile effort, but broader analysis of recurring

themes within the discourse can provide insight into the uses of conspiracy theories as a framework for interpreting the climate crisis.

This chapter detailed the conspiracy narratives identified in the data set and then further explored major themes which are the connective tissue for much of this discourse. These findings answer what the existing climate change conspiracy theory discourse looks like on TikTok and thus covers the first sub-research question. Additionally, these findings partially contribute to the following research question: In what ways are the politics and experiences of climate change interacting with conspiracy theories on TikTok? In the following chapter, I will step back from the specific narratives and themes to assess the relationships between climate and conspiracy.

5. A classification of climate change conspiracy theory narratives

In addition to the content-specific climate conspiracy narratives outlined in the previous chapter, an analysis of these videos generated observations spanning the data set, painting a picture of the genre more broadly. This chapter explores the corresponding second sub-research question: In what ways do conspiracy theories relate to climate change? These findings contribute to the objective of this thesis in that they provide a framework for understanding the practical relationship between anthropogenic climate change and conspiracy theories.

By taking a step back from the nuances of many of the specific conspiratorial narratives, I aim to better understand the role of climate change in these beliefs. Previous research has focused on narratives which aim to deny the existence of or distract from the cause of climate change. This classification broadens the academic understanding of climate change conspiracy theories. Climate denialism as a narrative frequently shifts the focus of conversation to the future; it is concerned with whether climate change will happen and whether mitigative efforts are worthwhile. In doing so, it misrepresents climate change as a future problem. As the socio-ecological consequences of climate change become increasingly evident, a framework is required for interpreting climate conspiracies as a phenomenon concerned with the present. In this chapter, I examine the relationships between conspiracy narratives and climate change. In doing so, I move beyond the lens of climate denial and into an expansive framework that interprets these narratives within the dynamic context of a world already experiencing the effects of a changing climate.

The conspiracy narratives within the data set presented four major relationships with climate change: cause (5.1), significance (5.2), effect (5.3), and response (5.4). This categorization serves as a micro-taxonomy of climate change-related conspiracy theories. Cause and significance can generally be thought of as relating to climate change in the traditional, big-picture understanding. They are regarding (or dismissing) the entirety of climate change as a concept. Conversely, effect and response interact with the minutia of climate change (e.g., specific weather events, green technology, environmental policy).

5.1 Cause

The first of the classifications is cause. These are conspiracy narratives which provide an explanation for the cause of Earth's changing climate (typically disregarding the scientific consensus on anthropogenic climate change). These narratives generally accept the reality that

the planet's climate is changing; however, they seek to provide alternative explanations to answer the question of why this change is occurring.



Figure 19: A video from a Creative Society account attributes climate change to "cataclysm cycles."

For instance, the cataclysm cycle narrative, a conspiracy theory promoted by international activist group Creative Society, claims that climate change is a very real and pressing threat. However, they attribute climate change to 12,000-year cataclysm cycles determined by Earth's location within the galaxy (**Figure 19**). The solution they offer focuses on the spiritual unification of all humanity. Similarly, the New Earth conspiracy narrative highlighted in the previous chapter also provides an alternative explanation for climate change: Earth is preparing to enter a new dimension. Both of these narratives not only accept that the climate is changing at a global level but also actively incorporate climate change into their larger conspiracy frameworks.

Other narratives identified in the data set which related to the cause of global climate change included the following:

- Two suns: The warming global temperatures are attributed to a second sun whose existence has been hidden from the public. Some believers describe the second sun as an artificial star secretly installed by a powerful group (e.g., China or NASA).
- Unknown planet: An additional planet within our galaxy whose orbit is causing climatic changes on Earth.
- Apocalypse: Climate change is evidence of the imminent return of the prophet and subsequent rapture. The cause is thus attributed to the decisions of some higher being or force.
- Geoengineering: Global climate changes are caused by powerful groups artificially manipulating climate.

5.2 Significance

The second way in which conspiracy narratives relate to climate change is significance. These are conspiracy theories that reject the standard scientific laws we use to understand climate change. In doing so, they either implicitly or explicitly dismiss the scientific consensus on climate change. Climate change is interpreted as inconsequential (and potentially fabricated). These conspiracy narratives may include many aspects of climate change while simultaneously rejecting the scientific method as a framework for understanding the world. Flat Earth and hollow Earth conspiracy theories are both prime examples of this phenomenon. Both reject the fundamental bases on which physics, geology, and atmospheric science are understood to operate and which determine our understanding of climate change.

Apocalyptic conspiracy theories like New Earth or those that incorporate an imminent religious rapture can also be interpreted as relating to the significance of climate change. After all, if the planet is about to shift into a new dimension or is on the cusp of divine intervention, then threats posed by climate change are of no real consequence.

5.3 Effects

At this point, I shift my focus toward conspiracy theories that are interacting with the everyday experiences of climate change. The third classification of relationship is effect. These are narratives that incorporate the effects of climate change into a conspiracy belief. While these conspiracies often provide a counter explanation for the cause of certain effects of climate change, they are less concerned with climate change on a global scale, instead focusing on specific events. These narratives incorporate experiences of climate as a phenomenon of the "natural world." Sometimes these narratives are interested in finding alternative explanations for the effects of climate change. For instance, claims that wildfires were caused by Directed Energy Weapons (DEWs) or that storms were created through weather control present alternative explanations for certain effects of climate of climate change. The attribution of higher

temperatures to changes in vibrational frequency in the New Earth conspiracy theory similarly provides an interpretation of a consequence of climate change. While these "effect" conspiracies do relate to an aspect of climate, they can incorporate sociological elements as well. Consider, for instance, the narrative that attributed the effects of environmental racism to ley lines. Alternative explanations for these events are not always included. Oftentimes, the circumstances are recognized as abnormal and even harmful and then incorporated into a broader conspiracy framework. Several of the videos in the data set were concerned about supply issues such as power outages, food shortages, and water shortages. However, these concerns were not explicitly given alternative explanations so much as they are used as evidence of a broader conspiracy theory to control the masses.



Figure 20: Video uses conspiracy rhetoric alongside environmental concerns.

Similarly, air quality and concerns over pollution were incorporated into a broader conspiracy but not typically explained. A video (**Figure 20**) which included the hashtags "conspiraciescomingtrue," "openyoureyes," "MAGA" (Make America Great Again), and "fjb" (Fuck Joe Biden) stated that "Air is toxic" and "Water is contaminated," then attributed these environmental concerns to an anti-media conspiracy. In another video with 1.46 million engagements (**Figure 21**), a user films smokestacks emitting from a Luminant power plant in Texas and says, "They're making clouds dude." The caption reads, "They're making clouds dude. #forneytexas #forney #texas #cloudfactory #usa #luminant #powerplant #polution #acidrain #airqualityalert #cancer #protectyourlungs #weathermanipulation #haarp #cloudseeding."



They're makin clouds dude. **#forneytexas #forney #texas #cloudfactory #usa #luminant #powerplant #polution #acidrain #airqualityalert #cancer #protectyourlungs #weathermanipulation #haarp #cloudseeding**



Here, it appears that a mixture of environmental and health concerns is forming into a broader climate conspiracy theory. Pollution and air quality are identified as threats to well-being and are connected to a larger conspiracy theory of weather manipulation.

The effects of climate change identified in the data set were as follows:

- Air quality/Pollution
- Blackouts/Power outages
- Droughts (e.g., Euphrates River drying up)
- Environmental racism (i.e., weather events disproportionately affecting Black communities)
- Extreme weather (e.g., unusually extreme storms, snowstorms, heavy rain)
- Food shortages
- Heat waves
- High temperatures

- Ice caps melting
- Natural disasters
- Rising sea level
- Sinkholes
- "Strange skies" (i.e., clouds looking different from "normal," more rainbows)
- Tornados
- Water shortage
- Wildfires

Many of the narratives related to effect featured a larger weather manipulation conspiracy narrative. Clouds and snow were repeatedly deemed "fake," and extreme weather events were implied to be the results of intentional actions of a powerful group.

5.4 Responses

The fourth and final of the classifications is response. Whereas narratives relating to effects responded to climate as a phenomenon of the natural world, response narratives are concerned with climate as it relates to society. These conspiracy narratives surround social, political, economic, or technological reactions to climate change. In the data set, narratives that related to response typically centered around fear of the "green agenda." They expressed deep distrust in governments and major institutions and frequently challenged climate policy, green technology, and pro-environmental behaviors. As discussed in the previous chapter, many of the videos included themes from the "Great Reset" conspiracy theory, and 13 of the videos in the data set explicitly mentioned the "Great Reset."



Figure 22: A TikTok user declares their intention to ban ESG and stop the Great Reset.

TikToks which mentioned the "Great Reset" conspiracy theory also included discourse about electric cars as a means of control, New World Order conspiracies, Christian religious apocalypse (e.g., mark of the beast, end times, tribulation), food control narratives, currency control narratives, concerns about social credit scores and forced sustainability, and anxiety about fuel control (e.g., power outages, limited gasoline). Two of the Great Reset videos explicitly mentioned either Agenda 2021, a nonbinding U.N. sustainable development action plan originally established in 1992, or the 2030 Agenda, a set of 17 Sustainable Development Goals (SDGs) set up in 2015 by the U.N. General Assembly. **Figure 22** is a screenshot of a TikTok in which a user claims, "We are going to stop the Great Reset by banning ESG." They are referring to environmental, social, and governance metrics which are sometimes used as a measure of corporate social responsibility. ESG as a "green capitalist" tool is frequently accused of being a vehicle for greenwashing. However, in this instance, it is being depicted as a means of imposing tyrannical control over everyday people:

If you don't pick up dog poop, if you have a bad interaction, if you don't get a certain medical procedure, you won't be able to get an apartment, a job, travel on public transport, even leave the country. That's what the Great Reset wants to bring in.

This larger theme of climate change as an excuse for elites to seize or maintain control overlapped with a range of conspiracy narratives present in the data set. Chemtrail conspiracies were connected into geoengineering and weather manipulation conspiracy theories, as well as aerial spraying and depopulation conspiracy theories (i.e., Bill Gates is using climate change as an excuse to "block out the sun" via a massive aerosol spraying initiative which has an ulterior motive of murdering large portions of the populace). As discussed in the previous chapter, a recurring theme in the videos was anxiety regarding a perceived loss of liberty due to green products like electric vehicles, LED lights, and plant-based meat.

It is evident that political, economic, and technological responses to climate change are being interpreted through a conspiratorial worldview in which they become tools of oppression. While these narratives do not typically directly dismiss the reality of climate change or its anthropogenic roots, they pivot public attention away from its dire consequences. These narratives are not concerned with climate change or even the effectiveness of the attempts to address it. By implying that some alternative malicious motivation is behind green policies and technologies, these narratives effectively dismiss the urgency of the climate crisis and undermine public support for climate action.

5.5 Non-exclusivity

It must be noted that these classifications are not exclusive. A conspiracy theory, as previously discussed, can incorporate a variety of narratives simultaneously. Additionally, the interpretation of conspiracy theories varies vastly between believers. Chemtrails conspiracies are emblematic of this phenomenon. One person may believe that chemtrails are a means for hurting the health of a population, a second person may believe that chemtrails are a tool for the manipulation of extreme weather events, and a third person may simultaneously hold both beliefs. Conspiracy theories rarely, if ever, have the same meaning for every believer.

A conspiracy narrative can relate to climate change in multiple ways, often depending upon its use within a specific context. The chemtrail conspiracy is used to explain the cause of climate change, the effects of climate change, and the responses to climate change. Similarly, the New Earth conspiracy can be interpreted as relating to the cause of climate change as well as the significance of climate change. Conspiracy beliefs are vast, complex, and often contradictory. It thus follows that their relationships to climate change are too.

5.6 Conclusion

These four classifications—cause, effect, response, and significance—allow insight into the breadth of ways in which conspiracy theories and climate change can connect. By

understanding these relationships, we can broaden our understanding of climate change conspiracy theories beyond the framework of denial. These relationships can overlap with one another. It is also evident that conspiracy theories and climate change do not function with a single direction of influence. Rather it is a two-way street, with climate change shaping conspiracy theories and vice-versa.

These findings describe the relationships to climate change identified in the data set and thus partially answer this thesis's second sub-question. This classification also provides the foundation for a framework for understanding modern climate change conspiracy theories within the dynamic context of a world already experiencing climate consequences. In the next chapter, I will examine the political ecology of climate change conspiracy theories and their role as a rhetorical device for system justification.

6. Climate change conspiracy theories and system justification

As a work of political ecology, this thesis is interested in understanding the relationship between climate and society. In this chapter, I examine how conspiracy frameworks' understanding of climate might affect both personal and systemic action. By understanding the sociopolitical status quo to be rooted in a reliance on fossil fuels and anthropogenic climate change as a threat to the existing social systems, climate change conspiracy theories can be considered a tool for system justification. This chapter addresses the third research subquestion of this study—how climate conspiracy narratives function in relation to support for climate action—while also providing a deeper look into the political ecology of climate change conspiracy theories.

Stepping back from the conspiracy narratives and their relationships to climate, there is a relationship between the climate conspiracy framework and political power that is worthy of exploration. Interpreting climate change through the lens of conspiracy may affect believers' support for climate change legislative measures on scales ranging from local to international. This interpretive framework could also interact with believers' interest in personal behavioral changes (e.g., eating less meat, taking public transport, reducing plastic waste) as well as their trust in green technologies (e.g., electric vehicles, plant-based meat alternatives). These beliefs affect elections, policies, markets, and social practices, all of which shape the natural world. In this sense, climate change conspiracy frameworks are a form of discursive power.

The conspiracy theories in this data set largely exist on a spectrum from comprehensively debunked (e.g., chemtrails, flat Earth) to entirely unfalsifiable (e.g., Illuminati, New Earth). However, to understand their impacts on climate reality, in this chapter I approach this discourse with the assumption that each conspiracy theory is real and true. This thought experiment creates space for the exploration of the relationship between these beliefs and the natural world.

6.1 Look up!!! Parsing a climate conspiracy framework

To investigate the role of a climate science framework in conspiracy discourse on TikTok, I will examine a particularly notable video in the data set. Posted on July 15, 2022, by the user alexservestea, the video was captioned "LOOK UP!!!!" and received over 300,000 total engagements. The video is just under 3 minutes long, includes dozens of images, and has been removed from the platform (seemingly after the entire account with over 1.2 million followers was banned in October 2022).

In the video, the user greenscreens herself in front of a series of images beginning with a promotional image for "Don't Look Up," a movie which presented an analogy for the impending climate crisis and the public's refusal to take evasive action.



Figure 23: The beginning of the video features the user greenscreened in front of a promotional image for 'Don't Look Up,'' an allegory for the climate crisis. Source @alexservestea on TikTok, 2021.

Alexservestea begins:

You guys remember the movie "Don't Look Up," right? It's like about this big comet or asteroid that's going to hit the Earth and then nobody wants to listen to these scientists who are trying to tell people that climate change is real and everyone just laughs about it and thinks it's so funny because, like, yeah, OK, sure.

This colloquial introduction is a fairly effective summary of the film's message and demonstrates the user's understanding that the film was a metaphor for climate change. After this, the user begins to introduce her conspiratorial framework of interpretation in which the media reveals coded messages for the public:

You guys know that they tell us everything in the movies, right? So, it's like they have to give us a challenge or a plotline, and we have to accept it or decline it. So, if they are telling us don't look up, they're putting it right in your face: "Don't look up, just look down." And then they're saying, "Just look down, pay attention to your phone, pay attention to the news, pay attention to the fact that climate change is real and the world is going to be destroyed by a comet or a possible asteroid, because there are rumors that there's supposed to be an asteroid hitting Earth sometime between 2027 to 2029."

It is unclear who the "they" is to which the user keeps referring; however, it is clear that alexservestea believes that some powerful group is disseminating instructions for the public through the media. The instructions included paying attention to the news and paying attention to the threat of climate change.

She continues and posits her interpretation:

But have you guys been looking at the sky lately? Have you guys been looking up? Because there's some pretty interesting things going on. I made a video about this yesterday with the sky splitting in half, and I said it's because we're switching into the New Earth. Some people didn't believe me, but there's a lot of proof. Let's take a look at the skies. My theory is that these gray clouds are the old Earth, and this new brightly colored sky is the New Earth. And I think we're more flipping than splitting really, like the Upside Down.



Figure 24: A compilation of some images of the sky included in the video.

The remaining 98 seconds of the video are spent dissecting images of the sky, which the user describes as "not normal," "not chemtrails," and looking "out of a simulation or a movie" and not "real." While greenscreened in front of an image of a double rainbow, alexservestea says, "*Wow, a double rainbow! Watch this video and tell me we don't live in a firmament,*" referring to a tenet of the flat Earth conspiracy theory.

In this fascinating instance, a movie about the rejection of climate science is woven into a further web of climate science rejection. The user interpreted a narrative about climate change through a conspiracy framework to reinforce her belief in the New Earth conspiracy theory. Interestingly, this video also contains beliefs relating to flat Earth, chemtrails, and science-fiction media (the user refers twice to the "Upside Down," which is an alternate dimension depicted in the Netflix series "Stranger Things.")

The user never denies the existence of climate change; instead, she insinuates that climate change is a distraction from the real phenomena occurring in the sky. From this perspective, it would seem that the louder the media is about climate change, the more ground believers have to accuse them of using climate change as a distraction.

6.1.2 If true ...

If alexservestea's New-Earth-meets-Stranger-Things conspiracy theory is interpreted as real and true, what would it mean for the necessity of immediate legislative climate action and individual pro-environmental behavioral changes? Within the New Earth framework, climate change could be considered real. In Chapter 4, I highlight a video in which the user attributed the higher temperatures during a heat wave to the higher vibrational frequency of the sun, rather than to anthropogenic climate change. However, the New Earth conspiracy theory, like many conspiracy theories, is dynamic, with details changing from believer to believer. It is possible some believers still could accept climate change as real and anthropogenic.

However, if the Earth is shifting into a utopic higher dimension, the challenges presented by climate change will be addressed by an unknowable powerful force. Thus, immediate legislative climate action would be unnecessary. The effects of climate change will be addressed by the spiritual realm rather than the political realm. Therefore, internal spiritual contemplation (raising one's "vibrations") is more effective than supporting climate policy or changing individual behavior. Believers may desire to change their individual behaviors so long as they align with their personal goal of spiritual ascension; however, this behavioral change would not be motivated by a desire to mitigate climate change.

6.2 Broadening the thought experiment

As I did for the New Earth conspiracy narrative, I will expand this thought experiment by applying it to the major themes identified in Chapter 4. Again, I start with the assumption that the theory is real and true and then explore the implications for the necessity of climate action. Of course, extrapolating the larger climate meaning out of these conspiracy theories cannot indicate every individual believer's personal sentiment toward climate action. However, by simulating an acceptance of each narrative, I will attempt to infer the relationship between the conspiracy theory and climate action. For each theme (anti-oil, weather manipulation, fear of a "green agenda," supply control, science rejection, and apocalypse), I ask:

- 1. If I believe this to be true, can I still believe climate change is real?
- 2. If I believe this to be true, can I still believe climate change is anthropogenic?
- 3. If I believe this to be true, does climate action still seem necessary and urgent?

One of the viral conspiracy narratives in the data set stipulates that oil companies murdered an individual who invented a car engine powered by water. This free-energy-suppression conspiracy theory does not directly relate to climate change so much as it distrusts the oil industry. The core of this narrative is that the supposed water-based engine threatened the economic prosperity of the oil industry because people would be able to fuel their cars with tap water. If this were true, one could still interpret climate change as both real and anthropogenic. Additionally, believers may still support the need for immediate legislative climate action. It is possible the belief that carbon-free power is so easily attainable that it can be sourced from tap water may distort perceptions of what comprehensive climate action looks like. After all, if carbon-free transportation is so easily attainable but is hidden by the oil industry, then the solution becomes to simply extract this information from the oil industry rather than to achieve a global energy transition.

If weather events are intentionally created by a powerful group, then they cannot be attributed to anthropogenic climate change. If the public wanted to stop these weather events, neither legislation nor behavioral changes would have any effect. The only effective action would be to identify the masterminds behind the plot and prevent them from continuing. In some instances of these conspiracy narratives in the data set, chemtrails and geoengineering were presented as a response to climate change, frequently with climate change positioned as pretext for elites to conduct geoengineering. If this is the case, it may be possible to interpret climate change as real and even anthropogenic. However, believers could equally interpret climate change as a hoax created by the elite to grab further power.

The Great Reset conspiracy narratives, along with other fears of "green agenda" theories, do not explicitly deny the existence of anthropogenic climate change. Instead, they inspire fear and mistrust in green policies. Even if one assumes that these theories are good-faith critiques of climate action, none of the examples in the data set provided alternative, less-threatening climate solutions. It is a reasonable assumption that if believers perceived climate change as a dangerous threat in need of mitigative action, they would propose alternative measures with which they felt comfortable. However, the overwhelming number of videos promoting fear around electric vehicles, plant-based food, and green infrastructure without offering alternatives indicates this is not the case. These theories may not overtly deny the existence of climate change; however, they rely on an underlying dismissal of climate change and argue against the implementation of climate action.

Similar to weather manipulation conspiracy narratives, supply control theories positing that food shortages, water shortages, and power outages are the intended outcomes of calculated plans carried out by elites contain the underlying assumption that anthropogenic climate change is a hoax. No amount of legislation, behavioral change, or green technology could feasibly remedy shortages which were manufactured by a malevolent group. Again, the only logical response is to identify and disrupt said group.

If all scientific understanding about the Earth and its systems is either incorrect or a lie, climate science, which relies on scientific foundations of physics and chemistry, is inherently invalidated. These narratives apply aspects of science inconsistently, so it is difficult to say which aspects of climate science could remain true if, for instance, the Earth were flat. If the Earth were flat, could atmospheric concentrations of carbon dioxide released from burning fossil fuels still be causing an increase in average global temperatures? It likely depends on whom you ask and which aspects of science they still accept. It seems unlikely that these theories can coexist with support for immediate climate action which is rooted in a scientific consensus regarding physics and chemistry.

If the apocalypse is imminent, then whether climate change is real and human-caused is inconsequential. Anthropogenic climate change is a phenomenon of the physical realm which will presumably be annihilated during the rapture. It does not matter if the climate is changing if the physical realm and its ailments are on the verge of extinction. Mitigating climate change through policy or behavioral change is therefore pointless. And if those who are awaiting the rapture see the effects of climate change (e.g., drought, floods, famines) as evidence of their religious apocalypse, then there is arguably even a reason for them to reject mitigative efforts.

6.3 System Justification

The narratives identified in this data set not only dismiss climate science as a framework for understanding climate change and redirect believers' attention away from the need for climate action, they seemingly serve a larger systemic purpose. Much like how other conspiracy theories have been found to defend social systems when their legitimacy is under threat (Jolley, Douglas, & Sutton, 2017), these climate change conspiracy narratives overwhelmingly appear to function as a framework for justifying the continuation of the fossil fuel status quo. In this section, I will explore the major components of conspiratorial frameworks of interpretation identified in the data set which served to bolster the status quo.

6.3.1 Climate science rejection

As I attempt to understand what these conspiratorial frameworks of climate interpretation are, it is helpful to also understand what they are not. By and large, these frameworks embrace an implicit rejection of climate science and thus are not applying a climate science framework to interpret climate change-related events. While many of the videos in the data set mentioned climate change, climate policy, or extreme weather events, none explicitly presented climate change as anthropogenic or requiring social or political action. The discourse did not necessarily deny the existence of climate change so much as it ignored climate change as a framework for understanding socio-ecological systems. Rather than disputing the scientific consensus on anthropogenic climate change, these narratives exist separately; they are dismissive rather than combative.

This discursive framing allows for the lived experiences of climate change to be experienced as something entirely different. The various narratives range in their alternative explanations for the causes of the socio-ecological events in question, but they all similarly provide a vehicle for interpretation which does not require acceptance of climate change. Regardless of whether a narrative attributes a heat wave to the rising vibrations of the planet, Direct Energy Weapons, a second sun, or an impending rapture, the discourse at large directs attention away from the climate crisis. The practice of framing these events outside of a climate framework is inherently political. It shapes and perpetuates a perception of reality in which human dependence on fossil fuels is not responsible for climate change. This practice creates a blueprint for disregarding climate science (and thus rejecting climate action) despite simultaneously experiencing its effects.

6.3.2 Scapegoating

Whether they are referred to as the global elite, the cabal, the Illuminati, the New World Order, the 13 Families, Bill Gates, or George Soros, understanding climate change events through a framework in which the world is controlled by some powerful group undeniably affects

whether that person will support climate change. For instance, if an individual interprets major weather events as the result of weather manipulation, they may experience a changing climate but attribute the cause to an outgroup. Weather manipulation conspiracy theories put all responsibility for extreme weather on small groups, rather than a global system dependent on the burning of fossil fuels. Whether the problem is fake snow created by Bill Gates or heat waves caused by DEWs controlled by a secret cabal, the solution is not climate action. This interpretive framework ignores the role of human systems in causing climate change (e.g., reliance on fossil fuels, overconsumption, infinite growth frameworks) and instead attributes all agency to a scapegoat group. Regardless of which group any particular narrative blames, each narrative protects believers from complicity. When extreme weather events, power outages, food and water supply issues, or pollution are interpreted as the result of the intentional, usually malicious actions of a powerful group, they must not be the result of a destructive fossil fuel-based system in which everybody participates. The solution is neither climate action nor individual behavioral change; the solution is to identify and stop the group in control.

This framework for interpreting the effects of climate change effectively allows believers to accept their lived experience of a changing climate while simultaneously placing blame on an external group. Scapegoating provides believers with a much simpler solution than systemic change—simply identify the bad apples and replace them. By scapegoating, believers can functionally justify the fossil fuel status quo which is causing climate change despite experiencing the consequences of climate change.

6.3.3 Spiritual Solutionism

One interesting theme which tied together seemingly unrelated conspiracy theories was spiritual solutionism. Regardless of whether the narratives feature the Earth shifting into a new universe, an Anunnaki alien princess warning of climate catastrophes (**Figure 24**), or language about "awakenings" and "spiritual warfare," their relationships to climate action are similar. While these narratives may present climate change as real (though often not anthropogenic), the solution they offer is one of internal contemplation and the spiritual unification of humanity. While this sounds lovely, it alone does not address any causes of climate change. Presenting spirituality as the solution to the climate crisis may address some of the anxiety of the climate crisis, but it may also discourage participation in solutions.

Spiritual solutionism seemingly allows for believers to experience anthropogenic climate change but attribute it to the actions of some higher power. This framework of interpretation functions as a reinforcement to the fossil fuel status quo. If the effects of climate change are attributed to an act of God, intergalactic energetic forces, or a shift into a higher dimension, then they must also be interpreted as beyond humanity's control. Not only do these conspiracy

theories appear to negate the role of fossil fuels in climate change, but they comprehensively reject the possibility for mitigative action through legislation. No international environmental policy, no matter how vast, could change the planet's fate as determined by God (or aliens or galactic rotations or lapses into parallel universes).



Figure 25: The account @aliensoul28 had 2.8 million followers at the time of its ban. It featured a selfproclaimed Anunnaki alien princess named Zhana who warned humanity of Earth's impending climate catastrophe caused by 24,000-year cataclysm cycles resulting from the Earth passing through "the near point of intergalactic interactions."

(Note: This video was uploaded on the account @allatra.tv.english, which is still active at the time of writing).

6.4 Conclusion

By and large, the climate change conspiracy discourse identified within this data set appears more interested in directing attention away from climate action than explicitly denying climate change. Notably, the ways in which these narratives dispute the need for both political climate action and individual behavioral change are numerous. Some promote fear and anxiety in response to green policies and infrastructure, others accept the experiences of climate change but place blame on near supernaturally powerful groups, and others promise salvation through spiritual growth, but they all remove the burden of climate action from the believers.

While they may not explicitly deny the existence of climate change, these conspiracy narratives act as a rhetorical device that enables believers to perceive climate through a framework in which they are not culpable, and thus their participation in addressing climate change is not required.

The thought experiments explored in this chapter reveal how interpreting climate change through a conspiratorial framework can allow people to experience anthropogenic climate change without requiring that they challenge the fossil fuel status quo. These frameworks provide an alternative means of interpreting the effects of climate change, outside the realm of climate science. In doing so, they provide alternative solutions (i.e., scapegoating, spiritual solutionism) that direct conversation away from the need for comprehensive climate action.

7. Discussion

The previous chapters examine the intersection between climate change and conspiracy theories on TikTok. As climate change increasingly becomes a feature of everyday life and recommendation algorithms like TikTok's facilitate the sharing of information in video format, it is crucial to understand these relationships and how they may interact with and eventually affect our material environments. In this chapter, I first reflect upon my findings and how they relate to existing literature in related fields. I then critically examine my choice of theoretical framework. And finally, I conclude with an extensive analysis of my methodology, its strengths, and its weaknesses.

7.1 Findings and existing research

My methodology and findings have significant implications for research on climate change misinformation in digital spaces, particularly regarding seemingly organic narratives. This research attempts to significantly expand scientific understanding of the relationships between climate change and conspiracy frameworks, as well as the functions these narratives serve in relation to the fossil fuel status quo and climate action.

7.1.1 Conspiracy frameworks of interpretation

In August 2022, the World Economic Forum published an article whose title begged the question, "Is climate denialism dead?" (Letzig, 2022). The article cites a decrease in climatedenying members of the U.S. Congress, an analysis of "right-leaning" U.K. newspaper editorials which found a stark decrease in climate denial (Gabbatiss et al., 2022), and a 2021 Eurobarometer survey that found that European citizens believe climate change is the most serious problem facing the world (European Commission, 2021). The article then speculates:

If denying there's a problem is no longer an option, and the argument you're left with is this isn't the right time to act, that may not exactly resonate when people are enduring unprecedented heatwaves, wildfires, and deadly floods linked to climate change.

This thesis is an attempt to explore the assumption within that statement. A common belief in discussions about climate change is that the only alternative option to climate denial is the embracement of progressive climate action. This assumption disregards the many gray areas that exist between denying a problem exists and supporting systemic change to address it. As this research demonstrates, just because people are experiencing climate change events does not necessarily mean they are interpreting them through a climate science framework. Accepting the reality of a changing climate does not inherently necessitate the acceptance of a

scientific approach for mitigation and adaptation. I have outlined numerous instances in which the effects of climate change are acknowledged and recognized as extreme. However, the explanations of these experiences (e.g., spiritual solutionism, scapegoating an outgroup) were formulated outside of a climate science framework.

In their 2017 article "Climate Change Conspiracy Theories," Uscinski, Douglas, and Lewandowsky write:

Conspiracy theories are one of only a few rhetorical devices that can counter the evidence demonstrating the existence of global climate change, since there is currently little scientific basis on which to dissent. In this way, conspiracy theories can act as a disruptive political mechanism: They can alter the grounds on which a debate is occurring. (p. 22)

Conspiracy frameworks of interpretation allow for the interpretation of climate change outside of a climate science framework. My findings affirm the research from Uscinski, Douglas, and Lewandowsky and demonstrate the multitude of ways in which conspiracy theories are currently altering the grounds on which climate discourse occurs. I found that climate change as it manifests in both the "natural world" (e.g., extreme weather) and in the social, political, and economic world (e.g., green technology or environmental policy) is being interpreted through a conspiracy framework. Regardless of which specific conspiracy narratives are involved, there is a trend of climate science rejection. The theories themselves vary; however, they regularly provide alternative explanations for a changing climate and society. These alternative explanations also provide alternative solutions, outside the realm of climate action, that do not require transitioning away from the fossil fuel economy.

In this way, conspiracy frameworks function as a discursive tool of delay. By reframing effects of and responses to climate change, these frameworks dispute the legitimacy of climate action. Within the major narratives discussed in this thesis, climate action ranged from either unnecessary or misguided to a component of a malevolent plan for world domination.

This is not to say these frameworks are intentional dismissals of climate science. They may be related to the overwhelming emotional experience of the climate crisis. Belief in conspiracy theories is positively associated with lower analytic thinking and higher intuitive thinking (Swami et al., 2014). High-anxiety situations, as well as the perception that society is under threat, have been found to increase conspiracy thinking (Grzesiak-Feldman, 2013; Jolley, Douglas, & Sutton, 2017; van Prooijen, 2020). Experiments have also found that a perceived lack of control, as well as uncertainty, increases people's belief in conspiracy theories (Whitson

& Galisky, 2008; Van Prooijen & Acker, 2015; Van Prooijen & Jostmann, 2013). Perceived lack of control also positively affects the degree to which people exaggerate the influence they attribute to their enemies (Sullivan, Landau, & Rothschild, 2010). High-anxiety situations, major societal changes, uncertainty, and a perceived lack of control are all features of the human experience of climate change.

According to Douglas, Sutton, and Cichocka (2017), people appear to be drawn to conspiracy theories by three major social psychological needs: *epistemic* (e.g., the desire for understanding and sense of certainty), *existential* (e.g., the want for control and security), and *social* (e.g., the desire to portray a positive image). Conspiracy theories meet emotional, psychological, and social needs for many humans—needs which may be amplified by the existential threat and future uncertainty created by climate change.

Briefly returning to the assumption that as climate change becomes increasingly apparent, people will accept climate science—it is not evident that is universally true. A TikTok posted by *The Australian* on November 14, 2022, highlights this precise phenomenon. The newspaper shared footage of water spilling over the Wyangala Dam while text on screen read, "Scenes in Australia right now as parts of the country experience devastating flooding." In the comments section, it was clear that the footage of extreme weather was not universally being interpreted through a climate science framework. Instead, many commenters attributed the heavy rainfall to "cloud seeding" and "weather manipulation." While cloud seeding is a technique that has been used for decades, there is no evidence that it is contributing to extreme weather events like these floods (Silva, 2022). Instead, scientists attribute the increase in extreme flood events overwhelmingly to anthropogenic climate change. By attributing floods to governmental weather manipulation, people can experience climate change while simultaneously dismissing its existence.

| | That's what happens when your government carries out cloud seeding and haarp manipulation | | |
|---|---|-------|----------|
| | 12h Reply | ♡ 54 | ∇ |
| | View 6 replies \checkmark | | |
| | | | |
| | I can still see the cloud seeding planes | | - |
| | 18h Reply | ♥ 29 | 4JU |
| _ | View 12 replies V | | |
| | Cloud seeding | | |
| | 18h Reply | ♡ 158 | ∇ |
| | View 49 replies V | | |
| | | | |
| | Im here for the cloud seeding comments | | |
| | 18h Reply | ♡ 132 | ∇ |
| | View 47 replies V | | |
| | | | |
| 0 | cloud seeding someone seriously needs to get rid of this govrnment | ~ | Ē |
| | 17h Reply | 98 | ςµ |
| | View 28 replies 🗸 | | |
| - | | | |
| - | cloud seeding seems to be working | C 245 | |
| | | V 245 | ~ |
| | area of repres a | | |
| | Yeah tall the government to step cloud seeding at a a | | |
| | 12h Reply | ♥ 212 | ∇ |
| | View 43 replies ∽ | | |

Figure 26: A compilation of TikTok comments interpreting floods in Australia as the result of cloud seeding. Source: author, November 2022.

This example highlights the findings of this thesis and disputes the assumption that climate change will definitively become self-evident. Belief does not appear to function within a realnot-real binary. Conspiracy beliefs are dynamic and can be held simultaneously alongside other contradictory beliefs (Wood, Douglas, & Sutton, 2012). Thus, it is possible that conspiracy theories may remain, as Uscinski, Douglas, and Lewandowsky say, "one of only a few rhetorical devices that can counter the evidence demonstrating the existence of global climate change" (p. 22).

7.1.2 Soft climate denial

A large amount of existing literature details the efforts of what has been called the "denial machine." This term describes the organized disinformation campaign that capitalized on complexities and uncertainties related to anthropogenic climate change to generate skepticism

and denial concerning its existence and severity (Dunlap, 2013). Since the late 1980s, a loose coalition of industrial interests and conservative think tanks employed a range of tactics with the primary goal being to "manufacture uncertainty" over anthropogenic climate change (Oreskes & Conway, 2010; Dunlap, 2013).

Recent quantitative research has found that overt climate change denialism is decreasing, with criticisms of policy and conspiracy theories increasingly emerging within broader discourse (Coan et al., 2021; Logically, 2021). The qualitative findings of my thesis align with this research. This is not to say that the denial machine is dead but rather that it is evolving. As outright denial of the physical evidence of climate change becomes increasingly arduous, the fossil fuel industry has shifted to promote a "softer form of denialism," promoting distraction and delaying discourse while simultaneously deepening global dependence on fossil fuel infrastructure (Mann, 2021).

A 2022 content analysis of European fossil fuel producers', car manufacturers', and airline companies' social media discourse, to which I contributed, supports the evidence of this shift. Textual and visual content analysis over 2,325 organic social media posts generated by 22 major companies found an overwhelming amount of "climate silence," as only 6 of the 2,323 (0.3% of all posts) made explicit reference to "climate (change)" or "global warming" (Supran & Hickey, 2022). The analysis also confirmed the absence of rhetoric that outright denied the existence of climate change, with 0% of posts claiming that global warming was not real or not human-caused or that the climate movement/science is unreliable. In place of outright denial, more-subtle practices of greenwashing and misdirection have emerged, with two-thirds of oil and gas companies painting a "Green Innovation' narrative sheen on their 'Business-as-usual' operations" (Supran & Hickey, 2022, p. 3). Similarly, a 2020 analysis of fossil fuel advocacy organizations' pro-fossil-fuel narratives found that the organizations are positioning the fossil fuel industry as part of the solution to climate change (Struthoff, 2021). A 2017 analysis found that the oil and gas industry employed rhetoric regarding scientific progress, environmental protection, and sustainability to frame fracking in a positive light (Scanlan, 2017). Additionally, a qualitative analysis of Australian fossil fuel discourse found that industry communications were increasingly likely to acknowledge climate change as a real and urgent threat and to position themselves as having the capacity to provide solutions to climate change (Wright, Nyberg, & Bowden, 2021).

While existing research into oil and gas industry climate-related messaging is a crucial component of understanding barriers to climate action, this research inherently focuses on a top-down formation of discourse. Analysis of content created by advocacy organizations and major polluters presents valuable insight into the intentional messaging created by the marketing teams that represent powerful institutions. However, this top-down analysis cannot

explain organic climate discourse shaped by individuals often without explicit intent to misinform or promote any particular industry. Thus, by seeking out organic content, unaffiliated with the corporations and organizations invested in the fossil fuel status quo, this thesis contributes to the literature investigating bottom-up climate discourse.

7.1.3 Conspiracy theories are interacting with climate change

My findings demonstrate that conspiracy theories are interacting with climate change both as a physical phenomenon as well as a socially constructed idea. Beyond simply disputing the existence of climate change, the narratives are notably incorporating the effects of and responses to climate change. From fake snow conspiracy theories to the Great Reset narratives, climate change both as a lived reality and as an abstract concept is shaping conspiracy discourse. Consider, for instance, the portion of the "Look up!!!" video discussed in the previous chapter during which the creator says, "Wow, a double rainbow! Watch this video and tell me we don't live in a firmament." While this New-Earth-meets-flat-Earth conspiracy theory may initially appear unrelated to climate change, research has found that climate change is likely to generate a net increase in global annual rainbows (Carlson et al., 2022). Of course, it is difficult to attribute a singular occurrence of a double rainbow to climate change, but it is worth understanding these interactions between the so-called natural world and the digital realm of conspiracy discourse. This video insisting that people "look up" was posted four months before any peer-reviewed research on rainbow increases was published. It is possible that conspiracy theories may provide explanations for some climate change events faster than the scientific world can, and potentially to a broader audience than the scientific community will reach.

Climate change will increasingly affect systems ranging from the ecological to the social (IPCC, 2022). Therefore, it is imperative to understand its interactions with conspiracy discourse before the problems escalate. Additionally, it is crucial to consider conspiracy theories as a mechanism for interpreting the climate crisis, a mechanism which may, in some instances, address effects of climate change before academia can.

7.1.4 Broadened scope

By focusing instead on any interaction between climate and conspiracy theories, rather than simply conspiracy theories that deny the existence of climate change, this research paints a picture of a wider landscape. By expanding my research parameters to include any socioecological conspiracy narratives, I produced a data set of climate change conspiracy theories which overwhelmingly excluded the term "climate change." I was then able to identify six major themes within this broader discourse.
In this thesis, I significantly broadened the scope of "climate change conspiracy theory" compared to previous research. Douglas and Sutton (2015) identify four popular climate change conspiracy themes, Tyagi and Carley (2021) identify seven, and Logically (2021) describes two. While six of Tyagi and Carley's seven narratives (all but sunspots) were present in my data set, components of Douglas and Sutton's (2015) themes were present but rarely explicitly stated.

| Source | Climate Change Conspiracy Theory Narratives |
|------------------------------|---|
| Douglas and Sutton (2015) | "Scientists are making it up for political reasons." "Scientists are making it up to get research funding." "Global warming is a green scam." "Global warming is an attempt to promote nuclear power." |
| Tyagi and Carley (2021) | "Deep state: Followers of this conspiracy theory agree that there is a hidden government within the legitimately elected government that controls the state. Climate change is a hidden agenda of the deep state to further the deep state's motives." |
| | "Chem Trails: The condensation trails from the jet engines of an aircraft are erroneously recognized as consisting of chemical or biological agents. The theory posits that these trails are responsible for climate change." |
| | "Sunspots: Sunspots are a temporary phenomenon of reduced temperature on the Sun's surface. This theory asserts that sunspots and not human activity are causing climate change." |
| | "Directed Energy Weapon (DEW): A human-made weapon that damages its target by a highly focussed beam of energy. As per the proponents of this theory, the usage of DEWs is causing climate change." |
| | "Flat Earth: Advocates of this conspiracy theory do not believe that the earth is a sphere but rather believe that the earth is a flat disc. Climate is hence not governed by the standard scientific laws, and climate change is a |

| | hoax." |
|---------------------|--|
| | "Geo Engineering: Enthusiasts of this conspiracy theory believe that governmental experiments cause climate change." |
| | "Unknown Planet: A ninth planet with a vast orbit and unknown to humanity is causing climate change. The effect of the planet will keep on increasing as it goes through its perigee." |
| Logically (2021) | The Great Reset: " climate change is invented or exaggerated to impose a coercive agenda on the world's population" |
| | Arson: " attributing the [wild]fires to arson by the anti-fascist groups, collectively referred to as Antifa." |

Table 6: Climate change conspiracy narratives previously identified in literature review.

The differing nature of the narratives identified in existing literature versus my research may speak to the ephemeral nature of climate change conspiracy narratives. For instance, the conspiracy narrative which attributed wildfires to arson by anti-fascist action groups, collectively referred to as "antifa," gained moderate traction in the summer of 2020 (Logically, 2021) but was not present in the data set. While Great Reset narratives were popular in my data set, they have been present only since the WEF launched the initiative in 2020. Conspiracy theories are discourse created within existing sociopolitical environments. It follows that popular narratives will ebb and flow with the larger cultural zeitgeist.

Douglas and Sutton could not have predicted the Great Reset or climate lockdown conspiracies in 2015, as both were built around rhetoric unique to the COVID-19 pandemic in 2020. No one can accurately predict which components of climate change will contribute to the most conspiracy theories or which future sociopolitical circumstances they might interact with. It is a reasonable assumption that the narrative and themes identified in this thesis merely represent a snapshot of a current moment in climate conspiracy discourse. Many if not all of the specific narratives or themes identified in this paper will lose popularity with time. However, understanding them as they relate to cause, significance, effect, or response may be a more enduring tool for researching this phenomenon. Analyzing conspiracy theories as they relate to climate change may lessen the need to persistently redefine "climate change conspiracy theories" every couple of years. Climate change conspiracy narratives themselves will continue to change, but they will likely still fit into this framework. It is my hope that adding a static element to this area of study will create more opportunity for more nuanced future research.

7.1.5 Social media research

Research into climate change misinformation and conspiracy theories on social media has been largely limited to text-based platforms like Twitter (e.g., Tyagi & Carley, 2021; Al-Rawi et al., 2021; Samantray & Pin, 2019; Tingley & Wagner, 2017). This is because platform-wide quantitative data is more accessible on text-based platforms, particularly those which grant special access to researchers. Additionally, the emergence of short-form video content is relatively new. While Vine popularized short-form content starting in 2012, the platform limited videos to six seconds. Significantly less information (regardless of accuracy) fits in six seconds compared to the TikTok videos in this data set. Now, the short-form content features that first defined TikTok are built into Twitter, YouTube, Facebook, and Instagram's platform architecture as well.

Video content has been largely overlooked within this realm of study. A 2020 overview entitled "Online Misinformation About Climate Change" (Treen, Williams, & O'Neill, 2020), while comprehensive, includes zero instances of climate change misinformation occurring in a video format. The overview states that most empirical research on misinformation uses data from Facebook and, more frequently, Twitter and cites some research into online forums like Reddit. The article excludes any mentions of YouTube, TikTok (or ByteDance), Snapchat, Instagram, Vine, or Pinterest—all platforms which prominently feature visual components.

While research into the spread of misinformation via video is more established in other scientific fields, such as public health (Tam, Porter, & Lee, 2022; Chen, Garden, & Sebaratnam, 2021; Xu et al., 2021; Basch et al., 2021; Donzelli et al., 2018), I could not identify any existing studies which focused on video-based climate conspiracy discourse. It is crucial to research and understand the ways in which climate mis- and disinformation are communicated via social media video content. This research is difficult to carry out compared to text-based research, but it is increasingly important. The share of U.S. adults who report regularly getting news from TikTok roughly tripled, from 3% in 2020 to 10% in 2022. As more people turn to short-form video content for information about current events, it is imperative that comprehensive research into these mediums is expanded as well.

7.2 Theory reflection

Having reflected on my findings within the context of existing literature, at this point in the discussion, I turn to the theoretical concepts I employed. Rather than utilizing one singular

theoretical framework, I chose to bring interdisciplinary concepts together to interpret my findings. I merged concepts of discursive power, social psychology, environmental governance, and social media studies under the theoretical umbrella of political ecology. In this section, I reflect on my use of a political ecology theoretical framework.

Political ecology studies the relationships that political, social, and economic spheres have with the biological, geological, and physical systems that compose our world. I structured my interpretation of climate using aspects from "The Political Ecology of Climate Change Adaptation" (Taylor, 2015). Taylor's criticism of the depiction of climate change as an external force which acts upon society was central to my definition of "climate change conspiracy theories." Climate change is not an external force to which humans must adapt; rather, it is "co-produced" in ongoing and unequal ways (p. 42). Taylor's framing of climate-society co-production as well as his criticisms of climate science as an abstract and sterilized construct aided my understanding of the human experience of climate change.

In researching the relationships between conspiracy theories and climate change, it was my intent to shed light on this particular interaction between climate and society. The ways in which people interpret climate change are political. The frameworks we choose, consciously or unconsciously, are a means of enacting power upon climate and society. The conspiracy theory frameworks of climate interpretation communicated via TikTok's platform demonstrate the complex interactions between the meteorological forces, social organization, technological infrastructure, and discursive frameworks. Political ecology conceives of the world as an interconnected web in which systems, actors, and objects are constantly affecting each other. This framework lends itself well to the environmental study of social media, which can be understood as a space, constructed by technology and society, where discourse is shaped and reiterated.

The conspiracy discourse described in this thesis highlights the interdependent nature of "climate" and "society." While I separated conspiracy theories as relating to cause, significance, effect, and response, these frames are not mutually exclusive; they are inherently interactive. Even conspiracy narratives surrounding the effects of climate change can rarely, if ever, be understood as exclusively due to the external forces of climate. For example, a conspiracy theory about a heat wave cannot be removed from the societal factors which exacerbate the heat wave's effects (e.g., urban heat islands, access to air-conditioned spaces, infrastructural heat resiliency). Social, political, and economic powers shape who experiences climate change, as well as how they experience it. It is these interactions that then produce conspiracy discourse.

To support a political ecology framework, I chose to incorporate system justification theory, borrowed from the field of social psychology. System justification theory posits that our assessments of social systems and institutions are influenced by epistemic, existential, and social needs (Feygina, Jost, & Goldsmith, 2009; Jolley, Douglas, & Sutton, 2017). To fully acknowledge the problem of anthropogenic climate change is to admit that the status quo is not entirely functional or beneficial. Thus, climate change denial and resistance to climate action are linked to the motivational tendency to defend and justify the status quo (Uscinski, Douglas, & Lewandowsky, 2017).

System justification theory bolsters this research's understanding of the interconnectivity between climate and society. The desire to perceive our systems as legitimate is a motivating factor behind conspiracy theories *and* climate denial. Therefore, I wanted to explore the role of system justification when applied to a set of climate change conspiracy theories beyond the denial framework. By utilizing this theoretical lens within the broader context of political ecology, I was able to delve into specific beliefs and consider their relationship to the fossil fuel status quo. This facilitated a thought experiment through which I could investigate possible implications of these beliefs for climate action, thus contextualizing abstract discourse on TikTok in a socio-ecological context.

7.3 Methodology

The methodology I created and employed for this thesis allowed me to conduct an in-depth and wholly unique analysis of climate change conspiracy theories on TikTok. This innovative research design resulted in a fascinating data set; however, it is not without limitations. In this final sub-chapter, I reflect on the methodology I used regarding both the collection and analysis of my data.

7.3.1 Collection

The exploratory research methodology resulted in the collection of 96 climate change-related conspiracy TikTok videos that contained a broad array of narratives. Previous research into climate change discourse on TikTok largely utilized hashtag analysis (e.g., Basch, Yalamanchili, & Fera, 2022; Grosche, 2022; Hautea et al., 2021). Hashtag analysis is useful particularly as a starting point, but it inherently limits the scope of the research to content posted by users interested in addressing the topic. Limiting a search for climate misinformation exclusively to the hashtag "climatechange" introduces bias toward users who understand the concept of climate change and are interested in discussing it. Additionally, it excludes videos on the same topic without the same, or any, hashtags. While I used some hashtag searches in finding videos, I was not limited by them. This allowed me to find videos which contained elements of climate change discourse without necessarily having that intent.

My video collection was an exercise in curiosity. I began by exploring popular conspiracy hashtags for overlap with socio-ecological elements, then expanded to search previously identified climate conspiracies such as those described by Tyagi and Carley (2021). However, after this period, I gathered videos fed to my FYP by TikTok's recommendation algorithm. This allowed me to discover more niche videos with fewer views than those at the top of hashtag searches. Furthermore, it introduced me to new hashtags and accounts that I could explore for further content. By defining my video collection parameters by audio, textual, or visual content rather than by key term or hashtag, I was able to discover a wide array of conspiracy narratives. Additionally, as this data set exclusively included organic TikTok content rather than content produced by known climate change-denying organizations or media outlets, my research was not designed around traditional left/right partisan divides.

This methodology is intrinsically inconsistent, but that is not necessarily a disadvantage. It employs a recommendation algorithm that is unique to a user's location, account history, and other unknown factors. Beyond that, however, the algorithm is responding to precise details of the user experience that make exact replication by another human impossible. The time it takes one researcher to decide whether to keep watching or to scroll past a video is unique to that researcher. Watch time is a major component in how the algorithm determines which video to show a user next, making it virtually impossible to replicate the findings of another researcher. However, it also ensures that other researchers, or even the same researcher at a different time, will discover other fascinating content while exploring.

Results are unique to the researcher and therefore cannot be interpreted as an objective scrape of data in the same way that analyzing a hashtag can be. However, this methodology also is a much more accurate representation of how humans use the platform. Most TikTok users do not regularly search a specific hashtag and then proceed to watch the most popular videos ever posted with that particular tag. Instead, TikTok provides users with an endless feed of video content uniquely tailored to their digital imprint, which users may watch, scroll past, comment on, share with friends, or repost. A user might be shown a video from an account they have never seen before and then spend time exploring the videos on that account. Alternatively, a user might encounter an audio and then spend time watching popular videos with that sound. My methodology mimics the user experience and therefore provides a snapshot in time of the content one user may be exposed to. In this sense, the resulting data set provides much more nuanced insight into the discourse on a user's feed than term-defined methodologies.

Of course, this methodology is not without drawbacks. First and foremost, it cannot be separated from bias. I chose specific conspiracy theories which I initially explored. I chose, in the moment, whether to engage with specific videos. Not only were my decisions impacted by

my existing understanding of both TikTok and conspiracy theories, but they were also susceptible to unconscious biases. Consider just the first second of a TikTok video fed to a researcher's feed. The researcher processes text on any screen and words spoken, but the researcher may also be exposed to a human. Has that researcher seen that person before? What is the gender of the person? What is the race of the person? Do they have an accent different from the researcher's? Do they seem trustworthy? Within the countless points of information contained in the first second of a video, there are equally countless opportunities for biases to impact the researcher's decision to continue watching the video or potentially go explore the account.

Furthermore, as this methodology provides a snapshot of one particular user's feed, it can potentially overlook major narratives that it did not encounter. The narratives I highlighted were prominent in my data set; however, they cannot be said to represent all climate change conspiracy theory content on TikTok. It is likely that videos which contained narratives that would be deemed relevant by the parameters of this study were excluded simply because they were never fed to my FYP.

This research method is time intensive and requires extensive knowledge of the digital communities and cultures of focus. For instance, without my existing understanding of conspiracy communities on TikTok, I likely would not have understood coded language (e.g., a heavily emphasized "them" or "they," "awake," "looking glass"). This research method also requires a deep understanding of TikTok's platform and how various cultures use it. Existing community and platform knowledge aside, scrolling through hundreds or even thousands of individual TikToks, looking for ones that fit research parameters, takes a lot of time.

Finally, this practice may cause psychological harm, particularly if researchers are investigating communities with high volumes of misinformation, hateful or violent rhetoric, or otherwise toxic content. In some ways, this methodology mirrors the work of content moderation, which can lead to lasting psychological and emotional distress (Pinchevski, 2022; Steiger et al., 2021; Benjelloun & Otheman, 2020). Experiences of researchers and moderators indicate that prolonged and repeated exposure to disturbing content can have severe consequences. My experience conducting this and past research parallels others' experiences. While this research included no violent images, I would still assert I was overexposed to footage of natural disasters as well as misinformation. I would strongly advise against conducting this research without taking extreme caution. Any institution that engages in this methodology without providing extensive mental and emotional support systems for the researchers involved might be recklessly endangering their employees.

7.3.2 Analysis

My intention while coding all videos was simply to identify the myriad of climate and conspiracy narratives within the data set. For this reason, I prioritized qualitative over quantitative data, frequently opting to highlight individual videos which were particularly popular. Because of the nature of my methodology, statements like "x% of the videos mentioned the chemtrails conspiracy theory" do not carry much weight. Instead, I chose to highlight prominent and interesting themes, a selection process that was undoubtedly influenced by my own existing knowledge and beliefs.

My previous research conducting large-scale content analysis using an exploratory framework used a double-blind coding system (Little & Richards, 2021b). As I was the sole researcher involved in this project, double-blind coding was inaccessible to me. However, I would recommend that future qualitative research into TikTok content also implement this method to mitigate problems of biases and human error in content analysis.

The broadened definition of "climate change conspiracy theory" which I applied to the content during collection, coding, and analysis resulted in an expansion of narratives for research. However, this broadened definition was used experimentally and may not fit for other settings. In particular, I would warn against labeling believers of these narratives as "climate deniers" or "climate change conspiracy theorists." My research aims only to examine the narratives themselves, not the believers. While I conducted a thought experiment attempting to understand the relationship between certain themes and climate action, my outcomes are not definitively accurate representations of all the believers of any given conspiracy theory.

8. Conclusion

This thesis approached climate change conspiracy discourse on TikTok with curiosity. In doing so, I was able to explore the ways in which the politics and experiences of climate change are interacting with conspiracy theories on the social media platform. I investigated a snapshot of climate change conspiracy discourse, identified major themes, and interrogated the meaning of these beliefs within the context of climate action.

By employing a unique research methodology as well as an expanded definition of "climate change conspiracy theory," I analyzed 96 TikTok videos and identified popular narratives on an under-researched platform. I sorted these narratives into prominent themes, examining antioil conspiracy theories, weather manipulation narratives, narratives that demonstrate fear of a "green agenda," supply control conspiracy theories, scientific rejection, and themes of apocalypse. I presented these themes not as static beliefs but instead as a representation of a moment in climate conspiracy discourse.

With the goal of creating a framework for understanding climate change conspiracy theories beyond the individual themes currently popular, I then examined the narratives' relationships to climate change. I found that the conspiracy theories non-exclusively related to climate change in cause, significance, effect, and response. Likely due to the broadened scope of conspiracy theories I collected, the narratives in my data set largely related to effects of and responses to climate change. By applying system justification theory to the conspiracy themes identified, I examined the conspiracy narratives' relationship to support for climate action. I found that these narratives provided users with a framework for experiencing and processing climate change outside of a climate science framework. Furthermore, most of these conspiracy narratives implicitly rejected the need for climate action and frequently offered alternative solutions to climate change such as scapegoating or spiritual solutionism.

Using a political ecology framework to interpret this phenomenon within a socio-ecological context, I identified the implementation of conspiracy frameworks as means of interpreting climate change outside of the scope of climate science. These frameworks allow for the lived experience of anthropogenic climate change to coexist while still justifying a societal dependence on fossil fuels. In this sense, these frameworks serve as extensions of traditional climate denialism.

As climate change continues to impact society to increasingly devastating degrees, causing feelings of existential threat, conspiracy frameworks of interpretation may become a means of sense-making. These frameworks may provide meaning and certainty in the face of an

existential threat while simultaneously relieving believers' feelings of complicity and responsibility. Furthermore, the tendency of the conspiracy narratives in the data set to blame environmental problems on an out-group is extremely concerning, both for the implications for support of climate action as well as for potential harm to vulnerable groups. Conspiratorial scapegoating during moments of societal crisis has historically been a motivating factor for violence committed by individuals as well as by state governments.

Further research into sources of these climate change conspiracy narratives could provide useful insight for addressing them. Doing so could help us better understand which conspiracy theories are catalyzed by powerful individuals, media institutions, or organizations and which conspiracy theories are organically created and spread largely by the public. These top-down versus bottom-up narratives may likely necessitate different styles of intervention. Additional research into the bottom-up conspiracy narratives may illuminate further psychological motivating factors for belief. This information could provide insight into assumptions and oversights in climate communication strategies which may be leaving many people in the dark, turning to conspiracy theories to make sense of the climate crisis.

Improving climate literacy is an essential component of social resiliency. Without the tools to accurately interpret the climate crisis through a scientific framework, it should be anticipated that conspiracy theory frameworks of interpretation will thrive. Access to accurate information about climate change on local, regional, and global levels must be considered a right, rather than a privilege only accessible to those who can afford information behind paywalls. Setting up this infrastructure now is an imperative measure of resiliency in the face of climate change.

Additionally, exploration of alternative frames of climate communication could potentially mitigate the popularity of conspiracy theories. Alternative frameworks of interpretation, other than climate science or conspiracy, could also potentially provide meaning, empowerment, and community for people experiencing the climate crisis. Climate science simply may not be the best way to help all people understand the climate crisis. Further research could explore alternative frameworks which still support a larger goal of climate literacy while also acknowledging the validity of some communities' distrust in scientific institutions. Alternative frameworks could also potentially better respond to differences in education, socio-economic background, belief systems, cultures, and styles of thinking.

TikTok evidently is host to a thriving conspiracy culture. This is likely due to some combination of TikTok's platform design and the broader cultural zeitgeist of the present moment. Conspiracy theories are a fundamentally human phenomenon and will likely persist alongside civilization. However, beliefs that cause harm, like those that target vulnerable groups or negate support for climate action, should still be mitigated and not algorithmically

amplified. At the moment of writing, TikTok's Community Guidelines have no mention of "climate change" or "climate change misinformation." While Pinterest and YouTube have adopted expert-informed definitions of climate misinformation, TikTok still has not (Greenpeace, 2022). TikTok should establish and enforce policies to reduce climate change misinformation on its platform, including via its recommendation algorithm that may amplify climate conspiracy narratives. Furthermore, the company should provide insight into the scale of climate change misinformation on its platform and disclose information regarding internal mitigation efforts.

TikTok's unique design as well as its popularity have created an opportunity for the company to become a leader in the climate literacy space. The platform could support the creation and amplification of content aimed at promoting climate literacy and increasing users' resiliency to misinformation during a crisis. Additionally, TikTok should be prepared for the influx of misinformation during extreme weather events, working with scientists and science communicators around the world to fill information vacuums before conspiracy theories do. Short-form social video can be a component of building psychological and emotional resiliency to the effects of climate change. In particular, the medium allows for the promotion of accurate climate information on local and regional scales—a missing component of climate communication at the moment. TikTok could become a leader in the climate literacy space, providing they invest in the necessary infrastructure.

References

- Al-Rawi, A., O'Keefe, D., Kane, O., & Bizimana, A.-J. (2021). Twitter's fake news discourses around climate change and global warming. *Frontiers in Communication*, 6. https://doi.org/10.3389/fcomm.2021.729818
- Basch, C. H., Meleo-Erwin, Z., Fera, J., Jaime, C., & Basch, C. E. (2021). A global pandemic in the time of viral memes: COVID-19 vaccine misinformation and disinformation on TikTok. *Human Vaccines & Immunotherapeutics*, 17(8), 2373–2377. https://doi.org/10.1080/21645515.2021.1894896
- Basch, C. H., Yalamanchili, B., & Fera, J. (2021). #climate change on TikTok: A content analysis of videos. *Journal of Community Health*, 47(1), 163–167. https://doi.org/10.1007/s10900-021-01031-x
- Benjelloun, R., & Otheman, Y. (2020). Psychological distress in a social media content moderator: A case report. Archives of Psychiatry and Mental Health, 4(1), 073–075. https://doi.org/10.29328/journal.apmh.1001024
- Biddlestone, M., Azevedo, F., & van der Linden, S. (2022). Climate of conspiracy: A metaanalysis of the consequences of belief in conspiracy theories about climate change. *Current Opinion in Psychology*, 46, 101390. https://doi.org/10.1016/j.copsyc.2022.101390
- Carlson, K. M., Mora, C., Xu, J., Setter, R. O., Harangody, M., Franklin, E. C., Kantar, M.
 B., Lucas, M., Menzo, Z. M., Spirandelli, D., Schanzenbach, D., Courtlandt Warr, C.,
 Wong, A. E., & Businger, S. (2022). Global Rainbow Distribution under current and
 future climates. *Global Environmental Change*, 77, 102604.
 https://doi.org/10.1016/j.gloenvcha.2022.102604
- Chen, M. K., Garden, F., & Sebaratnam, D. F. (2021). Isotretinoin on TikTok[™]: Misinformation getting under Our skin. *Clinical and Experimental Dermatology*, 46(8), 1606–1607. https://doi.org/10.1111/ced.14810
- Coan, T. G., Boussalis, C., Cook, J., & Nanko, M. O. (2021). Computer-assisted classification of contrarian claims about climate change. *Scientific Reports*, 11(1). https://doi.org/10.1038/s41598-021-01714-4
- Cohen, J., Agel, L., Barlow, M., Garfinkel, C. I., & White, I. (2021). Linking arctic variability and change with extreme winter weather in the United States. *Science*, 373(6559), 1116–1121. https://doi.org/10.1126/science.abi9167
- Connelly, L. (2022). How to prepare an Ethical Review Board Committee application for an online research project. SAGE Research Methods . https://doi.org/10.4135/9781529607888
- Cook, J. (2017). Understanding and countering climate science denial. *Journal & Proceedings of the Royal Society of New South Wales*, 150(2), 207–219.

- Cook, J. (2020). Deconstructing climate science denial. Edward Elgar Research Handbook in Communicating Climate Change., 62–78. https://doi.org/10.4337/9781789900408.00014
- Cook, J. (2020). Deconstructing climate science denial. *Research Handbook on Communicating Climate Change*, 62–78. https://doi.org/10.4337/9781789900408.00014
- Cook, J., Supran, G., Lewandowsky, S., Oreskes, N., & Maibach, E. (2019). (rep.). America Misled: How the fossil fuel industry deliberately misled Americans about climate change. Fairfax, VA: George Mason University Center for Climate Change Communication. Retrieved from

https://www.climatechangecommunication.org/america-misled/.

- Daggett, C. (2018). Petro-masculinity: Fossil Fuels and authoritarian desire. *Millennium: Journal of International Studies*, 47(1), 25–44. https://doi.org/10.1177/0305829818775817
- Dapcevich, M. (2021, June 3). *Bill Gates releasing genetically modified mosquitoes in Florida? Here's the Whole Story*. Snopes. Retrieved December 7, 2022, from https://www.snopes.com/fact-check/bill-gates-release-gmo-mosquitoes/
- Diethelm, P., & McKee, M. (2009). Denialism: What is it and how should scientists respond? *The European Journal of Public Health*, 19(1), 2–4. https://doi.org/10.1093/eurpub/ckn139
- Donzelli, G., Palomba, G., Federigi, I., Aquino, F., Cioni, L., Verani, M., Carducci, A., & Lopalco, P. (2018). Misinformation on vaccination: A quantitative analysis of YouTube videos. *Human Vaccines & Immunotherapeutics*, 14(7), 1654–1659. https://doi.org/10.1080/21645515.2018.1454572
- Douglas, K. M. (2021). Are conspiracy theories harmless? *The Spanish Journal of Psychology*, 24. https://doi.org/10.1017/sjp.2021.10
- Douglas, K. M., & Sutton, R. M. (2015). Climate change: Why the conspiracy theories are dangerous. *Bulletin of the Atomic Scientists*, 71(2), 98–106. https://doi.org/10.1177/0096340215571908
- Douglas, K. M., Sutton, R. M., & Cichocka, A. (2017). The psychology of conspiracy theories. *Current Directions in Psychological Science*, 26(6), 538–542. https://doi.org/10.1177/0963721417718261
- Douglas, K. M., Uscinski, J. E., Sutton, R. M., Cichocka, A., Nefes, T., Ang, C. S., & Deravi, F. (2019). Understanding conspiracy theories. *Political Psychology*, 40(S1), 3–35. https://doi.org/10.1111/pops.12568
- Dow, B. J., Johnson, A. L., Wang, C. S., Whitson, J., & Menon, T. (2021). The COVID-19 pandemic and the search for structure: Social Media and Conspiracy Theories. *Social* and Personality Psychology Compass, 15(9). https://doi.org/10.1111/spc3.12636

- Dunlap, R. E. (2013). Climate change skepticism and denial. *American Behavioral Scientist*, 57(6), 691–698. https://doi.org/10.1177/0002764213477097
- Dunlap, R. E., & McCright, A. M. (2010). Climate change denial: Sources, actors and Strategies. *Routledge Handbook of Climate Change and Society*, 240–259. https://doi.org/10.4324/9780203876213-27
- European Commission. (2021, July 5). Eurobarometer Survey: Europeans consider climate change to be the most serious problem facing the world. Retrieved from https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3156.
- Feygina, I., Jost, J. T., & Goldsmith, R. E. (2009). System justification, the denial of global warming, and the possibility of "system-sanctioned change." *Personality and Social Psychology Bulletin*, 36(3), 326–338. https://doi.org/10.1177/0146167209351435
- Franta, B. (2021). Early oil industry disinformation on global warming. *Environmental Politics*, *30*(4), 663–668. https://doi.org/10.1080/09644016.2020.1863703
- Gabbatiss, J., Prater, T., Goodman, J., & Hayes, S. (2022, April). *Analysis: How UK newspapers changed their minds about climate change*. Carbon Brief Interactive. Retrieved November 3, 2022, from https://interactive.carbonbrief.org/how-uknewspapers-changed-minds-climate-change/
- *Global tiktok user age and Gender Distribution 2022.* Statista. (2022, November 14). Retrieved November 19, 2022, from

https://www.statista.com/statistics/1299771/tiktok-global-user-age-distribution/

- Greenspan, R. E. (2021, February 28). Tiktokers are trying to prove that snow in Texas is 'fake,' pushing a false conspiracy theory. Insider. Retrieved April 10, 2022, from https://www.insider.com/fake-texas-snow-not-melting-tiktok-conspiracy-theory-2021-2
- Grosche, J. (2022). Climate Change on TikTok: Investigating the Impact of Viral Videos about Climate Change on Adults (thesis). Lund University Centre for Sustainability Studies, Lund.
- Grzesiak-Feldman, M. (2013). The effect of high-anxiety situations on conspiracy thinking. *Current Psychology*, *32*(1), 100–118. https://doi.org/10.1007/s12144-013-9165-6
- Hautea, S., Parks, P., Takahashi, B., & Zeng, J. (2021). Showing they care (or don't): Affective publics and ambivalent climate activism on TikTok. *Social Media* + *Society*, 7(2), 205630512110123. https://doi.org/10.1177/20563051211012344
- Hulme, M. (2007). Geographical work at the boundaries of climate change. *Transactions of the Institute of British Geographers*, *33*(1), 5–11. https://doi.org/10.1111/j.1475-5661.2007.00289.x
- Häkkinen, K., & Akrami, N. (2014). Ideology and climate change denial. *Personality and Individual Differences*, 70, 62–65. https://doi.org/10.1016/j.paid.2014.06.030

- In the dark: How social media companies' climate disinformation problem is hidden from the public. Greenpeace USA. (2022, April 21). Retrieved November 17, 2022, from https://www.greenpeace.org/usa/reports/in-the-dark/
- Ingold, T. (2000). Making things, growing plants, raising animals and bringing up children.
 In *The perception of the environment: Essays on livelihood, dwelling and Skill* (pp. 77–88). essay, Routledege.
- Inhofe, J. M. (2012). *The greatest hoax: How the global warming conspiracy threatens your future*. WND Books.
- IPCC, 2022: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp., doi:10.1017/9781009325844.
- Jacobs, B. (2022, November 2). *Ley lines: The UK's mysterious Ancient Pathways*. BBC Culture. Retrieved December 7, 2022, from https://www.bbc.com/culture/article/20221102-englands-mysterious-ancientpathways
- Jasinskaja-Lahti, I., & Jetten, J. (2019). Unpacking the relationship between religiosity and conspiracy beliefs in Australia. *British Journal of Social Psychology*, 58(4), 938–954. https://doi.org/10.1111/bjso.12314
- Jolley, D., & Douglas, K. M. (2015). The social consequences of conspiracism: Exposure to conspiracy theories decreases intentions to engage in politics and to reduce one's carbon footprint. *British Journal of Psychology*, 105(1), 35–56. https://doi.org/10.1111/bjop.12018
- Jolley, D., Douglas, K. M., & Sutton, R. M. (2017). Blaming a few bad apples to save a threatened barrel: The system-justifying function of conspiracy theories. *Political Psychology*, 39(2), 465–478. https://doi.org/10.1111/pops.12404
- Jolley, D., Marques, M. D., & Cookson, D. (2022). Shining a spotlight on the dangerous consequences of conspiracy theories. *Current Opinion in Psychology*, 47, 101363. https://doi.org/10.1016/j.copsyc.2022.101363
- Klein, N. (2020, December 8). The Great Reset Conspiracy Smoothie. The Intercept. Retrieved December 3, 2022, from https://theintercept.com/2020/12/08/great-resetconspiracy/
- Koetsier, J. (2022, November 9). *Top 10 most downloaded apps and games of 2021: Tiktok, telegram big winners*. Forbes. Retrieved November 19, 2022, from https://www.forbes.com/sites/johnkoetsier/2021/12/27/top-10-most-downloaded-apps-and-games-of-2021-tiktok-telegram-big-winners/?sh=2572c1d3a1fe

- Krange, O., Kaltenborn, B. P., & Hultman, M. (2018). Cool dudes in Norway: Climate change denial among conservative Norwegian men. *Environmental Sociology*, 5(1), 1–11. https://doi.org/10.1080/23251042.2018.1488516
- Krange, O., Kaltenborn, B. P., & Hultman, M. (2018). Cool dudes in Norway: Climate change denial among conservative Norwegian men. *Environmental Sociology*, 5(1), 1–11. https://doi.org/10.1080/23251042.2018.1488516
- Lee, B. Y. (2021, January 31). Did rep. Marjorie Taylor Greene blame a 'space laser' for wildfires? here's the response. Forbes. Retrieved December 3, 2022, from https://www.forbes.com/sites/brucelee/2021/01/30/did-rep-marjorie-taylor-greeneblame-a-space-laser-for-wildfires-heres-the-response/?sh=583ddf54e44a
- Letzing, J. (2022, August 15). *Is climate change denialism dead?* World Economic Forum. Retrieved November 3, 2022, from https://www.weforum.org/agenda/2022/08/isclimate-denialism-dead/
- Lewandowsky, S., Cook, J., & Lloyd, E. (2016). The 'alice in Wonderland' mechanics of the rejection of (climate) science: Simulating coherence by conspiracism. *Synthese*, 195(1), 175–196. https://doi.org/10.1007/s11229-016-1198-6
- Lewandowsky, S., Gignac, G. E., & Oberauer, K. (2013). The role of conspiracist ideation and worldviews in predicting rejection of Science. *PLoS ONE*, 8(10). https://doi.org/10.1371/journal.pone.0075637
- Lewandowsky, S., Oberauer, K., & Gignac, G. E. (2013). NASA faked the Moon landing therefore, (climate) science is a hoax. *Psychological Science*, 24(5), 622–633. https://doi.org/10.1177/0956797612457686
- Lewandowsky, S., Oreskes, N., Risbey, J. S., Newell, B. R., & Smithson, M. (2015). Seepage: Climate change denial and its effect on the scientific community. *Global Environmental Change*, 33, 1–13. https://doi.org/10.1016/j.gloenvcha.2015.02.013
- Lewandowsky, S., Pilditch, T. D., Madsen, J. K., Oreskes, N., & Risbey, J. S. (2019). Influence and seepage: An evidence-resistant minority can affect public opinion and scientific belief formation. *Cognition*, 188, 124–139. https://doi.org/10.1016/j.cognition.2019.01.011
- Little, O., & Richards, A. (2021, August 18). *TikTok's algorithm is amplifying COVID-19 and vaccine misinformation*. Media Matters for America. Retrieved April 10, 2022, from https://www.mediamatters.org/tiktok/tiktoks-algorithm-amplifying-covid-19and-vaccine-misinformation
- Little, O., & Richards, A. (2021, October 5). *TikTok's algorithm leads users from transphobic videos to far-right rabbit holes*. Media Matters for America. Retrieved April 10, 2022, from https://www.mediamatters.org/tiktok/tiktoks-algorithm-leads-users-transphobic-videos-far-right-rabbit-holes
- Logically A.I. & APCO Worldwide. (2021). (rep.). *Climate change misinformation in the age* of COVID-19. Retrieved from

https://apcoworldwide.com/static/11809384f6b713efd29076e383d9f9ff/Climate-Misinfo-Report_FINAL.pdf.

- Lorenz, T. (2022, April 8). *Internet 'Algospeak' is changing our language in real time, from 'nip nops' to 'le dollar bean'*. The Washington Post. Retrieved December 6, 2022, from https://www.washingtonpost.com/technology/2022/04/08/algospeak-tiktok-ledollar-bean/
- Mann, M. E. (2021). *The New Climate War: The Fight To Take Back Our Planet* . PublicAffairs.
- McCright, A. M., & Dunlap, R. E. (2000). Challenging global warming as a social problem: An analysis of the Conservative movement's counter-claims. *Social Problems*, 47(4), 499–522. https://doi.org/10.2307/3097132
- McCright, A. M., & Dunlap, R. E. (2011). Cool dudes: The denial of climate change among conservative white males in the United States. *Global Environmental Change*, 21(4), 1163–1172. https://doi.org/10.1016/j.gloenvcha.2011.06.003
- Molaei, G., Little, E. A. H., Williams, S. C., & Stafford, K. C. (2019). Bracing for the worst
 range expansion of the Lone Star Tick in the Northeastern United States. *New England Journal of Medicine*, 381(23), 2189–2192.
 https://doi.org/10.1056/nejmp1911661
- Moseman, A. (2022, June 29). *Can cars run on water? the science of a TikTok conspiracy theory, explained*. Inverse. Retrieved December 7, 2022, from https://www.inverse.com/innovation/no-you-cant-make-a-car-run-on-water
- The National Committee for Research Ethics in the Social Science and the Humanities. (2019, June). *A Guide to Internet Research Ethics*. Retrieved December 3, 2022, from https://www.forskningsetikk.no/en/guidelines/social-sciences-humanities-law-and-theology/a-guide-to-internet-research-ethics/
- Nelson, J. (2020). Petro-masculinity and climate change denial among white, politically conservative American males. *International Journal of Applied Psychoanalytic Studies*, 17(4), 282–295. https://doi.org/10.1002/aps.1638
- Nera, K., Wagner-Egger, P., Bertin, P., Douglas, K., & Klein, O. (2021). A powerchallenging theory of society, or a conservative mindset? upward and downward conspiracy theories as ideologically distinct beliefs (in press). https://doi.org/10.31234/osf.io/s37vy
- Nguyen, A. (2021, June 3). *No, Stanley Meyer was not assassinated by the Pentagon*. Politifact. Retrieved December 7, 2022, from https://www.politifact.com/factchecks/2021/jun/03/facebook-posts/no-stanley-meyerwas-not-assassinated-pentagon/
- Oreskes, N., & Conway, E. M. (2010). *Merchants of doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to global warming.* Bloomsbury.

- Ostrom, E. (2007). A diagnostic approach for going beyond panaceas. *Proceedings of the National Academy of Sciences*, *104*(39), 15181–15187. https://doi.org/10.1073/pnas.0702288104
- Ostrom, E. (2009). A general framework for analyzing sustainability of social-ecological systems. *Science*, *325*(5939), 419–422. https://doi.org/10.1126/science.1172133
- Papapicco, C., Lamanna, I., & D'Errico, F. (2022). Adolescents' vulnerability to fake news and to racial hoaxes: A qualitative analysis on Italian sample. *Multimodal Technologies and Interaction*, 6(3), 20. https://doi.org/10.3390/mti6030020
- Pew Research Center. (2022, September 20). *Social Media and News Fact sheet*. Pew Research Center's Journalism Project. Retrieved November 17, 2022, from https://www.pewresearch.org/journalism/fact-sheet/social-media-and-news-fact-sheet/
- Pinchevski, A. (2022). Social Media's Canaries: Content Moderators between Digital Labor and mediated trauma. *Media, Culture & Society*, 016344372211222. https://doi.org/10.1177/01634437221122226
- Plenta, P. (2020). Conspiracy theories as a political instrument: Utilization of anti-Soros narratives in Central Europe. *Contemporary Politics*, 26(5), 512–530. https://doi.org/10.1080/13569775.2020.1781332
- Reuters Staff. (2021, February 23). Fact check: Explaining 'fake Texas snow' posts and 'scorched snow' videos. Reuters. Retrieved April 10, 2022, from https://www.reuters.com/article/uk-factcheck-not-fake-snow/fact-check-explainingfake-texas-snow-posts-and-scorched-snow-videos-idUSKBN2AN1R8
- Richards, A. (2022, February 25). *TikTok is facilitating the spread of misinformation surrounding the Russian invasion of Ukraine*. Media Matters for America. Retrieved April 10, 2022, from https://www.mediamatters.org/russias-invasion-ukraine/tiktokfacilitating-spread-misinformation-surrounding-russian-invasion
- Richards, A. (2022, March 11). *A pro-Russia propaganda campaign is using over 180 tiktok influencers to promote the invasion of Ukraine*. Media Matters for America. Retrieved April 10, 2022, from https://www.mediamatters.org/tiktok/pro-russia-propaganda-campaign-using-over-180-tiktok-influencers-promote-invasion-ukraine
- Richards, A., & Little, O. (2021, November 9). *Satanic panic conspiracy theories about the astroworld festival are going viral on TikTok*. Media Matters for America. Retrieved April 10, 2022, from https://www.mediamatters.org/tiktok/satanic-panic-conspiracy-theories-about-astroworld-festival-are-going-viral-tiktok
- Robbins, P. (2012). Political ecology: A critical introduction. Wiley-Blackwell.
- Samantray, A., & Pin, P. (2019). Credibility of climate change denial in social media. *Palgrave Communications*, 5(1). https://doi.org/10.1057/s41599-019-0344-4
- Sapountzis, A., & Condor, S. (2013). Conspiracy accounts as intergroup theories: Challenging dominant understandings of social power and political legitimacy. *Political Psychology*. https://doi.org/10.1111/pops.12015

- Scanlan, S. J. (2017). Framing fracking: Scale-shifting and greenwashing risk in the oil and gas industry. *Local Environment*, 22(11), 1311–1337. https://doi.org/10.1080/13549839.2017.1345877
- Settles, G. (2022, May 30). Salter's Buffalo slaying was unrelated to his work on waterpowered engines. Politifact. Retrieved December 7, 2022, from https://www.politifact.com/factchecks/2022/jun/02/facebook-posts/salters-buffaloslaying-was-unrelated-his-work-wat/
- Silva, M. (2022, July 7). Australia floods: Unfounded cloud seeding claims Spread online. BBC News. Retrieved November 17, 2022, from https://www.bbc.com/news/scienceenvironment-62049654
- Somoano, I. B., & McNeil-Willson, R. (2022, June 9). *Lessons from the buffalo shooting: Responses to violent white supremacy*. ICCT. Retrieved December 7, 2022, from https://icct.nl/publication/lessons-from-the-buffalo-shooting-responses-to-violentwhite-supremacy/
- Steiger, M., Bharucha, T. J., Venkatagiri, S., Riedl, M. J., & Lease, M. (2021). The psychological well-being of content moderators. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. https://doi.org/10.1145/3411764.3445092
- Struthoff, P. (2021). Fossil Fuel Narratives By Advocacy Organisations In The Usa (thesis).
- Sullivan, D., Landau, M. J., & Rothschild, Z. K. (2010). An existential function of enemyship: Evidence that people attribute influence to personal and political enemies to compensate for threats to control. *Journal of Personality and Social Psychology*, 98(3), 434–449. https://doi.org/10.1037/a0017457
- Supran G and Hickey C (2022) Three Shades of Green(washing): Content Analysis of Social Media Discourse by European Oil, Car, and Airline Companies. Available at https://ati.io/three-shades-of-greenwashing/
- Swami, V., Voracek, M., Stieger, S., Tran, U. S., & Furnham, A. (2014). Analytic thinking reduces belief in conspiracy theories. *Cognition*, 133(3), 572–585. https://doi.org/10.1016/j.cognition.2014.08.006
- Swyngedouw, E. (1999). Modernity and hybridity: Nature, Regeneracionismo, and the production of the Spanish waterscape, 1890-1930. *Reading Economic Geography*, 189–204. https://doi.org/10.1002/9780470755716.ch12
- Tam, J., Porter, E. K., & Lee, U. J. (2022). Examination of information and misinformation about urinary tract infections on TikTok and YouTube. Urology, 168, 35–40. https://doi.org/10.1016/j.urology.2022.06.030
- Taylor, M. (2015). *The Political Ecology of Climate Change Adaptation: Livelihoods, Agrarian Change and the conflicts of development.* Routledge.
- *Terms of service*. TikTok. (2019, February). Retrieved December 6, 2022, from https://www.tiktok.com/legal/page/us/terms-of-service/en

- Tingley, D., & Wagner, G. (2017). Solar geoengineering and the chemtrails conspiracy on social media. *Palgrave Communications*, 3(1). https://doi.org/10.1057/s41599-017-0014-3
- Treen, K. M., Williams, H. T., & O'Neill, S. J. (2020). Online misinformation about climate change. *WIREs Climate Change*, *11*(5). https://doi.org/10.1002/wcc.665
- Tyagi, A., & Carley, K. (2021). Climate Change Conspiracy Theories on Social Media. *Arxiv.org.* Retrieved April 10, 2022, from https://arxiv.org/abs/2107.03318.
- Uscinski, J. E., Douglas, K., & Lewandowsky, S. (2017). Climate change conspiracy theories. *Oxford Research Encyclopedia of Climate Science*. https://doi.org/10.1093/acrefore/9780190228620.013.328
- van der Linden, S. (2015). The conspiracy-effect: Exposure to conspiracy theories (about global warming) decreases pro-social behavior and science acceptance. *Personality and Individual Differences*, 87, 171–173. https://doi.org/10.1016/j.paid.2015.07.045
- van Prooijen, J.-W. (2020). An existential threat model of conspiracy theories. *European Psychologist*, 25(1), 16–25. https://doi.org/10.1027/1016-9040/a000381
- van Prooijen, J.-W., & Acker, M. (2015). The influence of control on belief in conspiracy theories: Conceptual and applied extensions. *Applied Cognitive Psychology*, 29(5), 753–761. https://doi.org/10.1002/acp.3161
- van Prooijen, J.-W., & Douglas, K. M. (2017). Conspiracy theories as part of history: The role of Societal Crisis Situations. *Memory Studies*, 10(3), 323–333. https://doi.org/10.1177/1750698017701615
- van Prooijen, J.-W., & Jostmann, N. B. (2013). Belief in conspiracy theories: The influence of uncertainty and perceived morality. *European Journal of Social Psychology*, 43(1), 109–115. https://doi.org/10.1002/ejsp.1922
- Whitson, J. A., & Galinsky, A. D. (2008). Lacking control increases illusory pattern perception. *Science*, *322*(5898), 115–117. https://doi.org/10.1126/science.1159845
- Williams, M. N., & Bond, C. M. C. (2020). A preregistered replication of "inoculating the public against misinformation about climate change." *Journal of Environmental Psychology*, 70, 101456. https://doi.org/10.1016/j.jenvp.2020.101456
- Wood, M. J., Douglas, K. M., & Sutton, R. M. (2012). Dead and alive: Beliefs in Contradictory Conspiracy Theories. *Social Psychological and Personality Science*, 3(6), 767–773. https://doi.org/10.1177/1948550611434786
- Wright, C., Nyberg, D., & Bowden, V. (2021). Beyond the discourse of denial: The reproduction of fossil fuel hegemony in Australia. *Energy Research & Social Science*, 77, 102094. https://doi.org/10.1016/j.erss.2021.102094
- Xu, A. J., Taylor, J., Gao, T., Mihalcea, R., Perez-Rosas, V., & Loeb, S. (2021). TikTok and prostate cancer: Misinformation and quality of information using validated questionnaires. *BJU International*, *128*(4), 435–437. https://doi.org/10.1111/bju.15403

Appendix A: List of abbreviations

5D: Fifth dimension/fifth dimensional CO2: Carbon dioxide DEW: Direct Energy Weapons ESG: Environmental, social, and governance FEMA: Federal Emergency Management Agency FYP: "For You" Page HAARP: High-frequency Active Auroral Research Program LGBTQ: Lesbian, Gay, Bisexual, Transgender, and Queer NASA: The National Aeronautics and Space Administration NOW: New World Order UFO: Unidentified flying object UN: United Nations WEF: World Economic Forum WHO: World Health Organization

Appendix B: Full list of codes

The following list contains all narratives identified during the first two rounds of coding. These were created during the coding process in accordance with narratives in the videos.

13 families 5D Aerial spray Agenda 2030 Agenda 21 Air quality Aliens Ancient civilizations Animal agriculture Antarctica Antisemitism Apocalypse Atlantis Awake Awakening **Big Oil Big Pharma Bill Gates** Blackouts "Block out the sun" Carbon footprint calculators Cars and freedom of mobility Cataclysm cycles Chemtrails China Christianity Climate change (mentioned explicitly) Climate change caused by water vapor Climate change hoax Climate lockdowns Climate/environmental policy CO2 does not cause climate change Communicating with plants Communism

Depopulation Direct Energy Weapons Drought Electric vehicals Emotional control grid Environmental racism ESG Euphrates river Extreme weather Faith in God/prophet Fake clouds Fake snow Fake sun FEMA Firmament/Dome Flat Earth Food control Food shortages Free speech Fuel control Fuel shortage Gaia Gas prices Gasoline Genetic engineering Geoengineering Global warming Great Reset HAARP Heat wave High temperatures Hollow Earth Hollywood Ice caps/Arctic melting Ice wall Illuminati India Inflation Iran

Islam Klaus Schwab LED lights spying Ley lines LGBTQ Local sun Malaysia Mark of the beast Mass shooting Mass vaccinations Meat and freedom Mountains are trees National parks missing people Natural disasters New Earth New World Order New/Strange skies Nuclear holocaust One world currency Pandemic Plant-based meat Pollution Red 3 Reptiles Rising sea level Russia Save the Children Schizo Sinkhole Skinwalker Social credit system South Africa Spiritual warfare Spirituality Sri Lanka Texas Threat of green infrastructure Tornados Two suns

United Nations Unknown planet/Nibiru/Planet X US military Walking trees Wars Water control Water control Water powered engine murder Water shortage Weather manipulation WHO Wildfires