ETHOS IN CLIMATE CHANGE COMMUNICATION: ANALYZING DIGITAL

AND BROADCAST NEWS COVERAGE OF THE FOURTH NATIONAL

CLIMATE ASSESSMENT

By

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ABSTRACT

ETHOS IN CLIMATE CHANGE COMMUNICATION: ANALYZING DIGITAL AND
BROADCAST NEWS COVERAGE OF THE FOURTH NATIONAL CLIMATE
ASSESSMENT

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This project analyses digital and broadcast news media coverage of the Fourth

National Climate Assessment in order to get a sense of ethos constructions in climate

communication. The project provides a comparative rhetorical analysis of a range of

online print news stories, and two broadcast segments, while coding and categorizing the

different authority figures cited or appealed to. By categorizing figures of authority and

analyzing the results through a lens of epistemic injustice, and with a more ecological

approach to ethos, the findings suggest a need for more expansive and inclusive

representations of climate change in mainstream media. The results suggest that ethos in

climate communication is frequently framed in binaries, particularly that of the scientific

establishment versus the current political establishment. By illuminating these binaries,

the analysis points to omissions and other rhetorical failings that exclude the testimony

and epistemologies of a wider and more diverse range of people—specifically focusing

on marginalized communities, climate refugees, and environmental justice advocates. As

the project's findings show, there is a need to reshape and reconceptualize ethos in these

spaces to be more reflective of a range of social and cultural perspectives that have

bearing on our collective understanding of the problem, and which are crucial to

collective solutions moving forward.

ACKNOWLEDGEMENTS

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INTRODUCTION

Environmental issues have long been sites of contestation and debate in the political, cultural, and social spheres. Particularly in recent history, environmental movements driven by experts and laypeople alike have gained ground in both the public and political realms. However, no issue in regard to the state of nature has risen more prominently on a global scale than that of climate change, or global warming. Over the last 30 odd years—starting at least when NASA climate scientist James Hansen first brought the issue of anthropogenic climate change to the U.S. Senate—the scientific consensus around global warming has gained tremendous ground in solidifying the case for why the human race must curb their behaviors and lifestyles (IPCC, 2014; "Fourth National Climate Assessment"). Today more than ever it stands as one of the more critical problems facing the contemporary world. Still, however, there remains a lack of trust by segments of the public in institutional calls for climate adaptation and mitigation (Stokes et al.; Leiserowitz et al. 3). This project approaches the issue of public perception from a different angle, keeping in focus issues of authority and highlighting how rhetorical constructions of ethos frame our understandings of the problem.

The goal of this project is to examine and extend current views on the communication of climate change through an investigation guided by both rhetorical and epistemic theory. Specifically, I focus on the construction of ethos in media representations through an examination of citation and reference practices, appeals to authority figures within news media texts, and general notions of framing and narrative

construction. These practices are explored through a lens of epistemic injustice, and other notions of social and cultural consensus-building. In doing so, the project offers insights into the implicit consequences that come with gatekeeping decisions in regard to the people cited and referenced in climate change communication. The research considers different media forms, but focuses mainly on online print news and a few broadcast news samples.

Focusing on environmental communication in American media, this project examines how current framings and rhetorical strategies may be improving or detracting from the efficacy of climate change appeals. Part of the lack of consensus in public opinion seems to come from the way climate change is represented in mass communication, and how much information we receive through a diverse range of sources. Namely, my intent is to examine the construction of ethos through the specific sources—or what I refer to in this project as "speakers"—that are cited and invoked to deliver these messages. By focusing there, the project then unpacks the rhetorical, cultural, and epistemological consequences that may come with such decisions. Additionally, by examining some of the broader discursive framings in these texts, I have tried to make visible some connections between those framings and the audience expectations which likely inform them. In so doing, we can think about ethos as both the construction of speakers' individual credibility within the texts discursively and also encourage a view of ethos that emphasizes the role that the audience plays in forming general notions about how climate change should be represented and talked about in mainstream media. Communicators' decision making about who to cite and how to cite

them in these representations is in some way dictated by the audience they are presenting

to (Perelman and Olbrechts-Tyteca 17-19). So we should also think of ethos as a

reflection of the normative expectations of audience members in an American context,

and how that effects rhetorical decisions in news media texts.

This research, then, focuses on the challenge of constructing ethos in relation to

current notions of cultural bias and epistemic or testimonial injustices. I unpack these

ideas further in the literature review, but mainly my inquiry focuses on the ways that

different figures—whether political, scientific, or otherwise—can be posited to have

varying effects on diverse audiences. Additionally, the analysis explores how the

construction of ethos through these cited figures might privilege certain understandings

and framings of climate change. To be sure, as Anthony Leiserowitz asserts in an article

on American risk perception, "messages about climate change need to be tailored to the

needs and predispositions of particular audiences; in some cases to directly challenge

fundamental misconceptions, in others to resonate with strongly held values" (64). This

sentiment seems to be generally accepted at least in terms of what it refutes, which is the

idea that climate change messages can be created and disseminated in a one-size-fits-all

manner (Moser and Dilling 165-167). We can assume that different people, or maybe

more accurately groups of people, are going to respond differently to an array of

rhetorical and structural techniques. The inquiry of this project involves asking how we

might grapple with these constructions of authority through a lens of epistemic injustice,

and how authority figures and framings support certain epistemologies, while ignoring

others.

This project serves more specifically to analyze ways in which current examples of climate communication in the media have crafted their messages in light of some of the implications of popular research in this field. As Leiserowitz notes, it's simply unrealistic for us to expect that a compromise in communication can be made and that some sort of middle ground can serve as an optimal balance that appeals to everyone ("Climate Change Risk" 63-64). In light of this, there is complexity with how media constructs ethos and the authorities who are used in climate change communication. We can infer that segments of the public will react to and interpret messages differently depending on their political orientations and values (Feinberg and Willer 57; McCright and Dunlap 160-163). With this in mind, my research centers on the interplay between cited authority figures, discursive content, and audience response. That examination utilizes lenses of epistemic injustice, ecological and social conceptions of ethos, and cultural cognition among other perspectives. These lenses help to broaden our understanding of how groups receive climate information, but also how we can conceive of ethos in climate communication as a whole. It's important to note that these are not the sole flaws of climate change communication, or even the biggest. They are a slice of the rhetorical pie. However, they do seem to be linked in a number of ways, and this combination of ideas is what I try to explore, and hopefully extend. This analysis focuses on how samples of climate change communication take on the task of effective communication, and the role that their chosen speakers and framings serve in building ethos. Essentially, this project undertakes a comparative rhetorical analysis of multiple American news media articles, and a few broadcast segments, to find out if and how

balancing different rhetorical approaches can allow for a more nuanced and open

discourse that encourages action and agency for different audiences.

The questions, then, involve asking which figures are cited, and with what

frequency in these reports? What might that breakdown of speakers tell us about the

overall rhetorical strategies of the pieces? Are the cited speakers representative of diverse

segments of the public? What assumptions can we make about the overall construction of

ethos when keeping in mind the types of figures being relied on for authority? What kind

of socio-cultural norms or expectations might guide the selection of certain authority

figures? How might communicators be addressing the potential biases or injustices that

may occur depending on who is speaking and who the intended audience is? The research

will largely be guided by a few questions:

1. Through an analysis of recent digital and broadcast news reports on Climate

   Change by major American news outlets, what kind of differences may be

   detected between and across texts in terms of who is being cited and referred

   to for delivery of climate change information? Specifically, the analysis

   focuses on ethos, tone, affirmation or rejection of the content being discussed

   (Fourth NCA), and variations in framing.

2. How many different speakers are used in appeals to authority? Are some

   social types used more than others? Are certain social types ignored in these

   appeals? How are appeals to authority organized?

3.   What might be some implications of using different speakers based on what
        we know about audience feedback and cultural ideology surrounding climate
        change?

4.   How might instances of epistemic injustice be occurring with regard to the
        range of authorities presented, and the epistemologies they support or
        exclude?

My hope is that focusing on authority figures offers some useful insights.
However, it also offers a reframing of the problem which directs attention toward the
figures we entrust to deliver or comment on climate information. The goal of this analysis
is not to provide conclusive and determinate answers to climate communication
problems; rather it is to extend inquiry while focusing on authoritative appeals. These
findings are tentative and contingent, but they offer a reframing of the problem that
focuses anew on constructions of authority and the place of social types and identity
power in climate communication. The findings allow us to consider how choices about
who is entrusted as an authoritative voice on the topic of climate change may impact
different groups of people. It also has implications for how we might perceive the
dominant narratives being constructed around climate change in the public sphere.

Literature Review

To start, due to the complexity and nature of this topic, it's important to begin
with some discussion of the exigency of climate change and the scientific consensus
behind it. As I will show in later discussions of journalistic norms and challenges, the

complex nature of climate change makes it a difficult topic to cover. However, working toward more effective communication requires some understanding of these complexities, and so I will discuss them briefly here.

Climate Change as a Newsworthy Topic

Without spending too much time on the hard science of the matter, it has been generally agreed upon by a large majority of global scientists that climate change is happening, and that human caused changes are playing a role (IPCC, 2014; "Fourth National Climate Assessment"). Despite this consensus, however, there are still people in the American public who are skeptical of such findings (Stokes et al.; Leiserowitz et al. 3, 7, 9). My goal is to better understand how these audiences interpret messages about climate change, disseminated across broad media, but specifically mainstream print news. In order to take this approach it's important to understand the role of media more generally, and then with an eye toward climate change communication.

Over the last few years in particular, but certainly beginning much earlier than that, there has been a sense that broad portions of the public have become less engaged and trustful of news media (Saad). This is not just in terms of climate change communication, but all media reporting. Despite this, James Painter asserts that, "Print editions still play a key role as agenda setters for what 'thought leaders' like politicians take seriously, for what is covered by journalists in other media, and for what is discussed by the general public" (65). By print editions he is referring to larger print news organizations like the New York Times or Washington Post which still have agenda setting power in the broader news media landscape. In terms of scientific reporting, mass

media play a critical role in shaping the arena within which public perception and engagement with complicated issues occurs. As such, they remain important institutions in educating and informing the general public on a litany of issues—including climate change.

Now, while it is important to couch this discussion in an understanding that the American public is perhaps more distrustful of media now than in recent years; equally important is a discussion of the ways that communicators have tried to curtail this mistrust, specifically in regard to climate change reporting. Discourse on climate change comes to us from many different places: through newspapers, television, social media, scientific reports, or even word of mouth to name just a few. A complex web is formed between science, policy, popular culture, news media, economics, and more, to structure climate change discourse (Lindenfield and Mcgreavy 124-125; Dahan 4-6). As such, media is tasked with a difficult job in cutting through that complexity to deliver salient messages. Sometimes, however, the complexity of such a picture is understated or ignored by media critics altogether (Painter 44).

Two prominent researchers in the field, Susanne Moser and Lisa Dilling, write that communicating effectively could be the most beneficial move for generating consistent public engagement with climate change (162). The two go on to summarize four points which, by virtue of collective agreement, appear to be major detractors of effective climate change communication across the field. These four points seem to be common threads in many discussions on this topic. For that reason, and because they include a discussion of the information deficit model, I will include them here.

Current Problems in Climate Change Communication

      First, Moser and Dilling assert that one faulty assumption communicators make is that the public is disengaged and uninformed because of a lack of information (162). This idea, broadly known as the information deficit model, supposes that the gap between scientific evidence and public belief is caused largely by a lack of available information. In response, reporters have focused on disseminating more scientific data and explanation. This strategy has proven to be largely unsuccessful for many complex topics and ideas, but particularly for the communication of climate change (Moser and Dilling 163-164). The second assumption is that audiences will be motivated to take action if they are exposed to visions of potential catastrophe and messages that instill immediate fear (Moser and Dilling 164-165). This strategy stems logically from the need to elicit an immediate and powerful response from the public on an issue that encroaches on public life every day. However, leaning on prophetic visions of destruction does not always lead to an engaged and active audience. Many times, this sort of persuasive approach has actually been shown to drive people away from agency and into complacency, indifference, or other generally negative behaviors (Foust and Murphy 161-162).

      Now, the last two points the authors make have a fair amount of overlap. The third problem is what the authors describe as a "one-size-fits-all" approach that holds scientific framing to be the most persuasive in crafting climate change messages (Moser and Dilling 166). However, as with many controversial issues, the most persuasive approach tends to change depending on situation, audience, etc. A good illustration of this third problem can be seen if we ask ourselves how to convince someone to be

proactive about climate change if they don't agree with central principles of science or the scientific method. More researchers seem to be pushing the idea that climate change communicators need to start tailoring their messages to the audience and to go beyond drowning people with scientific information (Bord et al. 206; Leiserowitz 64). The fourth and last assumption follows closely behind the third in arguing that there has been too much emphasis on mass communication as the most effective approach (Moser and Dilling 168). A global problem beckons global outreach, but it's worth asking whether broad attempts could be substituted by narrower ones at the local level? These are only a few of the problems which have emerged over the past few decades, but they are remarkably well suited as categories of understanding some of the main obstacles to effective environmental communication.

Issues in Journalistic Practice

Moving along from these broad models of communication described by Moser and Dilling, it is useful to also understand the smaller, micro-level elements of journalism that contribute to the difficulty of reporting on climate change. While this discussion could include a number of concepts, I would like to specifically look at issues of balance, framing, and what Maxwell Boykoff refers to as first and second-order journalistic norms. Without diving too deep, it should be noted that most mainstream journalism operates on the premise of balance and fairness in coverage. In a nutshell this simply means getting all sides of a story; or in the journalistic lexicon, getting the facts and telling it straight.

However, the concept of objectivity or balance in journalism (or anywhere for that matter) is a hotly contested and complex issue that cannot be unpacked here. Regardless, it serves this research in that climate change reporting, particularly in the 1990's and early 2000's, appears to have been inhibited in some ways by efforts toward balance ("Flogging a Dead Norm" 474-475). In short, media reporting on climate change, in an effort to bring both sides of the argument to the table, tended to misconstrue the reality of the situation by bringing equal levels of legitimacy to voices opposed to or in denial of the science ("From Convergence.." 479-482). Despite the illegitimacy of their claims, or their relatively smaller numbers compared to those in support of climate science findings, media framing and attempts at showing both sides furthered what Boykoff and Boykoff refer to as an informational bias ("Climate Change and Journalistic" 1192-1193). Additionally, the multiplicity of voices converging on the topic—and their respective attempts to influence public perception—often leads (sometimes intentionally) to uncertainty around the issue (Painter 12-13; Farrell 92-93)

Furthermore, Boykoff and Boykoff add additional elements to this informational bias by suggesting that news reporting typically involves normative constraints through first and second-order norms ("Climate Change and Journalistic" 1192). First-order norms include personalization, dramatization, and novelty in reporting while second-order norms include authority-order and balance ("Climate Change and Journalistic" 1192). While not all of these will be relevant to my research, the concepts of personalization, authority-order, and balance are particularly useful. In short, personalization norms include the tendency for news reporting to focus on characters and

people in order to zoom in on a story that people can identify with. The issue with that for a topic like climate change is that it might narrow the focus of a report without addressing some of the bigger picture problems. Boykoff and Boykoff illustrate the complementarity between personalization and balance in climate change coverage with the example of the dueling scientist paradigm. Here, rather than focusing on the real parameters of the issue, journalists might report in a way that pits two opposing viewpoints—or actors—against each other. This leads to a framing of the story as a debate, while other critical elements might be ignored ("Climate Change and Journalistic" 1193). This is just one example, but it captures how these normative features of journalism can hinder effective communication and often operate in overlapping ways.

In addition to personalization and balance, the second-order norm of authority-order is critical for my research in that it speaks to the desirability and necessity of media to consult authority figures in reporting. Boykoff and Boykoff note that this norm stems from a societal need to seek order and leadership in maintaining status quo ("Climate Change and Journalistic" 1193). Additionally, they cite McManus in showing that audience members are typically prone to accept information given by expert or political authorities ("Climate Change and Journalistic" 1193). In a similar vein, Carvalho and Burgess, in their analysis of cultural circuits of climate change coverage, note that: "Different social actors (scientists, politicians, policymakers, businesses, pressure groups, and media professionals) are locked in discursive competition around how climate change risk is to be framed in the media" (Carvalho and Burgess 1458). This further highlights the complexity of how these actors are portrayed, and the deeper rhetorical

needs or desires that may drive their message. This complexity also makes it difficult for communication professionals and speakers to construct ethos in a way that lends them credibility or authority on the subject. Not all representations look to academics or scientists or other experts for testimony. In many cases, it's more likely that the representation will consist of some mixture of these different actors; and the right balance is never totally clear. Additionally, what about authority and expertise from those who are directly experiencing climate change in some form?

Further still, the discursive competition between these actors takes place not only in the texts (i.e. dueling scientists), but also in the larger systemic sense of gatekeeping and agenda setting from the top down. Carvalho and Burgess found in their critical discourse analysis of a range of U.K. newspapers spanning almost twenty years, that the most powerful group influencing climate change in the public sphere were politicians (1458). Politicians are not the only ones vying for control of public perception, but their presence has likely had a large impact. Politicians may be effective in shaping public perceptions of climate change, but they are not solely to blame for misperception or confusion regarding the issue. Corporate organizations, think-tanks, NGOs, lobbyists, and other groups also play an influential role in constructing discourse—particularly where communication efforts are privately funded (Farrell 93). As such, it's important to center these actors in a discussion of environmental communication, rather than simply looking at message content, tone, or factuality, among other elements. With this project focusing on a conception of ethos as a socially constructed and community mediated phenomenon, the range of different actors and voices contributing are important points of focus. The

issue of authority is not limited to political figureheads or climate scientists. It's worth asking how different figures of authority are cited across climate change representations, and how those citations might offer unique framings of the problem. Additionally, keeping track of the authority figures in these media representations helps to paint a broader picture of public trust (or perhaps mistrust) as it is currently understood by communicators. If we can assume that communicators or the professionals who put together a report like the Fourth National Climate Assessment (NCA4) are considering their audiences prior to constructing these messages; then how does their conception of that audience influence how ethos is established vis-à-vis citation practices? How does the citation of certain figures privilege certain understandings of the problem; and what can we make of the types of people or communities which may not be represented?

Individual and Social Responses to Climate Change in the Media

Moving away from professional and technical issues that are brought to bear on media portrayals of climate change, thinking about audience reception is equally critical. In Andrew Hoffman's book *How Culture Shapes Climate Change Debate*, the author asserts that there is a cultural schism dividing both sides of the argument (ch. 1). These positions are not generally based on the strength of evidence supporting climate change; but are probably more a product of how people receive and interpret scientific information in terms of their own values and dispositions (Hoffman ch. 2). This idea supports the notion that some authority figures delivering climate information have the potential to sway opinion—potentially more than the information itself. As such, they warrant attention here.

Going further, Hoffman refers to a few sociological and psychological concepts that are probably heavily implicated in the process of public understanding of climate science. Namely, he points to the concepts of motivated reasoning and cultural cognition as major factors influencing public perception (ch. 2). Hoffman describes the two in tandem, stating that:

> "…we employ ideological filters that are influenced by our belief systems (what is called 'motivated reasoning'), which are to a large extent formed through the referent groups to which we belong (what is called 'cultural cognition'). We are influenced by group values and we will generally endorse the position that most directly reinforces our connection with others in our referent group and at the same time strengthens our definition of self" (ch. 2).

This quote brings to mind a few alternative elements of climate science perception that may be overlooked. The first is that our perception of climate change, like many issues, is likely going to reflect our general dispositions and attitudes toward similar issues—not necessarily the science behind it. The second is that group identity can play a large role in shaping perceptions of climate change, an issue that has been explored in a number of studies, some of which focus particularly on divides between conservative and liberal views (Feinberg and Willer 61; Schuldt et al. 116-117). These notions are critical to this analysis as they speak to the ways that audience members choose to engage with, ignore, and evaluate the credibility of different authority figures in the news or otherwise. Reflexively, those filters and behaviors will also likely play some role in structuring how ethos is built in public representations. Communicators and speakers in general may try

to find ways to build trust with audience members who are more inclined to receive

climate information when it's delivered by messengers who are trusted within their social

group.

Along with group identity and ideology, it should be noted that there are a number

of other factors which affect perceptions of climate change. I will not be able to fully

express them here, but these factors include political orientation, religious views, cultural

norms, and a range of other inputs. For the purposes of this text I focus mainly on

socially and culturally constructed influences on climate change perception rather than

individual stances and decision making. With that in mind, one in-depth ethnographic

study which looks directly at community perceptions of climate change is Kari Marie

Norgaard's book *Living in Denial: Climate Change, Emotions, and Everyday Life*.

Through her study of Bygdaby, a Norwegian town, Norgaard sets out a model of what

she refers to as socially organized denial (coined by Zerubavel), which argues that denial

or ignorance is a product of social circumstances and is continued through social

interactions (9). Among some of the troubling emotional responses to climate change

information that Norgaard was able to synthesize in her study were: thoughts of

hopelessness, guilt, fear of loss of ontological security, and threats to individual and

collective senses of identity, among others (80). Crucially, Norgaard's study also brings

into frame issues of power, largely informed by Antonio Gramsci's work on hegemony

(133). Norgaard integrates some of Gramsci's work to show that power is not always

expressed through overt coercion, but often through subtle control of the dominant

paradigms and frames which feel natural or even invisible in a society (Norgaard 133-

134). This notion will be critical for its recognition of the role of hegemony in structuring

responses to climate change appeals as well as the importance of gatekeeping in a top-

down structure of media dissemination. Additionally, the power of these hegemonic

framings can also be considered in terms of the typical and continual framings of climate

change that sometimes circulate in media representations. There is a reason something

like the dueling scientists paradigm begins to occur more frequently as people become

accustomed to the idea of climate change as a constant debate between two sides. Over

time, these frames and paradigms may become normalized until they seem almost

common-sense. Consider the fact that despite decades of evidence and strongly worded

support from within the scientific community; as of 2018, only one in five Americans

polled understood that almost all climate scientists (over 90%) have concluded human-

caused global warming is happening (Leiserowitz et al. 9). This is one of the most

startling statistics in the study, and it speaks to the fact that for a while now

communicators have had great difficulty getting that consensus across. This is probably

at least in part because of the consistent framings that occur and other recurrent attempts

at fomenting uncertainty in the public.

Ethos in Climate Communication: Ecological, Interactional, and Social Conceptions of
Ethos

      After considering some of the personal and individual responses to climate

change, it's critical to expand my discussion of ethos. In general we usually think of

ethos in Aristotelian terms as simply, "the character of the speaker constructed in the text,

exhibiting fair-mindedness and adapted to the character of the audience" (Constantinides

62). This is one of the most basic summaries of the terms, but what's perhaps most

germane to this study is the idea that not only does ethos involve the character of the

speaker as constructed in the text, but also the adaptation of ethos to the character of the

audience. While this inquiry is certainly concerned with how a speaker's ethos is

constructed within the actual discourse; it's equally, if not more concerned with how

ethos as a social construction (and social norms/values in general) leads to formations

which seem to reflect certain audiences. However, and in addition to this, our discussion

of ethos within this project needs to be expanded beyond a strictly classical Aristotelian

definition. Ethos in this project leans more on what could be considered an ecological and

interactional conception which draws on ethos as socially constructed and community

produced. In this sense it's not just the credibility of a rhetor via their speech/writing. To

elaborate on these ideas, we can draw from some recent literature on rhetoric—

specifically feminist ecological approaches—and the social, spatial, and location-based

conceptions of authors like Nedra Reynolds and Ruth Amossy. Ethos—rather than simply

being the credibility that an orator or writer constructs in solitary—is more of a habitus

that is constantly contextually shifting. That is, ethos is something we all intrinsically

recognize and on some level understand, but which is also always changing with other

social and cultural shifts. This form of ethos entails multiple actors and perspectives in a

community of people which build it collectively. Ethos in this framework is the entire

space and multiplicity of voices that make a place for knowledge to be built and meaning

to be created. In the context of this project, my goal is to encourage a broader view of

ethos that—rather than focusing on how individual speakers construct ethos in their

testimony—focuses on the ways that whole communities and a range of institutional and cultural norms shape the ethos of climate communication and understanding on the whole.

Critically, this discussion positions ethos—and rhetoric more generally—as being fundamentally constructed through social actions. We can't think of ethos as being solely created by a speaker in a forum. The credibility of a speaker and the appropriateness of their testimony is always dependent on the discourse, audience expectations, and other naturalized conceptions of social function. In Ruth Amossy's article "Ethos at the Crossroads of Disciplines", the author notes that, "In reality, the power of words derives from the connection between the social function of the speaker and his or her discourse. According to Bourdieu, a discourse cannot be authoritative unless it is pronounced by the person legitimated to pronounce it in a legitimate situation, hence before legitimate receivers" (3). Importantly, ethos is not solely the credibility and authority of a speaker based only on the words they speak/write. Rather, ethos is the product of the social function of a certain speaker combined with the context of the situation they are speaking in, as well as the respective audience expectations or requirements given that context. In other words, ethos in this sense is more than simply a good speaker sounding credible. Ethos is about who gets to speak and why, given the situational context, and the institutional norms that social members expect of such a situation. As Amossy writes, "The university professor, the priest, the political leader, and the writer all proffer a type of discourse which draws its efficacy from the fact that, in the eyes of their public, they are qualified to produce it" (3). In the context of this project, we can think about how

ethos might be constructed based on the fact that many people likely *do* expect to receive

climate information from climate scientists. The discourse is authoritative as such,

because it is 'pronounced by the person legitimated to pronounce it in a legitimate

situation.' This is important because on the one hand, it justifies some of the rhetorical

constructions of ethos which we will see in the corpus. However, it also helps to frame

the question of whether or not these constructions are always the most *legitimate*—

especially if our goal as climate communicators is to reach broader segments of the

public. What if the audience has different expectations, or the context is different?

Additionally, what if the ethos being constructed doesn't represent the experience and

understandings of certain groups?

Additionally, there are a few other key concepts from Amossy's article which will

prove relevant here. Specifically, we can consider a few elements of ethos that she lays

out with regard to social function and the combination of both a pragmatist version of

ethos, and a more sociological one. In paraphrasing Bourdieu again, she writes that, "In

short, the efficacy of speech does not depend on what it utters but on who is uttering it

and on the power with which he or she is endowed by the public" (Amossy 3). In like

manner, she writes that we must adopt an institutional perspective here in thinking about

how the ethos of any verbal exchange is inherently tied to the positions of the speakers

and listeners engaged within the field (3). In essence, rather than considering ethos solely

as a result of the speaker's choices and actions, we can think of it as a product of the

entirety of social characters involved. In terms of climate communication, this is critical

because while there are certainly institutional expectations and norms; there is also a lot

of room for differentiation based on audience and content. As has been noted in the journalistic practice section above, there are a lot of ways to approach the climate communication problem. As such, we should consider whether or not the speakers who are cited and called upon in climate change representations are always the most appropriate. However, we should also be critical of how ethos is being constructed in the overarching context of climate communication on the whole. Looking outside of journalistic norms, how are cultural and societal expectations brought to bear on the construction of climate messages from scientific authorities, communication professionals, and laypeople alike? Coming back to Hoffman, consider that people who are skeptical of climate change might be very skeptical of science in general. In that case, is it always effective to utilize scientific figures in communicative efforts? Additionally, consider audience members who may already be displaced by climate change and its effects. Are those people likely to give credence to the ethos of elite figures in academia or politics who they might not feel represent their own best interests? These are the kinds of questions that should be approached if we are to begin expanding the conversation on climate change.

Taking these ideas further, Amossy also brings in the ideas of Perelman and Olbrechts-Tyteca from *The New Rhetoric*. What's most relevant to this discussion are their assertions about orators constructing their audiences. In the start of their section on this topic, they write presciently (in 1958) about the fact that many scientists and authors naively expect that if they merely report the findings, facts, and truths of their work, then audience members will be inclined to listen (Perelman and Olbrechts-Tyteca 17). In a lot

of ways the authors' notion precludes the information-deficit model of thinking. The authors were already aware of how that way of approaching the problem is simply not effective in all forms of argumentation. In discussing audience, the authors note that in many cases, it is difficult—if not impossible—for speakers to know the entire makeup of their audience. So Perelman and Olbrecht-Tyteca define an audience as "the ensemble of those whom the speaker wishes to influence by his argumentation*"* (19). Following this acknowledgement, they comment that "It often happens that an orator must persuade a composite audience, embracing people differing in character, loyalties, and functions. To win over the different elements in his audience, the orator will have to use a multiplicity of arguments" (21-22). While this may be a common sense statement, it is no less legitimate and critical to this project. Climate communication is a topic that implicates many people (maybe even every person) in the parameters of its audience. Specifically with regard to mainstream media representations, the audience members will always be some sort of composite, which necessitates different strategies and voices. In a fitting interpretation of these ideas, Amossy notes that "just as an orator rests arguments on the opinions and norms ascribed to the public, so he or she builds an ethos on collective representations endowed with positive value. An orator adopts the models which are likely to produce in the addressees an impression befitting the circumstances" (6). While many of these statements are referring to an orator in the singular, we can consider how the same ideals apply to speakers and writers, as well as communicators or journalists, who are tasked with selecting an array of speakers and figures to comment on an issue with a vast public audience. While the orators themselves are working within a certain

context of ethos; those constructing the articles are also expected to create an argument that addresses the composite nature of those people. How does the overall breakdown of speakers or figures cited in any given representation reflect the expectations of a wide audience?

Moving further, we can also focus on ethos as ecological, and to think about it less as an individual construction, and more as a socially mediated context or place for the collective building of knowledge and meaning. Drawing from Kathleen J. Ryan et al. edited collection: *Rethinking Ethos: A Feminist Ecological Approach to Rhetoric*, some critical notions of ethos as collectively and socially driven can be explored here. In their introduction, Ryan et al. ask us to consider a different definition of ethos that takes an ecological approach, and considers the multiple changing locations and influences on that ethos. They write that:

> Feminist ecological ethē open up new ways of envisioning ethos to acknowledge the multiple, nonlinear relations operating among rhetors, audiences, things, and contexts (i.e. ideological, metaphorical, geographical). This theorizing recognizes all elements of any rhetorical situation as shifting and morphing in response to others (persons, places, things), generating a variety and plurality of ethos, or ethē (Ryan et al. 3).

This shifting conception is important here because it forces us to consider the constantly shifting nature of all elements of a rhetorical situation, and how they may lead to varied constructions of ethos. Critically, it fundamentally asks us to consider that ethos is not solely a product of speakers' choices, but is in fact a confluence of all of the conditions of

rhetoric bearing upon each other. What this means in the context of climate communication is that we shouldn't just think of ethos as speakers. We should think about ethos as the selection of speakers and their messages in the context of an entire environment of actors and audience members making sense of climate change. This includes the scientific community, the media, politicians, industrial experts, and everyday people, to name just a few. In other words, borrowing Ryan et al. conception of an ecological approach to rhetoric should allow us to consider ethos as a relational web between many different people, places, and things that all have some sort of interrelation. This view of ethos asks us to consider its scope as it's constructed by both dominant figures or framings, as well as marginal voices.

Crucially, Ryan et al. point to a different etymological take on *ethos* that centers its social, ethical and spatial parameters (6). They argue for a definition of ethos that moves away from just credibility of a speaker to mean something more akin to a habit, place, or abode where people make meaning and knowledge (Ryan et al. 6-7). This conception of ethos as a dwelling place or an abode is critical because it proposes that ethos is an overall place or space rather than the product of individual decision making. Ryan et al. note that, "Individuals, audiences, values, written texts, and physical locations all constitute 'dwelling places'" (7). This note is followed by the acknowledgement that ethos is also the relationship between speaker and audience. It is this 'relational' conception of ethos that is relevant to later findings in that we should begin to think about ethos in climate communication not just as making speakers and authority figures look and sound credible. It also necessitates that we understand the speaker-audience

relationships, and the need to take an ecological approach in thinking about ethos as a holistic construct.

If we conceptualize of ethos as a 'dwelling place', we can also ask what that space looks like, who is included in it (and to what degree) in terms of knowledge making, and how it is maintained by different groups? If ethos is a dwelling place for making knowledge, then we can think about the ethos of climate communication less as the constructed credibility of speakers and more as an overarching space with a multiplicity of voices and nonlinear inputs. Especially if we think about distrust of certain speakers, it's necessary to consider whether the constructions of ethos we are currently seeing are reflective of the diverse needs, understandings, and subjectivities of multiple groups. This is essential to the project in that I am trying to reframe a conception of ethos in climate communication that recognizes how we might take a more ecological approach. That is, an approach that incorporates and reflects different subjectivities in an attempt to expand ethos and knowledge making in general, and brings in different situated knowledge. In a particularly summative statement, Ryan et al. write that:

> Ecological thinking is about a way of living in the world oriented toward cohabitation; it acknowledges the dynamic construction of relationships within and across locations and between people as constituting knowledge and values. Ethos is neither solitary nor fixed (11).

This way of thinking about ethos in ecological terms is important because it gets at the importance of considering knowledge on the whole as socially constructed and depending on many different situated knowledges and worldviews. For this project, we can think

about how climate communication could be considered through an ecological frame to elicit the different situated knowledges that might contribute to our understanding of the problem. Looking at ethos through an ecological approach allows us to consider how we might better incorporate diverse situated knowledge to make sense of the problem in a broader scope. In terms of marginalized groups and epistemologies, we can also consider that, "Ecological thinking, while not a cure-all for a marginal or conflicted status in a discourse community, is a mindset that makes possible the development of methods for 'infiltrating gaps in the discourse of mastery' (Ryan et al. 4). Ecological thinking opens the doors to consider how marginal voices and epistemologies can integrate with and fill gaps in the larger ecological conception of ethos.

Lastly, I want to simply bring in a few notions of 'ethos as location' from Nedra Reynolds. In two definitional statements, Reynolds notes that, "*ethos* is not a measurable trait displayed by an individual; rather, it is a complex set of characteristics constructed by a group, sanctioned by that group, and more readily recognizable to others who belong or who share similar values or experiences," before adding that, "careful attention to the etymology of *ethos*—its connections to space, place, or location—helps to reestablish *ethos* as a social act and as a product of a community's character" (327). Reynolds advocates for location as critical to ethos for a number of reasons; but what's especially useful here is how location in ethos touches on the value of marginalized perspectives and understandings. In step with the considerations of epistemic injustice that are explored in the following section, this locational view of ethos provides a way of appreciating the value and complementarity of epistemologies from the margins for

broader understandings altogether. Reynolds writes that, "Because *ethos* is constructed in the betweens, another site for *ethos* occurs at the disciplinary or field-specific intersections of various texts, the places where different voices merge (not necessarily in unison) to discuss a particular issue, text, or set of ideas" (334). As such, we can think about ethos emerging in climate communication as that space is a setting for different voices and texts to emerge. If climate change representations in media can be thought of as a 'between' where ethos is constructed within a broader community, we should ask how that ethos manifests itself in terms of which voices and epistemologies get a voice in that space. Moving forward, this consideration will be crucial to the conceptions of ethos in this project, and they provide a way for conceptualizing ethos not as the credibility of a speaker; but as a socially constructed space where meaning and knowledge is formed by the intertwining experiences, subjectivities, and epistemologies of a range of people and things.

Epistemic Injustice and the Issue of Trust

With ethos in mind, we can now move into a deeper discussion on the place of authority figures in media representation, and epistemic exchanges on the whole. While there is a range of literature on issues like framing, tone, and audience in climate communication; there still seems to be less focus on the authority figures who are cited, quoted, referenced, or simply shown in news media representations. It is this gap that I would like to extend through my research, particularly looking at these speakers and their textual presence through the lens of epistemic injustice. As such, the following section will outline some of the specific theories which will undergird my analysis of climate

change representations. Mainly, I will try to relate Miranda Fricker's theory of epistemic injustice to broader issues of climate change in the media. In addition to that, Andrew Hoffman's breakdown of levels of distrust in public engagement with media processes will supplement that discussion. Both ideas coincide with an understanding of the ways in which people may distrust messages, messengers, and the voices which form and disseminate them. Perhaps equally important, however, is how this mistrust and misperception can be seen as representing an injustice to both listeners and speakers in their ability to gather and impart knowledge respectively. As such, these theories will further explore one area of public perception, specifically in regard to actors and the role they play as both speakers and agenda setters. By taking a closer look at the role that these actors play not only in shaping climate discourse, but also engaging with or turning away supporters, we can enter a deeper conversation on the importance of ethos in news media representations.

To start, I will attempt to illustrate some of the more critical issues taken up by Fricker through an explanation of epistemic injustice in her terms. I will not be able to fully unpack Fricker's work here, but I will try to elaborate on several key components and their relevance to this discussion. Namely, Fricker articulates two types of epistemic injustice, which are *testimonial* and *hermeneutical* injustices. Both concepts center on epistemology—particularly in the sense of social epistemology—where the transfer of information from one person to another is inhibited in some way. In one case, a listener may have what Fricker calls a negative identity prejudice judgement against the speaker (testimonial); however, the other instance involves a gap in the collective hermeneutical

resources available to someone, rendering certain information unintelligible to them

(hermeneutical) (Fricker 5-7). This analysis will focus less on instances of hermeneutical

injustice and more on testimonial exchanges, but both have a place in this analysis. Much

of Fricker's theory relies on notions of prejudice, identity and power. She starts by

offering that any issue of power which relies on shared social constructions involves the

concept of identity power (Fricker 14). Fricker argues that identity power is a subspecies

of social power, "which is directly dependent on shared social-imaginative conceptions of

the social identity of those implicated in the particular operation of power" (4). She goes

on to note that identity power can be active or passive, structural or agential, and is a

discursive, imaginative formation taken up through shared collective understandings (15-

17). This circles back to the power of group identity and collective understanding in

forming opinions and guiding epistemic relations, which also ties in to Hoffman's

cultural schism and cultural cognition (Fricker 17; Hoffman ch. 2). Additionally, this idea

bears some relation to Gramsci's conception of hegemony, and the power dynamics

which work to form such collective understandings in the populous.

Now, identity power, prejudice, stereotypes, and credibility decisions largely play

into Fricker's conception of testimonial injustice. Before outlining the concept, however,

I'd like to include Fricker's explanation for how identity power plays into epistemic

exchanges, and how testimonial injustices are ultimately felt. The author argues that:

> "…identity power is an integral part of the mechanism of testimonial exchange,
>
> because of the need for hearers to use social stereotypes as heuristics in their
>
> spontaneous assessments of their interlocutors credibility. This use of stereotypes

may be entirely proper, or it may be misleading…if the stereotype embodies a

prejudice that works against the speaker, then two things follow: there is an

epistemic dysfunction in the exchange—the hearer makes an unduly deflated

judgement of the speaker's credibility, perhaps missing out on knowledge as a

result; and the hearer does something ethically bad—the speaker is undermined in

her capacity as a knower" (17).

Broadly, this is the gist of testimonial injustice. Listeners' prejudgments and the social

stereotypes that they tend to uphold either result in a credibility deficit or credibility

excess allotted to the speaker (17). This hypothetical is directly representative of an

epistemic situation that occurs daily when people have to grapple with complex

information on climate change coming from the mouths of scientists, politicians, policy-

makers, pundits, or others. Similarly, audience members must make quick assessments of

those interlocutors as they form value judgements. While I should note that Fricker is

particularly interested in the epistemic injustice done to the speaker when their

competence, sincerity, or knowledge is devalued; I am equally interested in the injustice

that occurs on the other end—when audience members miss out on important information

due to such devaluing.

Ultimately, testimonial injustice involves the dialogic interplay between a speaker

and hearer, the hearer's (potentially prejudicial) evaluation of that speaker, the

corresponding levels of credibility which that hearer allocates to the speaker, and the

resulting level of trust they will then place on what the speaker is saying (Fricker 17-21).

Fricker uses the term identity prejudice to describe prejudices against people because of

their social type. If a person's evaluation of the speaker (conscious or not) results in a credibility deficit—where the hearer sees the speaker as being somehow less authoritative or trustworthy—they may be enacting a testimonial injustice. This is because they are limiting both their own understanding of the information being offered by the speaker, as well as essentially shutting off that speaker's authority as a knower. In the case of climate change communication, we can think of this injustice occurring when someone who distrusts the scientific community refuses to hear out the testimony of, say, a NASA scientist (for any reason, but especially one guided by prejudice). The scientist is harmed in their capacity as a knower, and the listener is harmed in their inability to receive potentially vital information. We can also think about how the fact that certain speakers and figures are never included in the conversation could amount to what Fricker calls pre-emptive testimonial injustice. This refers to the fact that certain people or groups, and their epistemologies, are never allowed a space in the first place (Fricker 130).

Furthermore, it's important to note that forms of testimonial injustice can occur without prejudice. However, the prejudiced injustices are most important here because they are the kinds of injustices that likely occur when culturally cognitive forms of understanding influence climate change opinions. Just because someone bears a prejudice—or inaccurately stereotypes a speaker—does not necessarily mean that they will disregard the information that person is delivering. However, as Fricker notes, "prejudice will tend surreptitiously to inflate or deflate the credibility afforded the speaker, and sometimes this will be sufficient to cross the threshold for belief or acceptance so that the hearer's prejudice causes him to miss out on a piece of knowledge"

(17). This highlights the concern that even small, subtle prejudices can lead to larger

epistemic fissures. In the context of climate change communication, it's useful to

consider the different levels of credibility that may be afforded to different speakers by a

given individual or group. Some people may be more trustworthy of a scientist speaking

on behalf of climate change. Others may be more inclined to listen to their local

politicians, or another authority figure. As was noted in the journalistic practice section,

people may depend on appeals to authority to give structure and order to complex issues.

That authority figure could be any social type depending on the topic. However, the

important thing to consider is how that desire for authority, if faced with an

untrustworthy social type (according to one's personal and/or group beliefs, prejudices,

known stereotypes, etc.), can lead to ignorance, denial, and ultimately a break in the

collective epistemic system. Ideally, we should be working toward a collective epistemic

system that is pluralistic in allowing for a range of epistemologies to be valued and

honored, while also supporting cross-communication between them.

Now, it's fair to say that many people use pre-judgements, or even stereotypes in

some cases, in order to ease decision making and thought processing. But when these

stereotypes are inaccurate, harmful, offensive, or otherwise flawed, they can become

major detractors to our epistemic systems of relation. Even those who consider

themselves open-minded and objective are likely to carry traces of prejudice that

influence their day-to-day decision making. Fricker calls this residual internalization, or

residual prejudice (37). Basically, even though someone's ideology may have changed

entirely, they still harbor lingering cognitive commitments to ways of thinking or feeling

that don't necessarily match up with their current beliefs (5, 37) . Fricker designates two types of residual prejudice cases, either diachronic or synchronic. The differences are not so critical for discussion now, but the idea of residual prejudice is critical in the context of this study for its ability to influence a person's opinions even in the face of competing beliefs. As Fricker notes, "Residual prejudice, whether diachronic or synchronic in form, is the sort of prejudice that will bring about the most surreptitious and psychologically subtle forms of testimonial injustice" (39). For Fricker, residual prejudices, which could be thought of as products of social hegemony, work in subtle and almost undetectable ways to influence our judgements. These conceptions of prejudice are relevant because they represent the sort of subtle, socially constructed biases that may play into listeners' judgements of climate communication actors. The idea of residual prejudice runs parallel to notions of cultural cognition and motivated reasoning.

Now, with epistemic injustice in mind, I'd like to return to Andrew Hoffman's writing on the cultural components of climate change engagement for some final critical underpinnings. In Hoffman's book, the author describes four different elements of distrust that tend to animate debates on climate change in the public sphere. These forms of distrust include, "distrust of *messengers*, distrust of the *process* that created the message, distrust of the *message* itself, and distrust of the *solutions* that come from the message" (ch. 2). Hoffman notes that his reorientation toward this framework stems from several studies; but it closely follows Mike Hulme's linkage of public disagreement on climate change to disagreement on things like the scope of human responsibility, opinions on knowledge broadly and the scientific method, how we see our place in the

ecosystem, and prioritization of development and the environment among other variables (Hoffman ch. 2). While all of these forms of distrust are critical to building a consensus around climate change, Hoffman's notion of distrust of messengers is most useful here as it relates to authority figures and the issue of ethos.

Elaborating further, Hoffman's discussion of distrust of messengers keys in on three primary spokespeople for climate change: scientists, environmentalists, and Democratic politicians. It's important to note, as Hoffman does, that distrust of these types of messengers tends to occur particularly for those on the political right. However, this should not delimit our notions of distrust to that specific audience. Indeed, this recognition will lend insight into a consideration of the use of other types of spokespeople outside of the three mentioned by Hoffman. Returning to those initial spokespeople though, Hoffman notes that environmentalists tend to be seen as interfering with market norms and individual freedom, with some people even relating environmentalism broadly with socialism or communism (ch. 2). The second distrusted messenger in this framework is the Democratic politician, which is particularly relevant to a nuanced discussion of climate communication. As Hoffman writes, climate change has become a particularly politicized topic especially since the 2012 election (ch. 2). Aside from the fact that many fewer Republican politicians tend to advocate for acceptance of climate consensus than Democrats, Hoffman also notes that former Vice President Al Gore has drawn particular criticism from contrarian perspectives (ch. 2). Because of Gore's role as an outspoken advocate for addressing climate change, his figure has been particularly representative of what some might deem a partisan politics of

environmentalism (Hoffman ch. 2). The last distrusted messenger that Hoffman describes

is the community of scientists. The author argues that there has been a long-standing

element of distrust of the scientific community in sectors of American society (consider

distrust of vaccines or the existence of flat-earth conspiracies, to name a few) (ch. 2).

Hoffman expands on this distrust by pointing out a few key beliefs that may underwrite

it. Namely, he writes that there is a perception that universities are dominated by liberal

people, that scientists are vigilantes focused more on fact than values, and that they may

hold a disproportionate influence on the political process as people who understand

complex issues out of public reach (Hoffman ch. 2).

Following Hoffman's framework, it's useful to consider how broader enculturated

views of certain social types representing climate change might play a role in the levels

of distrust that emerge around the discourse. It's relevant to ask whether the use of

Hoffman's three spokespeople in the media is still a consistent approach in climate

communication. Additionally, understanding the general distrust that may occur between

certain culturally or ideologically aligned groups and these typical climate spokespeople

may be key to reorienting representations toward more reputable or trustworthy authority

figures relative to those groups. It's also worth asking what this breakdown might mean

for media representations which already use alternative spokespeople in their reporting

on climate change. Ultimately, however, the critical importance of Hoffman's framing of

distrust is in recognizing that the selection of authority figures speaking on climate

change—an inherently politicized and ideologically polarizing issue—is critical to

audience perception and trust. If broad swaths of the public are under the impression that

scientists are trying to undermine capitalist modes of production, we could probably posit that they will harbor negative credibility prejudices toward a climate scientist speaking on behalf of carbon emissions reduction. Hoffman's notions of distrust and culturally formed perceptions, paired with Fricker's lens of epistemic injustice and Ryan et al. ecological approach to ethos, provide a theoretical apparatus for looking at issues of climate change representation in the media. They help to highlight the potential impacts that constructions of ethos may have on the spread or uptake of climate information.

METHODOLOGY

In order to answer my research question(s) I have constructed a corpus of news media texts which serve as the foundation for this rhetorical analysis. The analysis investigates a range of selected texts—all centered on a single topic at a specific historical moment—and categorizes, describes, and explains patterns of ethos construction that may be seen among them. This analysis does not purport to give an all-encompassing breakdown of the rhetoric of mass media reports on climate change. Such an undertaking would require much more time and resources than are available. Instead, this analysis seeks to form a representative picture of some of the more mainstream and accessible online news reports available to the wider public (assuming they have access to the internet [1]). Online publications were chosen because of their salience and reach in the current information landscape. The Pew research center has noted that as of 2018, roughly 9 in 10 people, or 93%, get at least some of their news online ("Trends and Facts"). Online news publications have picked up where traditional "legacy" news organizations may be seeing declines in physical print production and readership ("Trends and Facts"). For these reasons—and because there seems to be a lack of significant attention to digital media in broader discussions of climate communication—I have made them the foundation of this study's corpus.

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[1] Internet capacities are not universally accessible, and so this focus can only speculate on reach and access. However, traditional print news is still in decline, and my sense is that it's still easier for a majority of people to get online than to acquire hard copies of news. Additionally, a focus on digital news helps to take a national-level approach, rather than focusing on regions or smaller locales.

While this analysis is not wholly representative, it can offer a snapshot in time of what media treatment of climate change information might look like in a particularly critical stage of information dissemination. The artifacts or texts for this analysis consist of 14 online news articles published following the U.S. Government release of the Fourth National Climate Assessment, Volume II (NCA4, Vol.II). Additionally, the analysis also takes an in-depth look at two broadcast news segments following the release of the NCA4 , Volume II to offer a picture of rhetorical constructions in both print and visual media. The inclusion of broadcast news is offered as a supplement to the analysis of online news articles. The study is based on a relatively small corpus, and it does not presume to reveal universal patterns. Instead, the use of broadcast media alongside the larger analysis of online print news, allows for further discussion of how ethos construction may vary in both mediums. As an added note, it should be recognized that this corpus, consisting of reports which were produced immediately after the NCA4 release, may not be entirely reflective of journalistic decisions and/or editorial inputs. It's more likely that the narrative framings and constructions of ethos are a product of the brief press releases and initial summary notes that were probably given to large news organizations for coverage. Journalists are largely at the mercy of the information they receive for any given story. The analysis that follows isn't an exemption or an indictment. When considering rhetorical maneuvers and the selection of authority figures, one should recognize that those decisions on some level may have been out of the grasp of journalistic agency. That said, we can still consider the ways that the broader scientific community is attempting to build ethos through their selected speakers and content (indeed many of the news articles

draw from a small group of sources), and how the media then still plays a role in shaping those narrative and discursive constructions. While this project has included a good amount of research on journalistic practice, the representations under examination here should not be thought of as solely the result of one or a few news professionals' decisions; rather it should be conceived of as a conglomeration of the choices made by the scientific community releasing the report and its summary, media professionals, public relations experts, and more. This project attempts to draw out some patterns of rhetorical constructions and ethos-building at the point of news dissemination—but that doesn't mean those constructions can be pinned to the choices of news media professionals alone. Again, there are a matrix of actors.

<center>Corpus Selection</center>

In choosing the articles that make up this corpus, I tried to generate a sample that would be representative of a large and frequently accessible body of reportage. As I've noted, online news articles were chosen for their relative salience and accessibility for the greatest number of people across many demographics ("Trends and Facts"). Ostensibly, anyone with internet access in America could find these articles. Additionally, in choosing which publications to draw from, I used a combination of digital rankings and website traffic scores to determine which sites and publications might have the most reach. These sites would likely appear at the top of search engine lists, as well as being more frequently visited sources in general. I used Pew's rankings of the top 25 digital news sites alongside ComScore's rankings of most trafficked digital sites ("Top-25-

Newspapers"; "Top 50 Multi-Platform"). This allowed me to put together a list that

included fourteen of the more news-centric digital outlets among that group. I use the

term news-centric here because not all of the sites listed on both rankings are necessarily

news media driven. I wanted to include those digital publications that stem from

traditional legacy news organizations (such as CNN, Fox News, etc.) as well as some

sites which seem to be primarily digital (such as Buzzfeed or Yahoo News). In doing so,

the sample is representative of a large body of different news outlets, with ostensibly

different editorial slants, different demographic outreach, and different readers. In this

way, the artifacts represent a range of rhetorical approaches, but from essentially the

same genre; which allows for a more detailed and valuable comparison between them.

After looking through the digital media rankings, I began searching through

online engines to find out which of the organizations on the list had reported on the

release of the NCA4, Vol. II. To find out which organizations had reported on the NCA4,

I used Google's search engine with the search terms "Fourth National Climate

Assessment" alongside the name of each respective news organization from the list (i.e.

"Fourth National Climate Assessment Washington Post" to find any coverage by the

Washington Post regarding the NCA4). I was able to generate a corpus that consisted of

fourteen of the top articles from as many organizations that I could find on the respective

Pew and ComScore lists, as well as a few that weren't included (i.e. National

Geographic). I should note that this list does not include every single digital site or news

organization from those lists; but rather it offers a generalized sample of many of the

larger ones alongside a few outliers. In order to manage the sample size of the articles,

especially if a site published more than one report on the NCA4, I chose only those articles which had been published on the same date as the NCA4 release—November 23, 2018. Additionally, I tried to use only those reports which were broadly and directly covering the NCA4, rather than those which might have focused on one specific aspect of the report (i.e. solely looking at economic ramifications or political responses). I also excluded those articles which followed many days or weeks after the NCA4's initial release. In doing so, the corpus reflects the initial coverage of the NCA4, and offers the most boilerplate, or less specialized, approaches to a vastly complex report. I wanted to generate a sample that was reflective of the most generalized and broad coverage to allow for continuity and uniformity of what was being covered; rather than looking at articles which may have focused only on specific aspects of the report or its implications. Again, this is not without its problems, as many of these early reports were probably largely shaped by whatever initial press releases on the NCA4 were distributed to news organizations. Nevertheless, my hope is that these texts still capture a snapshot of ethos as devised and shaped by both the scientific community and the subsequent narrative shaping by news professionals. By using only those articles which appeared immediately following the release of the NCA4, Vol.II, the corpus is representative of the most primary introductions of this information to the broader public.

Following these criteria, I was able to generate a list of fourteen online digital articles covering the release of the NCA4. All of these articles were published within a day of the November 23, 2018 release of the Climate Assessment. Additionally, only the most primary and generalized coverage of the report were taken from each site. If a

search for a particular news site did not match up with these criteria, then it was not

included as an artifact. In all, the corpus consists of 14 online print news articles covering

the release of the NCA4, Vol. II, which are included in this table along with their

respective publications:

Table 1. List of Articles and Sources

Article Title/Headline:	Article Publication/Organization:
"Major Trump administration climate report says damage in 'intensifying across the country'"	The Washington Post
"U.S. impacts of climate change are intensifying, federal report says"	USA Today
"New government report reveals staggering economic and health toll of climate change"	CBS News
"Climate report warns of grim economic consequences, worsening weather disasters in US"	Fox News
"Climate change will shrink US economy and kill thousands, government report warns"	CNN
"Climate Change Is Already Hurting U.S. Communities, Federal Report Says"	NPR
"U.S. Climate Report Warns of Damaged Environment and Shrinking Economy"	New York Times
"Here's How Climate Change Is Already Impacting The US (Hint: It's Not Good)"	Buzzfeed News
"Climate change will harm the entire nation if the U.S. doesn't act now, federal report warns"	Los Angeles Times
"U.S. report says climate change will batter economy, in clash with Trump"	Reuters (via Yahoo News)
"Climate change 'will inflict substantial damage on US lives'"	The Guardian (U.S. Edition)
"Federal Climate Report Predicts At Least 3 Degrees Of Warming By 2100"	Huffington Post
"New federal report on climate change paints bleak picture for economy and environment"	San Francisco Chronicle
"Climate impacts grow, and U.S. must act, says new report"	National Geographic

While this sample does not include every major digital news outlet or every single article covering the release of the NCA4, it offers a broad base of coverage to draw from; and one which represents a wide range of readership and discursive variance. Additionally, many of the websites included in the corpus are the online edition of traditional legacy news institutions, and so allow for a consideration of both agenda-setting potential as well as their authority and salience in mainstream news consumption.

Along with that, using the release of the NCA4, Vol. II as a single topic for analysis has helped to eliminate some of the discrepancies that may occur with a broader sample covering a range of climate related information or events. Additionally, as Anthony Leiserowitz has noted in his recent study of American perceptions of climate change, extreme weather events during 2018 have likely contributed to a notable rise in public concern and recognition of the climate problem (Leiserowitz et al. 23). Along with Leiserowitz, Boykoff and Boykoff have noted that journalistic norms of novelty and dramatization suggest climate change salience as a topic in the news is likely to increase when specific events occur—like the release of the Fourth National Climate Assessment ("Climate Change and Journalistic" 1193-1194). As such, it's worth examining media coverage of that report. The report has clearly had an impact on American risk perception, and as such beckons further analysis.

The examples of reporting that are included in the corpus represent an important epistemic step in the transfer of a highly detailed and complex domestic climate report from scientists to the broader public. The Fourth National Climate Assessment represents the most up-to-date and expansive overview of climate change implications for American

society. It was also put together by the nation's leading climate scientists, spanning thirteen federal agencies, which positions it nicely as a media topic that encapsulates the matrix between scientists, politicians, policy makers, journalists, and the public audience. I chose this event as the focal point for the corpus because it stands as an important and relevant cog in the overall communication of critical climate information to the public. In order for the public to make informed judgements on how to approach the climate issue, it's critical that they have some awareness and understanding of this report.

At the same time, it's necessary to recognize that content alone will probably not be the single determining factor in persuasion. As Hoffman and others have shown, people tend to follow their social groups and other authority figures when making sense of such complex issues (Hoffman ch. 2; McCright and Dunlap 161-162). As a result, this analysis focuses specifically on the speakers within each report, and how their positioning within the text as well as their message content could be interpreted by different groups. Additionally, the analysis also offers a consideration of what speakers may be missing, and what groups may be epistemically harmed or ignored as a result. Moving forward, the analysis specifically focuses on the speakers who are quoted, referenced, paraphrased, or otherwise cited within each article or broadcast to highlight constructions of ethos and journalistic decision making. Focusing on the messengers delivering climate information allows for a more narrow and focused inquiry while still addressing a critical aspect of communication rhetoric.

Method of Analysis

To start, the first step of analysis focuses on charting the speakers across all 14 articles in order to illuminate the frequency of citations and the range of social or professional figures cited. Charting the corpus in this way offers a big-picture categorization of what "types" of authority figures are cited, how often each category might be used in an article, the frequency of references across all 14 texts, and what patterns might emerge structurally in terms of the organization of speakers referenced. In effect, the analysis categorizes each article or broadcast by the number of different authority figures cited, referenced, or otherwise shown giving testimony on the topic. I've then coded these figures into broader social types, fitting largely into the categories that Hoffman provides; while also including what might be considered the converse of those social types. It also includes social types that may be perceived as neutral or alternative actors who frequently give testimony in these representations. We should consider again that these figures were not necessarily pulled out of thin air and selected only by editorial staffs to speak on behalf of the NCA4 release. However, at the same time we can consider the choices which are being made in terms of how different representations lean more or less heavily on certain speakers, and how they organize speakers and content to build credibility and create consistent narrative framings (or not). Many of these news organizations are likely dealing with the same boilerplate summaries and focal points from the NCA4 release, but how they then choose to organize and represent it still has some weight.

Ultimately, the analysis started with a scan of the physical online articles and the subsequent highlighting of all sources. Anyone cited or referenced as contributing some sort of information or commentary about climate change or the NCA4 report was included—whether that was an individual person, a report, an organization, or otherwise. The initial breakdown allowed for a larger-picture view of how this specific climate change event was being presented by a number of publications. That allowed me to form a body of categories that was better suited to the specific patterns emerging in coverage of this specific event. In particular, I was able to group these authority figures into roughly eight different categories according to how they fit into a larger discussion of climate communication. Ultimately, by starting with some of the categories of climate messengers that Hoffman articulates (including scientists and democratic politicians as a few), and then considering the range of figures cited in the articles themselves, I was able to form categories that fit best for this specific inquiry. Starting with some of the designations that Hoffman posed, I then added and rearranged the categories to reflect the authority constructions in the texts. Ultimately, trying to join some of Hoffman's categories with the 'types' of figures being referenced in the online articles led me to the 8 umbrella categories provided in the table below.

Table 2. Criteria and Designations for Categories of Authority Figures

Name of Category/Figure(s):	Description of Figures Included:	Example(s) from the Corpus:
NCA4 Vol. 1 or 2	Any citation or reference to the NCA4 report itself with no mention of authors or specific individuals.	"The report suggests that by 2050, the country could see…" (Washington Post)
The Scientific Community	Any citation or reference to:	"The report's authors, who

Name of Category/Figure(s):	Description of Figures Included:	Example(s) from the Corpus:
	the authors of the report (specific naming or reference to "authors"); to climate scientists; or to University Academics. All supporting climate findings.	represent numerous federal agencies, say…" (Washington Post) "Report co-author Katharine Hayhoe of Texas Tech University said…" (USA Today)
President Trump or the Trump Administration	Any citation or reference to President Trump, the Trump administration generally, or specific members of that administration.	"The report frequently contradicts President Donald Trump, who took to Twitter on Wednesday night to again express his doubts…" (USA Today)
Political and/or Scientific Skeptics or Deniers	Any citation or reference to public or private figures, organizations, institutions, or other entities which are identifiably skeptical of climate change findings.	"This week Interior Secretary Ryan Zinke blamed 'radical environmentalists' for making the fires worse…" (Fox News)
Alternative Scientific Reporting or Scientific Organizations	Any citation or reference to: alternative scientific reporting or findings that does not include the NCA4.	"The Second State of the Carbon Cycle Report, which examines all of North America...finds that…" (Washington Post)
Neutral or Unknown Figures	Any citation or reference to a public or private figure, organization, or institution with no direct or readily discernible stance on climate consensus.	"Some observers complained the administration had purposely timed the release…" (Buzzfeed News)
Non-Scientific Proponents of Climate Consensus	Any citation or reference to climate activist(s); environmentalist(s); climate progressive politicians; other public or private figures, organizations, or institutions which are all in support of the climate consensus but don't have a scientific or academic background as primary identification or profession.	"In a statement released Friday, former Vice President Al Gore criticized the timing of the report's release." (CBS News)
Environmental Justice Advocates and Marginalized Groups	Any citation or reference to climate justice advocates; public or private figures	"…said Beverly Wright, founding director of the Deep South Center for

Name of Category/Figure(s):	Description of Figures Included:	Example(s) from the Corpus:
	speaking on behalf of marginalized, disenfranchised, or at-risk communities; other figures, groups, or organizations that belong to or make mention of said communities.	Environmental Justice…" (CNN)

By focusing primarily on the speakers, institutions, and other authority figures which make up much of the appeals to ethos within these articles, the analysis offers a view of climate communication that positions speaker identity first and content second. The deliberate inclusion of authority figures and their respective messages plays a critical role in how the issue of climate change is to be understood, felt, and grappled with by the American public. It seems that content alone—specifically in the sense of putting forth more scientific information as a solution to the information deficit model of climate change communication—is simply not a viable approach on its own (Moser and Dilling 162-163; Bord et al. 206). Indeed, if the findings of researchers like McCright and Dunlap tell us anything, it's that political orientation, far more than new information, will tend to moderate and direct opinion on climate change (161-162). Knowing this, the categorization of figures above helps to bring a focus toward the political and professional backgrounds of those cited. Having this breakdown allows for generalizations to be made about the potential for influence by respective speakers based on these backgrounds and public perceptions of them.

Now, by classifying the figures and references in this way, the texts can be understood in a sense as appealing to these broader categories of authority on the whole.

In placing the respective figures used in each article under larger groupings—mainly in relation to their stance on the issue, combined with their professional backgrounds—we can get a better sense of the ways that credibility is being built around climate change. Looking at this breakdown of authority also helps us to gain a sense of how the scientific community, in tandem with media outlets, attempt to wrestle with an amorphous audience and the expectations they might have for who is qualified or trustworthy to comment on climate information. Additionally, a more complete picture of rhetorical approaches can be seen by grouping these categories together and examining their dispersal across the articles. When these actors are referenced on their own and in specific and unique ways, it can appear as though a range of perspectives are being offered on the topic. However, when lumped into these broader groups, the spread of authority figures being referenced, and the respective views, values, and logics they privilege can be remarkably consistent and one-dimensional in terms of framing the problem. In other words, by linking these figures together in terms of their epistemological approaches, their professional or ideological backgrounds, and/or their stance(s) on climate consensus or climate science more generally, this analysis is able to take a macro view of the dominant narrative structure. These categories help to show how in some instances climate communication can still be radically simplified—especially in an attempt to place it into more 'newsworthy' frames. In doing so, however, these broader framings of climate change also lend insight into how they might fail to reach a more diverse audience (culturally, socially, epistemologically); and how they might fail to represent a range of views and values surrounding climate change. In a sense, the

initial coding helps to illustrate just how oversimplified or overdetermined the narrative

on climate change can sometimes be, while also illustrating the lack of diverse

viewpoints and identities being placed in the conversation. Additionally, the latter section

of this analysis takes a micro view of the situation in considering more of the personal

characteristics of these authority figures in relation to issues of epistemic injustice.

With that being said, it should be noted again that this analysis doesn't argue for

any conclusive blanket findings about climate communication or journalistic practice.

Instead, it presents a case study that concentrates on and illustrates a number of potential

pathways and rhetorical approaches to communicating about climate change in the

current political moment. There are many limitations, but this project aims to widen the

scope of consideration for how we can go about crafting climate change representations

with an awareness of the patterns and framings which already dominate mainstream

discursive constructions—from both a journalistic and science communication

perspective.

Additionally, by categorizing these speakers in relation to specific news agencies

or organizations, the analysis also frames respective articles in terms of how they have

chosen to appeal to authority; which lends insight to the political action being undertaken

by news producers. As Carvalho and Burgess write:

> Producers endeavor through the rhetoric of their verbal and visual
>
> communications to position readers and viewers so that they interpret texts in the
>
> ways intended, and clearly there are asymmetries in terms of the power that

encoders can exercise in framing knowledge claims and what significance they

might have. (1459)

Now, it's critical to note that Carvalho and Burgess have recognized that audience

members can also exhibit control over whether or not they will accept those

interpretations (1459). However, the importance comes in recognizing the influence that

producers have in constructing these messages, and by extension the authority figures

cited in such constructions.

Following the analysis of online news articles is the last section of findings which

takes a brief look at two broadcast news segments reporting on the release of the NCA4,

Vol. II. In this last section, I have followed a similar structure in categorizing ethos

construction by way of speakers referenced, quoted, paraphrased, interviewed, or

otherwise noted. Mainly however, that portion of the analysis focuses on a few ways that

the broadcast segments mirror or parallel some of the rhetorical constructions being made

visible in the print corpus. As such, I have highlighted a few key instances while focusing

less on the overall breakdown of authority figures in those broadcast segments. By

including these visual representations, the analysis is able to draw some connections

between both visual and online print media. Along with that, the inclusion of visual

representation allows for a discussion of how ethos may differ in ways that cannot be

directly noticed in print articles. Namely, these broadcast artifacts open up a slightly

wider window for analysis of visual features, mannerisms, composition, and framing

when constructing ethos.

RESULTS

Visualizing Different Binaries: Constrictive Conversations

Following the coding and categorizing of this media sample, some interesting

patterns began to appear across the corpus with regard to authoritative figures. Those

patterns, in general, involved the consistent positioning of certain speakers, or types of

social figures, as the main arbiters of information regarding the Fourth National Climate

Assessment. These consistencies hold important potential for a discussion of ethos in that

they present the larger audience of readers and viewers with some remarkably

homogeneous renderings of the report. By doing so, they justify and reinforce certain

understandings of the issue while excluding others—and by extension they negate the

people who might identify with alternative constructions of authority as well. The

binaries and framings that come through are representative of broader paradigmatic

structures in the collective ethos of climate communications altogether. They influence

how we expect that information to be disseminated, and how we in turn process it. These

renderings not only point to specific authorities in the writing, but they also serve to

exclude the voices and epistemologies that don't align directly with the viewpoints being

published. In particular, the coding indicates that a few larger binary framings tend to

dominate the corpus while other perspectives are largely left unapproached. These binary

oppositions will make up much of the following subsections, and can largely be thought

of as following these groupings: 1.) Climate change as an economic problem rather than

an environmental and/or health problem. 2.) Climate change as a scientific problem rather than a social problem. 3.) The scientific establishment vs. the political establishment or the Republican party. 4.) The exclusion of marginalized communities and epistemic injustice on the whole.

Importantly, these binaries and their effects are products of choices made by a number of figures in the overarching communication process. They shape the very architecture of our thinking about climate change. By directing our attention to the narrative conflict between science and the political right, or by framing the issue as an economic problem, these reports structure our overall perceptions of the issue. When the problem is framed using these types of binaries, readers are left to consider whether those are the only legitimate authorities on and renderings of the subject. If their own trusted elites are left out of the conversation, or if they simply distrust some of the authority figures who *are* cited (whether that distrust is personal or based in social prejudice of any kind), then it can probably be assumed that some level of dissonance between those representations and a readers' own experience will emerge. By focusing attention on these themes, the authors of the articles miss out on the chance to frame a national climate report in a way that truly speaks to a national majority. That majority includes people who do not have the luxury of seeing climate change as an economic problem to be solved with money and innovation. It also includes many people who do not have the luxury of seeing it as a scientific problem to be solved with further research, or as a political problem to be fought over in the nation's capital.

For many people, climate change is and will continue to be a social and health problem which will not be solved by two badgering sides of a politicized narrative. Effective communication entails bringing as many people into the fold as possible, and my contention is that the current framings and constructions of ethos mainly serve to reinforce two conflicting sides which are mainly talking over one-another. While this corpus centers on one specific event, the consistencies and similarities across the articles tend to point toward general approaches that might be emblematic of current communication strategies writ large.

<div align="center">Framing Climate Change as an Economic Problem</div>

Several rhetorical structures emerged across these samples, particularly with regard to noting the contrast between the NCA4 findings and the Trump Administration's policy stances. This juxtaposition consistently occurred within many of the articles, and that focus seems to constitute one recurrent theme in framing the NCA4 report. Additionally, with the NCA4 report releasing findings on both the potential environmental *and* economic ramifications of climate change, many of the articles in the corpus highlighted the economic side of the findings. Indeed sometimes the economic considerations came before issues of public health and environmental degradation. While this is certainly also a result of the information that news organizations had probably received from the press releases and other first takes, it still marks a significant overall framing in the collective ethos being constructed. This framing, while not being entirely

produced by news producers, risks alienating readers who do not have the privilege of reading climate change on such terms.

Continuing on, it's useful to bring Andrew Hoffman back into this discussion briefly. In Hoffman's book *How Culture Shapes the Climate* Debate, the author notes that climate science—like most complex scientific issues—remains largely out of the reach of intelligibility for most members of the public. This is not a new idea by any means, but Hoffman outlines in more detail just how scientifically illiterate much of the population appears to be. That scientific illiteracy creates problems for public perception of climate change, specifically when it comes to who the public will trust to deliver such dense and complex information. Hoffman notes that because of this lack of scientific literacy among the public, "climate change generally scores low among Americans on public opinion polls of the issues that are most important to them, often being displaced by more pressing and salient issues like the economy" (ch. 2). I wanted to include this quote from Hoffman for a few reasons, but namely because he highlights an important reality that seems to be driving some of the current framings of climate change in the media. Additionally, it's also important to note that attending to the lived experiences and health-related effects of climate change does not necessitate understanding the science behind it. People don't need to understand emissions on a global time-scale to understand that groups are experiencing the detrimental effects of those emissions right now. It seems more and more frequent that climate change is being constructed as an issue that not only has grave environmental and public health risks; but that it also stands as a potentially massive economic problem. In the corpus of articles which I surveyed, almost every

single text made at least some mention of the potential economic ramifications laid out in the NCA4 report. Many of them positioned it as a focal point of the issue, and at least six of them included some mention of the potential economic pitfalls in the headline itself. Again, it's certainly not unusual to include this information—especially considering that the report itself was created to show both potential environmental and economic outcomes in the U.S. However, there is still a heavy focus on the economic dynamics of the NCA4 report within these online articles (like national GDP losses, or losses in assets of private property), and I'm inclined to believe that it represents an intentional rhetorical strategy on behalf of both the report authors as well journalists.

To elaborate on this idea, it's useful to include some of the headlines here alongside some other observations that should illustrate a shift in framing. Among the articles surveyed, six of them make direct reference to the economy within their headlines alone. Among those, some headlines position the economic aspects of the NCA4 report before health concerns. For example, a CNN article was titled: "Climate change will shrink the U.S. economy and kill thousands, government report warns" (Christensen and Nedelman). Another article, from CBS News, has the headline, "New government report reveals staggering economic and health toll of climate change" (Frank), while yet another—this time from Fox News—is titled, "Climate report warns of grim economic consequences, worsening weather disasters in US" (Shaw). While some of this may seem natural or even common sense, it's important to remember that journalistic conventions and choices about how to frame such an expansive report like the NCA4 will ultimately have important implications for what an audience is going to take away. How a headline

frames the report has important implications for what an audience will read as being the

most important aspects of that report—and by extension how they should grapple with

the issue of climate change in their own lives. Additionally, the framing of the articles as

largely concerning economic consequences will likely dictate at least some of the choices

surrounding how authority is constructed. By focusing on economic elements of the

NCA4, these reports center productivity losses as a motivating issue. All the while, they

potentially ignore other frameworks, and hence other voices, who might have some

unique knowledge to impart which doesn't necessarily concern the economy. The issue

of marginal voices comes into view here as we grapple with how ethos is being built

across the whole corpus. For instance, consider that in the summary findings section of

the NCA4 report there is an entire section on indigenous communities and potential

impacts ("Fourth National Climate Assessment"). Yet those groups are rarely talked

about in these national representations of the report release. Why is this, and what can we

make of the fact that other class-based issues of economy are presented while a focus on

indigenous communities that is highlighted in the report itself remains largely ignored?

Furthermore, the economic salience of climate change was not only targeted in

many of the headlines, but was a considerable focus in the body of many of these articles

as well. In the CNN article mentioned previously, the lead sentence is as follows: "A new

US government report delivers a dire warning about climate change and its devastating

impacts, saying the economy could lose hundreds of billions of dollars – or, in the worst

case scenario, more than 10% of its GDP – by the end of the century" (Christensen and

Nedelman). While the article goes on to describe the potential weather and health related

findings as well, it's notable that they should start with this recognition of the economic

ramifications first and foremost. In another case, the same *New York Times* article noted

above has a similar lead: "A major scientific report issued by 13 federal agencies on

Friday presents the starkest warnings to date of the consequences of climate change for

the United States, predicting that if significant steps are not taken to rein in global

warming, the damage will knock as much as 10 percent off the size of the American

economy by century's end" (Davenport and Pierre-Louis). While these leads are notable

for their similar framing of the NCA4 in economic terms; what is especially interesting is

the apparent movement away from the doom and gloom rhetoric of environmental

disaster toward a sort of doom and gloom rhetoric of economic disaster. Climate

communication experts like Moser and Dilling—but certainly others, too—have found

that apocalyptic or dire framings of climate change related weather events can have a

stultifying effect on audiences (Moser and Dilling 164-165; Foust and Murphy 161-162).

In the cases described above, as well as many of the other introductory graphs analyzed,

the 'doom and gloom' paradigm seems to be more directed at potential pitfalls of climate

change for the US economy.

    Now, while these observations may seem more focused on content than appeals to

authority, it is relevant to this project insofar as this reframing—while helping to possibly

avoid the paralyzing effects of focusing too heavily on environmental disasters—instead

privileges a narrative of climate change that positions it heavily as an economic issue.

While this isn't necessarily an entirely negative shift—and certainly cannot be said to be

the primary or dominant framing as a whole—it's still important to consider that for

many people the economic results of climate change are a mere fraction of the problem

compared to the tangible lifestyle and health effects they will see. In step with that idea,

it's worth considering that this tendency in framing may also play a role in structuring

who gets cited and how. For instance, in heavily focusing on the newer economic

findings of the report, many of the articles cite the report itself, or specific authors

affiliated with it. Several articles mention that certain sectors of the U.S. economy may

be particularly at-risk, such as fishing, tourism, and agriculture. However, aside from

some references to those industries broadly, few of the articles go on to cite or reference

the testimony of anyone from those sectors who may already be grappling with these

changes. This seems like a clear cut opportunity to place the macroeconomic

conversation into terms that might resonate with more specific audiences by using a

range of respective authorities. Whether that lack of appeal to different authorities within

the economic framing was the result of a lack of resources, time, or a deliberate choice is

impossible to know. The important issue is in simply recognizing that these are gaps

where more inclusive authorities might be weaved into a conversation that—in its current

state—largely overlooks smaller groups in favor of the big-picture economic losses that

are made salient to a vague public.

Additionally, by framing the issue economically, the rhetoric seems to imply that

our concern should not only be with how the issue will affect weather patterns, but also

how it will shape productivity and GDP for years to come. This seems to be an inherently

neoliberal framing of the issue, and one that attempts to persuade on the basis that

economic ramifications might speak to more people's experiences right now. Many of the

online articles noted drought and flooding effects as connected to agricultural outputs and other monetary declines (Dennis and Mooney; Christensen and Nedelman; Davenport and Pierre-Louis). Again, while this is not an inherently faulty, nor unexpected framing, it has the potential to overshadow other important elements of climate change—like the potential for extreme weather disaster, and the unequal effects of these changes on low-income or marginalized communities. Moving forward, it will be useful to keep this tendency toward highlighting economic salience in mind when considering the dominant framings and paradigms of climate communication. While it is important to highlight the domestic economic future with climate change; it's also critical that we don't rely solely on that framing, and to remember that for many people—both locally and globally—climate change will not be an issue of GDP losses.

In one sense, we can think of an economic framing of the issue versus, say, a social framing that highlights lived experiences. Neither framing is necessarily wrong, but by consistently utilizing the economic framing, the authors potentially alienate readers whose understanding of the problem is not rooted in the effects it will have on GDP or productivity. It also leaves out the potential for epistemologies that don't fall under those framings to reach a larger public. Framing climate change in economic terms also still detracts from the immediacy of its effects right now on domestic and international populations; and the need to include that information and the representation of those groups on some level. Economic issues are important, but the economic framing of climate change privileges a world view that can afford to be concerned with its effects

from that distance. Furthermore, these framings also risk reinforcing the notion that climate change is a problem to be solved, or at least curbed, with money.

One more headline illustrates both the propensity toward highlighting the NCA4 report's economic findings, as well another element of continuity in rhetoric across the reports. In the Yahoo News/Reuters article covering the release of the NCA4 report, the headline states: "U.S. report says climate change will batter economy, in clash with Trump" (Valdmanis). This headline not only focuses singularly on the economic findings of the report; but it also includes the notion that these findings are in direct opposition with the Trump administration. As the next section will demonstrate, almost all of the online articles surveyed include some focus on the opposition between climate scientists and the Trump administration. While addressing this polarization in media reports is neither unnecessary nor unusual, it may be representative of a more current shift in climate communication. This shift could stem from previously identified rhetorical approaches, but it has proven problematic nonetheless. It also marks another larger trend in the ecology of ethos that is emerging around climate change representations in the broader discourse.

From 'Dueling Scientists' to 'Science vs. the Political Establishment': Newer Binaries,

Same Old Distractions

Beginning with the texts themselves, it's necessary to describe the coding process further in order to illustrate how consistent this theme of binary opposition was across the corpus. By binary oppositions I am referring to the ways in which the articles in this

corpus frequently construct the issue of climate change as a debate between two sides. This refers to the authority figures cited (like climate scientists vs. the Trump administration); but it also refers to binary framings. These binaries are important because they represent some of the larger paradigmatic constructions of ethos occurring in climate communication as a whole. They structure the dwelling places where knowledge and meaning are formed on the subject. These kinds of binaries are important because they have the potential to solidify existing beliefs about an already divided issue. My contention is that climate communication needs to go a step further in breaking free of these restrictive frameworks in order to begin to ask how specific communities are reacting and adjusting to the problems, and how specific needs can be met. By doing so, we could also potentially broaden our collective conceptions of ethos in this context to include the testimony and situated knowledge of other groups.

As mentioned before, the coding breakdown had to both borrow and depart from some of the categories of climate change *messengers* that Hoffman articulates. One of those departures was in modifying the category that would include climate skeptics and deniers of all types (i.e. climate skeptic politicians, fossil fuel lobbyists, media pundits, etc.) into two categories. One category in this project's coding schema solely refers to appeals to President Trump, his administration, or his policies; while the other category focuses primarily on other climate deniers or skeptics outside of the Trump administration. The reason for this modification was twofold: in the first sense, the Trump administration and its respective policy choices with regard to climate change were overwhelmingly referred to in these articles as the primary opposition to the NCA4

findings. The second reason was that there actually weren't a substantial number of references to alternative climate deniers or skeptical organizations—like those that would be included in the second category. This latter finding can largely be thought of as a positive development in the overall rhetorical ethos of climate communication—especially in terms of avoiding the trap of 'balance as bias' ("Balance as Bias" 133-134). However the newer shift toward positioning the current administration as the primary opposition to consensus might be seen as a sort of balancing in its own right—and one that might carry similarly fraught implications. I will refer to this shift and the respective construction that appears as the "new duel" paradigm here. This is simply referring back to the "dueling scientists" paradigm in an effort to liken the two frameworks—both being largely problematic.

In this section, the focus turns to new forms of balance and patterns of constructing opposition that—while avoiding some previous pitfalls of climate communication—still have the potential to distract from the issue at best, and reinforce a narrative of polarization and opposition in the public at worst. Furthermore, the consistent construction of opposition between scientific authority and political authority presents a risky framing for a complex problem that is likely already guided by ideology and orientation (McCright and Dunlap 161-162). As McCright and Dunlap state, "Citizens' political orientations may lead them to perceive this politically contentious issue quite differently, as they take cues from favored ideological and partisan elites that reinforce their existing political beliefs on global warming" (161). With this kind of realization in mind, it's even more critical that communicators stop to consider how the authorities they

choose to cite might play into already existing group beliefs. If the issue is largely a matter of those who trust the scientists and those who trust the political right, then appealing to both of those authorities is probably not going to generate much change in perception on either side. The bigger problem, though, is that there are more than just those two sides; and some people probably do not ideologically align with either one. By reiterating the binary oppositions that are already at play in public discourse around the issue, these articles potentially just reinforce that polarized narrative. But if they were to move beyond the scope of this debate and to include a wider range of ideological positions vis-à-vis a wider range of types of authorities, then perhaps the result would be different. When the problem is consistently presented in terms of this opposition—specifically between the scientific community and the current Presidential administration (and by extension some similar right wing political thinking)—it walks a dangerous tightrope between representing real polarization and reinforcing individual ties to those polarized views.

To elaborate, it seems as though the frequent act of placing the NCA4 and its authors in opposition to President Trump, the Trump administration, or the President's policies represents a new shift in rhetoric that deserves attention. Namely, this framing can be likened to earlier analyses of climate communication which found such phenomena as the 'dueling scientists'—and other issues of balance—to be central aspects of earlier climate change rhetoric in print media ("Climate Change and Journalistic" 1193). However, instead of the invocation of dueling scientists, I suggest that the consistent binary construction of the NCA4 report—and climate scientists broadly—

versus the current political establishment and President Trump constitutes a new framing

of the problem. This framing is the 'new duel' paradigm I referred to before. Despite less

frequent reference to climate skeptics, which might produce a 'dueling scientists'

paradigm, the articles under consideration here work through a different framework that

involves a different duel: between the scientific establishment and the current political

establishment. Such framings can hinder understanding and agency for viewers; at the

same time, these framings can privilege those who are epistemologically aligned with one

side of that binary. In between those poles are a number of people who may not

necessarily align themselves with either community. As such, certain groups may be left

out of mainstream discursive representations of the issue, and could be epistemically

harmed in that their social experience and knowledge is not valued in our collective

understanding of climate change. These ideas will be elaborated further in the next

subsection.

Now, among some of the broader appeals to ethos in these online articles was a

constant focus on the report itself, which comes as no surprise. However, along with

citing the NCA4, citing some of its authors (or citation of the authors as a group), and

citing President Trump and/or his administration, there weren't many other figures or

'types' of figures cited across the articles. Far and away the most frequent appeals to

authority consisted of those three groups. That's not to say that every article was the

same, and that none of them brought in separate or different figures/organizations; but

broadly speaking the articles seemed to lean heavily on the three mentioned above. Now,

I should make it clear that by no means is it a bad or unusual thing that climate scientists

and the report authors were cited most heavily. It's certainly rational that the people constructing the report should speak on the information it presents. Additionally, it's necessary to also recognize that these articles are attempting to give a broad overview of a massive and complex climate report almost immediately after it had been released. There is no way that a daily or weekly news publication—even if they employ an environmental science writer(s) (which fewer organizations do)—will be able to synthesize and relay the most important pieces of this report to a public that may be largely scientifically illiterate. Most of this information, as mentioned before, probably came to news organizations in a boiled down description with quotes and figures for them to disseminate. Still, however, it's worth considering how the choices of those releasing that information, as well as news media professionals and others, structure the overall narrative and ethos constructions we see.

Even so, the volume of appeals to the climate science community, and the consistent presentation of their work in opposition to the Trump administration, represents an important point of focus in terms of understanding broader rhetorical approaches to the issue. While this framing is necessary in a lot of ways, it still risks supporting or validating the binary between believers and skeptics—even if articles don't necessarily support the skeptical views. In the next few paragraphs, I will illustrate how these binaries are framed using specific examples from the corpus. This will also include the suggestion that in some cases, the mere inclusion of oppositional authority figures can amount to subtle support or validation of their views. It seems clear enough that lack of agreement on climate change is not as black and white as either agreeing with the science

or agreeing with politicians opposed to it. However, that way of framing the problem seems to endure in some ways in this corpus; and it could be suggestive of a lack of awareness, ability, or intention to include more diverse viewpoints and speakers within the conversation.

As noted previously, the conflict between what this new volume of the NCA4 report found, and what the Trump administration had to say about it—or about climate science more generally—was a consistent mention in the articles surveyed. In some cases, that only amounted to a brief mention of President Trump's views. In others, it was a strong enough aspect of the story to merit reference in the headline itself. It's useful to consider why this opposition might be such a frequently highlighted element of coverage in terms of Boykoff's description of journalistic norms. In fact, if we examine the framings in the articles alongside some of Boykoff's first and second-order journalistic norms, a few patterns seem to emerge. Starting with first-order norms like *personalization* and *dramatization* specifically, Boykoff notes that journalists have had a tendency to place larger issues into more intimate terms where, "viewed through the personalization lens, the intersection of science and politics becomes a competition between personalities struggling for power and acting strategically in order to improve their prestige and socio-political leverage" ("Climate Change and Journalistic Norms" 1192). The author notes that this framing of social issues forgoes the macro view in favor of the more immediate human-interest story. This understanding of personalization is important because it illustrates a gap in the rhetoric where authority figures—especially those implicated in whatever news event is being covered—can take advantage of this

norm in efforts toward gaining that 'prestige and socio-political leverage'. While it's

clear that many of these articles are still dedicating a lot of the coverage to the NCA4

report itself, many of them also still bring the story back to a discussion of the more

personalized narrative of scientists vs. President Trump. In addition to personalization,

Boykoff also includes the norm of dramatization, "whereby 'news dramas emphasize

crisis over continuity, the present over the past and future, conflicts' and downplay

complex policy information" ("Climate Change and Journalistic" 1192). In this sense we

can think of the articles in the corpus as perhaps focusing more on the tension between

science and political views than on the actual findings themselves. While it's obviously

important to get the opinion of the Trump administration on a national report that has

wide-reaching implications, it also presents an opening for him (or his administration) to

insert their own rhetoric in an attempt to leverage opinion on a matter that is largely

beyond their control.

First, in the LA Times article titled, "Climate change will harm the entire nation if

the U.S. doesn't act now, federal report warns", the authors spend a page or two

introducing the report and its findings before noting that, "the assessment's dire

conclusions are at odds with President Trump's efforts to dismiss the threat of climate

change and his administration's push to slash environmental regulations" (Barboza).

Following this note, the article then spends the next 3-4 graphs describing the Trump

administration's stance on climate findings while citing a White House spokeswoman.

However, more importantly, the article positions the views of the Trump administration

and the spokeswoman—Lindsay Walters—in direct opposition to authors of the NCA4

report when they write that, "[Walters] also said that the climate report 'is largely based on the most extreme scenario' and called for future installments to have a 'more transparent and data-driven process that includes fuller information on the range of potential scenarios and outcomes'—a claim that one of the report's lead authors said was 'demonstrably false'" (Barboza). The article then cites that NCA4 author—Texas Tech University climate scientist Katherine Kayhoe—who offers information to the contrary of Walter's statement. This construction of report/climate scientists versus the Trump administration occurs in many of the articles, but small variances might reveal more about the rhetorical work that such a set-up of conflicting views does. Regardless of variation, the fact that this battle between the report authors and the Trump administration appears again and again suggests that in many cases the issue is boiled down to a political battle. The reports risk rearticulating the debate while missing the opportunity to place it under different terms—specifically terms that might work to recognize perspectives outside of the traditional debate. Ethos in these terms seems to position those two worldviews and professional backgrounds as the most critical to a discussion of climate change. In reality, though, I think it can be easily argued that perspectives beyond those binaries can offer more critical understandings. The recurrence of an ethos of opposition disregards the audience members who may not see the problem in those terms, but who are a part of it nonetheless.

Boykoff and Boykoff's dueling scientists paradigm connects with these journalistic norms in that efforts toward the personalization and dramatization of climate change stories tended to lead toward the inclusion of different authority figures in an

attempt to put them in conversation with one another. As the authors write, "These

opposing scientists, who receive 'roughly equal attention', create the appearance of a hot

scientific debate between the upper echelons of the science community, which elides the

fact that on one 'side' there are thousands of the world's most reputable climate-change

scientists who vigorously engage the process of peer-review, while on the other side there

are only a few dozen naysayers who generally have not had their skeptical assertions

published in peer-reviewed publications" ("Climate Change and Journalistic" 1193).

They note that this attempt at balance often presented an 'aura' of scientific uncertainty

that could be used as a political tool. Now, it's important to note that these ideas are

slightly dated (this article was published in 2007), and that there has been strong and

consistent movement away from that kind of balancing. Such is evidenced in this analysis

alone by the fact that very few, if any, skeptical scientific viewpoints are referenced or

cited in any of the articles surveyed. However, the lingering effects of many years of this

sort of balance is evidenced by Leiserowitz et al. finding that despite a spike in overall

recognition of climate change as a problem—only about one in five people actually

recognize that almost all climate scientists (over 90%) are in consensus on the issue (9).

Even so, we can be somewhat reassured by the fact that the attention given to skeptical

viewpoints in these articles is not 'roughly equal' to the attention given to the NCA4 and

other climate findings. These articles are very careful to avoid creating the scenario

Boykoff describes; but my contention is that rather than a dueling scientists paradigm, we

are beginning to see a different but somewhat parallel construction emerge. While this

new scenario might not necessarily support the science of the 'other side'—it still directs

attention to the political views on that side. In a sense, while these articles might not be creating an aura of scientific uncertainty per say, they are doing something similar in appearing to create an aura of political uncertainty—or at least disagreement. It's important to consider how any positioning of opposing viewpoints here could amount to creating an aura of political uncertainty that can be used as a tool by those trying to subvert the scientific findings.

One text which offers a good illustration of this aura of political uncertainty is the Fox News article titled, "Climate report warns of grim economic consequences, worsening weather disasters in US" (Shaw). To start, it should be noted that this headline is the only one in the corpus which does not directly refer to the NCA4 as a product of either the Trump administration directly, or at least the federal government in general. They simply call it a "climate report"; and while that may seem benign, it merits attention in that it immediately attempts to separate the Trump administration from the report by not acknowledging that it is a product of that administration. As the article moves along, the authors note that there is uncertainty about how the administration will greet the report (again as if it were coming from some outside sources) before citing President Trump as well as then-Secretary of the Interior Ryan Zinke. They place those two authority figures in juxtaposition with two of the report authors as well as climate activist Al Gore. I want to spend a little bit of time exploring this construction as it is filled with subtle but important rhetorical moves that help to demonstrate a newer scenario of 'scientists vs. the current political establishment'.

To start, in first addressing the Trump administration, the Fox News article notes that "President Trump has been vocal in his skepticism about man-made climate change and the effects it is allegedly having on both temperatures and extreme weather events" (Shaw). This excerpt is telling because it surreptitiously creates an aura of scientific uncertainty by suggesting that the findings which President Trump disagrees with are still only "allegedly" occurring. Word choice is critical, and there were no other articles in the corpus which referred to climate science in any form as being 'alleged'. Additionally, the author is not quoting the president here; these are the reporter's words. Moving further, the article then cites President Trump's tweet following the release of the NCA4 report which reads, "Brutal and Extended Cold Blast could shatter ALL RECORDS – what ever happened to global warming?" (Shaw). While it should be mentioned that there were a number of articles which made reference to this tweet, almost all of them at least prefaced or followed it up by noting that climate science does not work that way, and that such tropes of climate denial are well worn. The Fox News article does neither; and that lack of buffering could almost amount to a 'roughly equal' consideration of the President's view of the issue. Moving forward, the article then cites Andrew Light and David Reidmiller, who both worked on the NCA4 report, as well as Al Gore, the 2000 presidential nominee and activist, for their comments on the timing of the report release. These inclusions are notable because they are followed up in the conclusion of the article with reference back to President Trump and then Ryan Zinke—both denying the link between climate change and larger wildfires occurring at the time of publication—before only briefly noting the contradictory findings of the report as a rebuttal (Shaw). In every

other article surveyed, when the tension between the Trump administration and the

NCA4 report are described, they are almost always buffered with the frequent noting that

all climate science findings are essentially in opposition to those views. In this article,

while there are soft attempts at buffering those skeptical views, the recurrent reference

back to the Trump administration amounts in many ways to efforts toward equal

treatment, and thus equal consideration of their views. While not necessarily denying the

findings of the NCA4 with alternate skeptical scientific views, this article still legitimizes

the Trump administration's stance and allows for an aura of uncertainty—this time

between the matrix of science and politics—that could be seen as a political tool for

leveraging that uncertainty despite scientific consensus. While this is one of the more

egregious attempts at constructing such a strong binary opposition, any sort of inclusion

of skeptical views of the NCA4 report's findings—particularly if they come from strong

political figures—risks undermining the legitimacy of those findings on the whole.

Now, to finish this discussion of what I am referring to as "the new duel

paradigm", I need to bring it back to our discussion of epistemic injustice and the power

of identity, social type, and authority. Much of this section has focused on content and the

rhetorical constructions of tension between two broad categories in my coding schema.

However, it's critical to remember that these constructions deal heavily with the authority

of certain figures and their positions in larger conversation with one another. By directing

attention toward the specific conflict between the scientific community and the current

political establishment, journalists miss out on the opportunity to take an expansive

approach that could bring in more authority figures while also recognizing and

articulating the broader findings of the report, particularly as they might be experienced

by communities who are not necessarily concerned with either climate scientists or the

Trump administration. This new duel might represent a shift in rhetorical approaches to

the climate issue, but my analysis will take it a step further in arguing that focusing on

these personalized and dramatized narratives of the NCA4 report undermines the larger

work that such media representations should be doing.

Further still, even if people are aligned in some way with either of those groups,

the articles surveyed here still largely ignore the ramifications of the NCA4 for

marginalized and low-income communities; and by extension they fail to include

authority figures who might be more representative of those communities. By framing the

release of the NCA4 as yet another development in the chaotic narrative of President

Trump (and the political right broadly) contradicting scientific authority, these articles

risk missing the mark on encouraging both agency and awareness for a problem that will

affect everyone—but not everyone evenly. The release of the NCA4 represents an

important opportunity for media producers to convey and articulate the most up-to-date

understanding of climate change, but also one that directly addresses domestic experience

for Americans. Rather than getting wrapped up in the contention between this report and

the current political administration, media figures and science communicators might do

well to consider how they can break free from such a constraining narrative. This might

lead to more inclusive ones that both reach out to and represent broader segments of the

pubic—especially those normally silenced in the climate conversation. There are several

examples of this inclusion in some of the articles surveyed, and the last section of these

findings will address those examples in conversation with Miranda Fricker's conception

of Epistemic Injustice. My hope is that the next few sections will illustrate how some

articles move closer to representing broader swaths of the public, while others fall into

the same old traps of presenting climate change as a two sided story—mainly between the

scientific community (and its adherents) and the political right. For many communities,

the news value of the NCA4 has neither to do with its impact on national GDP or how it

fits with the current political administration's views. The report should be, and is, a red

flag for weather and health disasters which will overwhelmingly effect low-income and

marginalized groups, according to at least three articles in the survey (Dennis and

Mooney; Christensen and Nedelman; Frank). Of the articles that do note this fact, none of

them directly cite members of those communities, and only one cites an environmental

justice advocate speaking on behalf of marginalized groups. In the sections to follow, my

analysis will show further how this fact, though acknowledged in the NCA4 report itself,

remains largely invisible in many of the articles representing it. Focusing primarily on the

contention between the White House and climate scientists has the potential to undermine

other critical informative aspects of the climate report. Efforts should be directed toward

showing people the inherent risks and inequities outlined by the report; not toward

relaying an opinion of uncertainty about these findings from one very specific—albeit

powerful—political grouping (i.e. the Trump Administration).

    Analyzing Broadcast Segments: Parallel Constructions of Ethos in Visual Media

Before moving on to a more concrete focus on epistemic injustice, I want to offer

an exploration and analysis of a few news broadcasts covering the NCA4 release here.

This portion of analysis will be brief; but it helps to augment our conceptions of ethos,

and to bring our attention toward visible testimonial exchanges. By analyzing these two

broadcast samples briefly, we can consider whether some of the rhetorical strategies

enrolled in print media representations are similar or different here. Additionally, taking

the time to think about how ethos is constructed through a visual text also allows for

some different questions to emerge; specifically with regard to authority figures and the

potential for oral testimony. While this analysis is contingent, provisional, and brief, it

helps to bolster an understanding of how science communicators and news producers

might try to construct and deliver these messages. By grafting this section to the analysis,

we can consider the broader scope of rhetoric involved in different media representations

of a single event (the NCA4 release).

Now, one of the videos chosen for this analysis actually accompanies the online

article from its respective source. This first video is from the *Washington Post*, and it is

paired with the article which was included in the print analysis above entitled, "Major

Trump administration climate report says damage is 'intensifying across the country'.

The video itself is titled "From deadly wildfires to debilitating hurricanes: White House

releases major climate report." This video accompanies the text, and it offers an

interesting visual take on some of the authoritative binary issues discussed prior to this.

The second video comes from CBS News, but was not attached to the online article from

that publication which was used for the print analysis. Instead, this video comes from

their "Climate Watch" program, and is a longer stand alone piece titled: "Key takeaways of the climate assessment". Both of these videos are different in length and format, but they offer interesting points of reference—specifically with some of the findings from the print news analysis in mind. They offer a different take on ethos as well, in that they are visual texts which present their speakers giving oral testimony. While neither of these pieces are extensive, and their testimonial speakers are few, they offer a slightly different view of the binary issues elicited earlier. Critically, they speak to what appears to be a general institutional desire to frame the release of the NCA4 in very similar ways, regardless of medium and form.

First, we can start with the *Washington Post* broadcast segment. The video is two and a half minutes long, and it offers a brief encapsulation of the online print article which it accompanies. Keep in mind that their online article was one of the few to actually mention at-risk and low-income communities, as well as offering the testimony of at least one person working on behalf of impacted communities in Miami Beach. The video notably opens with b-roll footage of a few different dramatic wildfire sites before turning to a clip from an MSNBC reporter who says, "We are now in the era of permanent climate disaster, and we'd better start getting prepared" ("From deadly wildfires" 00:00:01 – 00:00:10). Following this statement, the footage switches back to b-roll of wildfires, while the testimony of a third figure comes through voice-over saying, "The Left is proposing that this is all about climate change, not just Jerry Brown Left-wing politicians" ("From deadly wildfires" 00:00:11-00:00:17). In the middle of that sentence we see the speaker finally come into view as a reporter from a Fox News

broadcast segment. Immediately, this video is framing the issue along similar lines as discussed in the print news section with regard to competing binary views. Interestingly, they do not refer to the testimony of two competing politicians, or any scientists; but rather they show two separate newscasters from MSNBC and Fox News. Not only does this mark the division of opinion between certain people; but in a sense it marks the divided nature of reporting on the subject and the implicit political leanings of those organizations. In terms of ethos, this also seems to suggest and support the idea that climate change as a topic is expected to be argued over by a range of people—but especially the talking heads.

While this exchange only spans the first 17 seconds of the video, it is a crucial reminder that not only is this issue continually framed as polarizing; but we are now actually at a point where communicators—as well as audience members—expect these competing takes. The audience is introduced to the problem by a speaker remarking the dire nature and immediacy of climate change. Then, in like manner they hear the testimony of an ostensibly right-leaning anchor who is framing climate change as a product of the left, and not just Jerry Brown. By opening with these testimonials, the producers of the video seem to be acknowledging a social norm, which is that this issue is disagreed upon, and largely as a result of political orientation. Further, what is important with this framing in regard to constructions of ethos is that the producers are articulating a social norm which is already playing out in broader society. That is, rather than ignore or move past these divisions, the producers include them from the outset as a reflection of the current state of climate change in public discourse. When we think about ethos and

how testimony is constructed to reflect or sometimes even impose an audience, we should

think about this instance. The clash of opinion regarding climate change, instead of being

glossed over, is in fact upheld in the very first clips of the video. Like many of the print

articles, the release of the NCA4 report is immediately placed under the framework of

left vs. right thinking—only in this instance it's left vs. right news organizations rather

than NCA4 vs. Trump administration. As critical viewers, it's worth asking whether or

not this recognition is in fact a necessary evil in the building of ethos, because without it

the report might come off as naïve or 'one-sided'. If communicators are necessarily

forced to ask what their viewers expect to hear about climate change, then it probably

makes sense in the current political moment to include some framing of the problem as

divided. However, this seems incredibly troubling for a number of reasons—not least the

fact that it tends to support the naturalization of those divided views. In building

credibility, it seems that producers are including these competing viewpoints because to

do otherwise would not be an accurate or legitimate snapshot of the current social

moment. That is, to construct messages about climate change that don't include reference

to these binary perspectives would actually be more unusual and out of norm.

Additionally, we should remember that journalistic norms of personalization and

dramatization also add to the need to include personal testimonials that might clash. The

producers of this video would not have included such a binary framing if that view

wasn't already so evident and expected by at least some segments of the public. It seems

to be almost commonplace now to expect that when a new climate report comes out, you

can get two different versions of the story (or more than two) by looking at separate

media accounts—maybe even specifically from two organizations like MSNBC and Fox News. What this tells me is that rather than trying to reshape the narrative to include different framings of the problem that don't immediately evoke oppositional stances, communicators are actually almost necessarily doing so as a way of meeting cultural or institutional expectations for how to talk about climate change. Again, even though many of these sources are not necessarily supporting or upholding the views of skeptics, they are still including their testimony. Perhaps this is to meet audience expectations surrounding the social function of these speakers and the broader discursive constructions of climate change; but these choices only further engrain the expectation that climate change is hotly contested and needs to be framed as such. Additionally, and critically for our discussion of epistemic injustice, these ways of approaching the issue again undermine and marginalize those groups and voices who might have something different to say. Those groups and figures whose lived experiences could perhaps speak more credibly to the reality of climate change, are instead avoided in place of more professionally accepted figures. Instead, what we get are two talking heads illustrating an already well-known binary that fits the schematic expectations of an audience that is still split in perception of the problem (Leiserowitz et al. 3). This is at the heart of what is at issue in this project. Rather than constructing ethos by including the testimony of many different people and figures who might have new information or understandings to offer in the public dialogue, we more generally see ethos constructed in ways that mirror and regurgitate audience expectations of climate change as a politically contested problem. Even when reports are quickly and strongly rebuking oppositional voices, their inclusion

seems almost a necessity in providing an ethos backbone that gels with current discursive

expectations.

While there is not enough space here to go through the entire *Washington Post*

video point for point, it's notable that they should start the broadcast with this framework.

The video follows these statements with a description of the NCA4 report by Chris

Mooney, an energy and environmental reporter, before cutting to more b-roll footage of

President Trump talking about the climate. The footage shows President Trump stating

that, "I want great climate. We're going to have that, and we're gonna have forests that

are very safe" ("From deadly wildfires" 00:00:29-00:00:33). This is followed by Mooney

speaking about criticism of the Trump administration's stance on climate change,

including the decision to withdraw from the Paris Climate Accord, before then showing

another clip of President Trump at a podium stating, "We withdrew from the horrible

Paris Climate Accord" ("From deadly wildfires" 00:00:34-00:01:06). Again, the

implication is that regardless of how irrational or misinformed the statements of the

opposition might be, they are included almost as a necessary admonition in order to

achieve effective discursive and persuasive ethos. It seems almost as though these

representations must acknowledge competing voices because to do otherwise might in

fact come off as less credible to some audiences. In effect, rather than making space for

different understandings of the issue to emerge, the more appropriate strategy in terms of

constructing legitimacy through ethos is to reflect the arguments already taking place

politically and socially. It is my contention that by shaping ethos to account for

preexisting institutional norms and audience expectations, we are locking ourselves into a

sort of climate change contention feedback loop. Rather than appealing to new sources of authority or epistemologies that might help to break public discourse free of the binary conceptions we see in some of these texts; we instead seem to rely on those very binaries in what appears to be an attempt at maintaining the status quo of ethos that fits preexisting narratives.

Now, without spending too much more time on broadcast reporting, it's useful to consider how the CBS video "Key takeaways of climate assessment" goes about framing the problem and issuing authority. The broadcast features a CBS anchor interviewing Andrew Light, a co-author of the NCA4 who is frequently cited across the print news corpus (again hinting at the homogeneity of press release information that most news organizations probably received about the NCA4). This video differs from the Washington Post broadcast in that it actually avoids framing the issue as politically contentious—at least until much later in the segment. The opening few minutes are largely a back and forth discussion between Light and the anchor regarding the significance of the NCA4 and some of its principle findings. While the segment does eventually include reference to the Trump administration's take on the report, they do so in the latter half of the segment. Additionally, the only testimony from the Trump administration that is included is a written quotation of a White House press release, rather than oral testimony from president Trump himself ("Key takeaways of" 00:03:18-00:04:00). While this could still be read in the binary terms laid out in this paper, the exchange is at least different in that the segment only briefly refers to the White House press release, which is immediately and unwaveringly rebuked by Light's testimony.

However, there is still one aspect of this broadcast which merits attention, specifically with regard to the representation of marginalized groups.

Near the middle of the segment, the CBS anchor poses this question to Light, "So what would you say, when you look at the industries that are really being impacted the most by the increased frequency of extreme weather, what would those be?" ("Key takeaways of" 00:02:00-00:02:12). Light responds by first noting coastal infrastructure, private property representing large monetary assets, impacts to the agricultural sector, impacts on the tourism economy, and negative effects on the healthcare system ("Key Takeaways of" 00:02:12-00:02:48). For one, we should recognize first how the anchor's framing of the question highlights the salience of the economic impacts reported on in the NCA4. Prior to this discussion, the interview has laid out some of the findings that climate change is already affecting all regions and that it is driven by human causes, which are the type of generalized statements inherent in most coverage. The interview then moves almost exclusively into framing the economic findings of the report leading up to the question and answer quoted above, with one brief mention that changing emissions levels could save thousands of lives. This comes back to the issue of framing climate change and the NCA4 report for its economic salience. While the NCA4 report is unique for providing research on the economic ramifications of climate change, it also still has a lot to say about marginalized communities and low-income groups as well as the potential for losses of human life ("Fourth National Climate Assessment"). In fact, the sub-heading in the broadcast itself reads, "NATIONAL CLIMATE REPORT REVEALS DANGERS—EXPERTS: THOUSANDS WILL DIE, ECONOMY WILL

SHRINK IF PROBLEM ISN'T ADDRESSED" ("Key takeaways of" 00:00:14). This again highlights the desire to frame the issue in these terms, and while the broadcast acknowledges public health ramifications, it sometimes does so as an afterthought to the primacy of economic turmoil.

My sense is that this general framing is again a result of considerations of audience on the part of both those releasing the NCA4, as well as news producers trying to effectively disseminate that info. There is something to be said about the fact that more and more frequently, some representations of climate change are centering discourse on the potential for economic disaster rather than other elements of the problem. You could make the argument that these framings are different, and therefore perhaps more effective, than apocalyptic framings of environmental doom and disaster that may have appeared more frequently in earlier generations (Foust and Murphy 155-156). Think back to the earlier example from the print corpus of one article framing displaced populations as a burden to the U.S. economy. This is the type of logic and framework that gets imposed on public discourse when the issue is frequently shaped as an economic or industrial problem. The constructions of ethos that we see here include a news professional and an academic elite talking about the potential weather effects, and especially the economic ramifications of climate change. How does this play into audience conceptions of authority and credibility? My sense is that these types of constructions—while doing their best to adhere to social expectations of a larger audience—don't do enough to address and represent broader diverse communities whose interest and knowledge of climate change falls outside of these dominant paradigms.

There are marginalized groups, whose experiences can speak to climate change as a social problem right now; and whose testimony might offer something more than the competing binaries we are seeing so frequently. Yet those voices and figures are rarely included. This could be largely because they don't fit the schematic expectations of a majority of audience members on what climate communication should look like. Rather than adhering to these expectations of ethos, I believe we can do more to start changing the conversation—and thus recursively changing those expectations as well.

Epistemic Injustice and Issues of Imbalance: Ignored Communities and Informational Deficits

To begin this final section of analysis, it will be necessary to review some of Miranda Fricker's components of epistemic injustice in conjunction with the discussion of binary appeals set out previously. My goal is to show how the bifurcation of information—as McCright and Dunlap might put it—evidenced in the 'new duel' discussion not only plays into already well-formed groupings of public opinion, but that it also represents an oversimplification of the issue that belies a deeper injustice. That injustice involves the lack of appeal to representative figures of authority. Furthermore, by illustrating this lack of representation through the analysis, this inquiry extends a gap for others to fill and explore more fully. In a sense, while this discussion points to specific omissions and a lack of representation or appeals to 'types' of authority figures beyond the described binary (our dueling actors); it will nevertheless fall short of providing more concrete suggestions for how to address those omissions. I will use this

space to offer a discussion of epistemic injustice in relation to ethos construction in the articles; however, prescriptions for how to fill those gaps will be largely left for readers and peers to grapple with. As it stands, this analysis lacks the space and resources to make those kinds of prescriptions. Instead, this section should provide the basis for a reconsideration of appeals to authority and conceptions of ethos on the whole in climate change representation. More so, it recognizes how the current representations—while not wholly negative—can be seen as potentially falling short of effective climate communication. This discussion also presents us with a situation in which certain communities and groups of people are not just left out of the conversation, but may be epistemically harmed in the process. The analysis to follow illustrates just how that epistemic bias can be seen and potentially ameliorated with a more informed focus on constructions of ethos. This discussion should guide new thinking about constructions of authority as a whole—beyond just climate representations—and the necessity of considering potential epistemic ramifications and injustices in all discussions of ethos.

Before examining the texts, however, it will be useful to come back to some of Fricker's foundational terms regarding epistemic injustice. Perhaps most critical are the underlying concepts that form the base of Fricker's notions of both testimonial and hermeneutical injustice (which together constitute epistemic injustice as a whole). Among these ideas is Fricker's insistence on the important role of identity—and identity power—in testimonial exchanges. Along with identity power, Fricker focuses heavily on the role of stereotyping in testimonial exchanges, and the respective allocation of credibility to certain speakers depending on how those speakers are stereotyped. In a

particularly summative statement, Fricker draws these two concepts together in writing that, "identity power is an integral part of the mechanism of testimonial exchange, because of the need for hearers to use social stereotypes as heuristics in their spontaneous assessment of their interlocutor's credibility" (16-17). She follows this by noting that if the stereotype forms a prejudice that works against the speaker, then there are "two things to follow: there is an epistemic dysfunction in the exchange—the hearer makes an unduly deflated judgement of the speaker's credibility, perhaps missing out on knowledge as a result; and the hearer does something ethically bad—the speaker is wrongfully undermined in her capacity as a knower" (17). In terms of climate change communication, we can think about both of these two things very tangibly. In the first sense, if someone reading an article covering the NCA4 holds negative stereotypes about, say, climate scientists, then they may be likely to make an 'unduly deflated judgement' of the credibility of those scientists referenced across the corpus. By doing so, they end up missing out on critical information (i.e. massive weather disaster potential, sea level rise, GDP losses, etc.) and are epistemically harmed in the process. By the same token, that hearer does something ethically wrong, in Fricker's terms, when they make such a deflating credibility judgement of the speaker giving testimony. The speaker is wrongfully undermined in their capacity as a knower. Now, that latter point will be thought of slightly differently in this analysis because the concern is not so much with how climate scientists are wrongfully undermined in their capacity as an expert. While this undermining of scientific knowledge may occur, this discussion asks for a consideration of how the lack of representation or appeal to certain types of figures

amounts to a similar deflation of credibility. In other words, how does an almost complete lack of attention and reference to groups like climate refugees who are already being displaced, low-income communities feeling the effects of climate change, indigenous groups, or environmental justice advocates seeking to make those issues salient in the public, amount to testimonial injustice? Essentially, by never appealing to those groups, or giving them space to deliver any sort of testimony, their credibility is never even given a chance. They are epistemically harmed in that their way of understanding and knowing the problem—which for many may be having real effects on their lifestyle—is never considered or valued from the start. Over the following pages, this discussion will grapple with those questions in trying to bring attention to the potential epistemic harm done unto different groups, speakers, and hearers by way of authority construction in these texts. Excluding the voices of certain figures amounts to robbing them of the epistemic capacities they might otherwise exercise. This will be an important notion moving into considerations of which authority figures might be missing from the conversation in our corpus.

In order to move into a deeper description of epistemic injustice, however, it should be noted that this section is grouped largely into two parts. In the first part, this analysis follows some of Fricker's notions of testimonial injustice, specifically in relation to the speakers who were cited across the corpus and the role of identity power in those practices. The second section focuses more on the lack of certain figures of authority and how that might represent instances of hermeneutical injustice, among other things. Hermeneutical injustice in Fricker's terms is "the injustice of having some significant

area of one's social experience obscured from collective understanding owing to a structural identity prejudice in the collective hermeneutical resource" (155). In short, what she is referring to is the idea that certain groups' experiences are interpreted in biased ways—or not at all—through the collective hermeneutical resource. The hermeneutical resource more or less refers to all of those things that make up our understanding of the world, but particularly those that exist across social dimensions and which inform our understandings. This hermeneutical resource is inherently implicated in processes of power, and when those processes ignore or misinterpret a subject's lived experience, they risk harming them epistemically. The author goes on to note that it is often members of socially powerless groups (like climate refugees or low-income communities) who are hermeneutically discriminated against (Fricker 155). She writes that, "what is bad about this sort of hermeneutical marginalization is that the structural prejudice it causes in the collective hermeneutical resource is essentially discriminatory: the prejudice affects people in virtue of their membership of a socially powerless group, and thus in virtue of an aspect of their social identity" (155). In this sense, we can think of mass media representations as playing a large role in the collective hermeneutical resource, and as such how the structural biases which are evidenced through lack of representation or misrepresentation of those social groups amounts to hermeneutical injustice. The hermeneutical resource can be thought of broadly as the many ways that collective social understanding is achieved and structured—which necessarily includes mass-mediated messages.

Now, Fricker notes that hermeneutical injustices are almost always structural and always based on social groups and their experience. In either case, Fricker draws connections in writing that both forms of epistemic injustice (testimonial and hermeneutical) involve subjects suffering from any number of prejudices against them because of their social type (155). This is where it continues to tie back into a discussion of ethos as well as Hoffman's distrust of messengers. All of these things have to do with how social type both influences interpretations of information while also structuring the ways that certain groups are represented and acknowledged—or not—in mainstream representations. So, while the organizational emphasis might suggest otherwise, readers should keep in mind that we should continue to think of both testimonial and hermeneutical injustices as forms of epistemic injustice on the whole. The division which I have created here is largely the result of my own interpretation of the corpus. It should be made clear that hermeneutical injustice does not solely involve a *lack* of representation; and conversely that testimonial injustice does not only refer to the speakers who *are* included in testimonial exchange. These are simply the more applicable instances of the two forms of injustice as they might be grappled with in this specific corpus. Additionally, it should be noted that this discussion will also be augmented by a consideration of McCright and Dunlap's 2011 study: "The Politicization of Climate Change and Polarization in the American Public's Views of Global Warming, 2001-2010". That study provides some very relevant findings for this analysis; particularly with regard to the bifurcation of views presented in many representations of climate change, and the larger role of political identity and ideology in moderating public

opinion. As I hope to show, the study's findings shed light on both the issue of dueling paradigms set out previously; but they also point toward the need for a more nuanced approach to communication that recognizes these social identity factors in the public acceptance or rejection of scientific information. This latter point will be explained further in conjunction with a discussion of epistemic injustice as it provides a unique basis for thinking about the strength and influence of political authority in these complicated representations.

Moving on then, it's necessary to begin by analyzing the figures who *are* cited in the texts in order to frame the latter discussion of omissions. With that said, we can return to one of the focal points of analysis which was noted earlier—that being the lack of reference within the corpus to figures speaking about—or on behalf of—marginalized and low-income communities. Additionally, that category of figures also includes references to environmental justice activists, or those speaking about environmental justice generally. Across all the texts surveyed, only 5 articles included any appeals to authority figures representing those groups or interests. In some cases that representation amounted to a single sentence or paragraph of acknowledgement. Only a few of those references mention the fact that the report states that the potential effects of climate change will hurt poor and marginalized communities the most. It's worth repeating that the NCA4 report itself makes that fact clear—but it still only appears in a small fraction of the texts. Because those appeals are so far and few between—and often only fleeting elements of their respective articles—it's worth discussing them at length here.

To begin, it's critical to consider how the few appeals which are made to these social groups might be interpreted as enacting either testimonial or hermeneutical injustices. For example, in a few of the texts that do make reference to marginalized communities, they do so in a way that still frames it as a problem for everyday Americans. In the *New York Times* article, "What's new in the latest climate assessment", the authors write that, "Global warming and natural disasters are also affecting development in less affluent countries. That, the report says, puts additional burdens on the United States for humanitarian assistance and disaster aid" (Davenport and Pierre-Louis). This is the only mention of low-income or 'less affluent' groups in the article; and as we can see, it is less concerned with their experience than it is with the fact that this will create a burden for Americans. This could amount to testimonial injustice in that we aren't given any direct testimony from figures representing those low-income and at-risk communities; however, I'm inclined to think that this is actually more representative of hermeneutical injustice. That is because the social experience of 'less affluent' countries is resigned to the role of being hardly more than a burden to more affluent countries like the United States. In another similar case, the CBS article titled "New report reveals staggering economic and health toll of climate change", takes a similar rhetorical approach to considering the impact of climate change on low-income communities. In it, the authors quote Jeff Berardelli, a CBS News climate and weather contributor, as saying that "This is going to cause massive disruptions around the world and threaten national security with mass displacement of climate refugees. In many cases, it will exacerbate existing inequality" (Frank). While this mention is notable as being one of the only

articles to name climate refugees, it does so in a way that frames their experience as being a threat to national security. Instead of offering a representation that speaks to their own experience, or even one that calls on them to offer testimony regarding that experience and the changing climate, this reference does little more than to reinforce dominant fears about refugees and poor people threatening the United States. Climate refugees are harmed in their capacity as legitimate people whose experiences of the changing climate could potentially offer some new or different way of understanding the complex issue. Both of the references highlighted above speak to marginalized communities outside of the United States, and it's critical to recognize that this rhetorical construction can be likened to overarching arguments about how Americans perceive the climate problem. That is to say that it's not quite as much of an immediate problem in many Americans' perceptions as it likely is for poorer countries; and that there is a consensus that the inability of those countries to adapt as efficiently as ourselves represents a potential burden (Leiserowitz et al. 3). This is an incredibly unfair view to take, particularly when considering that America has been one of the largest carbon polluters per capita for a long time. However, our concern here is less with where to point blame and more with how these groups are both underrepresented and epistemically harmed by way of these media treatments of their experience.

With these initial remarks in mind, we can turn our attention to some other examples in the corpus which make reference to disadvantaged communities within the United States and their place in this discussion. As noted previously, the NCA4 makes clear that the findings they present will largely and unequally effect those communities.

However, when analyzing the corpus, those social groups are usually mentioned only briefly, if at all. For example, in the *Washington Post* article the authors insert this comment after a discussion of severe weather impacts: "And those who face the most suffering? Society's most vulnerable, including 'lower-income and marginalized communities,' researchers found" (Dennis and Mooney). This is the only mention of those social groups in the article and it is followed immediately after with a return to articulating the potential fiscal impact of climate change on the country. This, in a sense, demonstrates some of the larger patterns of rhetorical structuring that have been suggested throughout the analysis. That is to say that despite the noted impact that the NCA4 report shows for certain communities, the public discussion of the issue tends to revolve around its effects on the country as a whole, and particularly the economy. The issue tends to be structured rhetorically to appeal largely to scientists and politicians, and to assert the economic salience of the problem for the broader public. Impacts on marginalized communities tend to emerge as more of an afterthought. Here we see clear evidence that the social groups which make up these communities are completely ignored in their capacity to understand climate change and to speak about how it affects their own lives. The last three examples cited here have also all been comments about those groups coming from either the researchers of the NCA4 report or news reporters themselves. There are no direct quotes or references to members of those communities. Their social experience is marginalized as well as being only briefly touched upon by authority figures who remain largely outside of the groups themselves. In this way we can think of those groups being the subject of both testimonial *and* hermeneutical injustice. Their

social experience is interpreted for readers by someone outside of their own marginalized group; and their own testimony is completely disregarded in what seems to be an example of prejudice against the credibility or relevance of their testimony.

In the final two examples I will offer here, we will see slightly more optimistic and inclusive examples of representation of these marginalized social groups. First, the Buzzfeed news article "Here's how climate change is already impacting the US (hint: it's not good)", quotes Brenda Ekwurzel, an author of the report and director of climate science at the Union of Concerned Scientists. In it, she notes that "'The report also points out that climate change is not affecting everyone equally…Low-income communities and communities of color, as well as indigenous peoples, often suffer most'" (Hirji). While this is still the only mention of such marginalized communities in the article, it at least names some of them, and offers a space for considering the unequal effects climate change will have on them. Additionally, while Ekwurzel is the one commenting on this fact—and no authority figures actually belonging to or advocating specifically for those communities is brought into the conversation—her own authority as someone who worked on the report helps to increase the salience of the facts she is relaying. Nevertheless, this excerpt still only represents a minimal recognition of the unequal effects of climate change on marginalized communities, and it does little to nothing to bring in their own understandings and experiences. Taking a more ecological approach to ethos, we might ask how those marginalized voices and epistemologies could fill gaps in the broader discursive conceptions of climate change. Science and politics are important, but so too are the lived experiences of those dealing with change on the ground level.

As the last example of marginalized and low-income community representation in the corpus, we will turn to the CNN article titled "Climate change will shrink US economy and kill thousands, government report warns". This report spends the most space of all the articles toward recognizing the unequal effects of climate change on these communities. It still only amounts to about two paragraphs, but it's worth quoting here. First, the article quotes Robert Bullard, an Environmental scientist at Texas Southern University and founding figure in the environmental justice movement, as saying that, "'In Houston, communities of color have endured back to back major weather events without the acknowledgement from Washington that climate change is the cause. We've known for years that it's true and it's important to our local organizing and our local policy efforts that information like this is not only considered, but believed and acted upon" (Christensen and Nedelman). Here we see reference to Bullard who is stressing the pressure these communities have already been undergoing, and the need for government to accept and address those problems in order to move toward amelioration. It's notable that Bullard recognizes those groups and defends their struggles in the larger picture. This type of inclusion helps to allow the experiences of groups like those in Houston to be a part of the larger hermeneutical resource. Following this segment, the final paragraph of the article is as follows: "'The findings of the Trump Administration's NCA report show how the health and daily lives of Americans are becoming more and more interrupted because of climate change,' said Beverly Wright, founding director of the Deep South Center for Environmental Justice and a professor at Dillard University. 'We challenge the Administration to finally begin using this information to rebuild and strengthen the

communities in the direct path of the atrocities wrought by the fossil fuel industry and decades of poor policies that have neglected our concerns. The science is undeniable, let's fix it'" (Christensen and Nedelman). While this final graph seems to only implicitly invoke those communities 'in the direct path' of climate change, it's also the only article in the corpus which appeals to the authority of people associated with environmental justice. This is notable in that most of the other references to marginalized communities come from the testimony of either news professionals or climate scientists. These instances at least appeal to the authority of figures who are closely aligned with issues of environmental justice, and thus perhaps holds a more informed and relevant position to speak on behalf of the marginalized communities they serves. This sort of inclusion is promising in some ways, but it still beckons deeper and wider acknowledgement of those communities and their subjectivity to the framings of scientists, politicians, and other spokespeople who may not necessarily best represent their interests. Even at best, those representations will probably not accurately interpret their social experience for the larger public sphere. Even the quote from Beverly Wright here—while acknowledging the inequalities that need to be considered in this discussion—is buried in the last paragraph of the article. This is not Wright's fault, of course, it is a rhetorical decision and one that—however harmless—places those communities and their struggles at the low end of the hierarchy of importance.

Ultimately, the five excerpts which have been examined over the last few pages constitute the grand sum of appeals to and representation of marginalized communities and environmental justice advocates across the corpus. That means that through 14

different online articles covering the release of the NCA4 report, only five make any mention of these groups and the unequal problems they face. Of those references, at least two frame their significance in terms of the burden that their marginalized and disadvantaged position will cause for Americans on the whole. Only three appeal to the authority of a figure who is closely aligned with the concerns of those groups on a personal and/or professional level. These mentions are generally short—some of them only spanning a single sentence—and usually do very little to illuminate the actual concerns and lived experiences of those social groups being referred to. More than that, only a few of the references attempt to bring in the voices of people living within the social groups mentioned to allow for testimony of their own understanding of the situation and their experiential knowledge. This pattern suggests that not only are these communities largely ignored when it comes to mass mediated discussions of domestic climate change findings; but that testimony on their behalf is better left to the same authority figures which are being cited in most of the articles. By not allowing for constructions of ethos in these articles which appeal to figures from within marginalized communities, and by sometimes moderating reference to their experience through figures removed from that social group, we can think of these articles as enacting both testimonial and hermeneutical injustices. Marginalized communities are harmed in that their actual experience goes largely unacknowledged. At best their experience is modified by other powerful authorities, thus hiding their social reality from recognition in the collective hermeneutical resource. In the other sense, the sheer lack of testimony allotted to figures from within these social groups—or even representative authorities working on

behalf of them—merits attention. Lack of reference often amounts to exclusion, and potentially a prejudicial stereotyping of those communities as lacking the credibility to have a say in this conversation. Where does that leave those communities and their situated epistemologies in the larger conversation? It seems that their understanding of the situation must take a back seat to the voices of authority that traditionally structure discussions about climate change in American discourse. Those traditional authorities generally consisting of elite figures who appeal to people on both sides of the political spectrum including scientists, politicians, and activists. But when we consider the scope and unequal nature of the climate problem, it's clear that there are voices left unheard, and lived experiences which are ignored in order to make room for more of the same old contentious binary discussion that has been going on for years.

Fricker's notions of epistemic injustice are in conversation with some relevant research in sociology and public perceptions of climate change. Theories of epistemic injustice can be read alongside some of the theories and findings laid out in McCright and Dunlap's 2011 study. In it, the authors reveal some very interesting findings especially with regard to political ideology and authority figures. Alongside epistemic injustice and the issues of ethos which have been threaded through this project, some of these findings are telling in terms of the importance we should place on ethos in climate communication.

In their 2011 study, McCright and Dunlap take on a fairly substantial task in trying to gauge public opinion in relation to political views and educational attainment, among a few other factors. What's most relevant to this discussion is their elaboration on

the influence of elite figures (particularly political elites), and how the polarization

between those elites can now be recognized in public opinion. Without going too far into

the study, this analysis benefits from considering a few points of emphasis described by

McCright and Dunlap. Mainly these involve their implementation of the 'elite-cues

hypothesis', and their subsequent findings on the moderating effect of political

orientation. In a nutshell, the elite cues hypothesis argues that in attempting to understand

issues that involve two conflicting flows of information (or bifurcated flows), "people

often rely selectively on information from partisan leaders whom they trust, and thus

political orientation filters new information and learning opportunities" (McCright and

Dunlap 161). Ultimately, this view holds that public understanding of issues which

include ambiguous information (keeping in mind that for many Americans, climate

science is ambiguous), is usually influenced by political orientation. For McCright and

Dunlap, this means that "Citizens' political orientations may lead them to perceive this

politically contentious issue quite differently, as they take cues from favored ideological

and partisan elites that reinforce their pre-existing political beliefs on global warming"

(161). In a sense then, the authors point to the fact that climate change is very much one

of these issues of bifurcated and sometimes ambiguous information. They make a point to

note just how those influences play out in considerations of which figures certain people

are more or less likely to listen to and believe in the complex matrix of climate change

interlocutors. This notion carries weight in considerations of epistemic injustice and the

necessary stereotyped evaluation of authority figures that is inherent to any

communicative exchange.

Ultimately, McCright and Dunlap suggest that political ideology shapes opinion on issues like climate change quite strongly (171-174). More importantly, their findings seem to suggest that the bifurcated flow of information which has been largely structured by elite figures on both the left and right of the political spectrum have created a complex range of sources and figures for Americans to place their trust in. The authors write that:

> New information on climate change (e.g., an IPCC report) is thus unlikely to reduce the political divide. Instead, citizens' political orientations filter such learning opportunities in ways that magnify this divide. Political elites selectively interpret or ignore new climate change studies and news stories to promote their political agendas. Citizens, in turn, listen to their favored elites and media sources where global warming information is framed in a manner consistent with their pre-existing beliefs on the issue (Hindman 2009). We believe this occurred within the American public between 2001-2010, and our results seem to bear this out. (McCright and Dunlap 171)

This statement rings true with the general notions that figures of authority (especially political ones), have some bearing on climate change perceptions. However, it also speaks to this discussion in that some of the patterns analyzed in this corpus also seem to represent the selective nature of information gathering, and the impact of constructing dueling or binary sources of authority and binarized concerns (e.g., economic versus environmental or health-related) . Not only that, but this way of understanding public perception also speaks to the fact that climate change communication too often ends up being framed in this politically polarized way, leaving out the opportunity for alternative

epistemologies to emerge in the conversation. This is evidenced in the 'new duel' discussion I've already laid out; and it holds implications for how we are to understand epistemic injustice playing out in the mediated messages that this corpus represents.

As a whole, considering the importance of political elites and the bifurcated flow of information that constitutes climate communication is an important notion with regard to hermeneutical and testimonial injustice. When climate change is communicated so frequently in a way that splits the information into two competing factions—however large and diverse—it risks alienating those who do not identify with either grouping of elite figures, and thus either side of the binary. It also risks alienating those who simply do not see the politicization of the issue as connected to their lived reality. If media representations of the NCA4 release fall heavily into a narrative of contention between the Trump Administration and the scientific establishment, not only do they continue to fuel the divergent selection of information by the public; but they also ignore the testimony and social experience of many other smaller groups—particularly those with less power and money. It's possible that these bifurcated ways of viewing the issue, whether they are allotted equal weight in an article or not, only serve to further this divide and to offer a duel selection of opinions for which audiences can choose a side depending on ideology.

If McCright and Dunlap are correct, then regardless of how much new scientific information is injected into these reports, people will choose the side of the conversation which they already identify most with. In a sense this comes back to the aura of uncertainty conceptions from the 'new duel' discussion. The rhetorical construction of

this binary, even if it only offers some semblance of duality in perception of the issue, might support that same divisive understanding in the public. Along the way, the epistemologies that lie outside of the framework of these two political sides remain ignored and unqualified for consideration. The overall conception of ethos that permeates this entire process is one which is relatively exclusionary of marginally situated understandings of the problem from various groups. Instead, it seems to evoke a general perception that the dwelling place of climate change communication is one best left to the scientific and political elites, among a handful of others, to grapple with and refer their findings to the rest of us. Rather than approach ethos in a way that attempts to broaden authority and include unique epistemes, we seem to be largely locked into a few key ways of presenting the situation. If we are to begin to address the problem of global climate change on a global level, we will need to consider how we can change these conceptions of ethos moving forward so that they represent and include the situated knowledge of many different groups of people.

CONCLUSIONS

The dueling binary oppositions which are constructed (intentionally or not) in media representations of climate change not only reinforce existing opinion and political identification; they also move alternative and unique understandings of the issue to the periphery. In this way, we can come back to the idea of hermeneutical injustice and the problem of hermeneutical resource. Mass-mediated messages, particularly those coming from broadsheet traditional news organizations, have to be considered as part of our collective hermeneutical resource. They play a large role in structuring what we should be thinking about in terms of the world around us; and in many ways even *how* we should think about them. When those resources ignore the social experience and epistemologies of social groups which lie outside of the traditional binaries constructed around climate change, they risk promoting a structural discrimination of those views, and either a misinterpretation or complete veiling of their respective experience in broader society. In this way, it can be argued that we are seeing, at least in the corpus under analysis, a frequent movement toward this kind of alienation and prejudicial marginalization of voices which might constitute epistemic injustice as a whole. This argument can be boiled down to three essential points: 1.) The consistent binary construction of opposition between the scientific community and the political right ignores the testimony of many other valuable and unique epistemologies. 2.) Additionally, they risk presenting figures of authority who may likely be negatively evaluated in stereotyping by different groups; and thus miss opportunities to inform different segments of the public who may not align

themselves ideologically with the elite figures delivering climate information, or with either side of the American political spectrum. 3.) Lastly, these binary constructions forgo a discussion of multiple understandings of climate change as it is being felt and grappled with by marginalized or low-income communities, climate refugees, or climate justice advocates. In so doing, the representations play a role in occluding or misinterpreting the social experience of these people in the larger collective hermeneutical resources that guide our perceptions of the problem. As a result they risk helping to further structural discrimination against the epistemologies and credibility of those social groups in a way that denies their importance—and sometimes even their existence. The people who are most likely to feel the worst effects of climate change, and are likely already being heavily impacted by it, are the same people whose lack of social power removes their experience from any consideration of how we should understand climate change. Along the way, epistemologies are ignored in favor of those views which support an already existing binary of understanding which moves us no further toward a unified and proactive understanding of the incredibly difficult task of solving this issue.

Ultimately, the goal of this project has been to reframe our thinking about ethos in climate change representations. With a concerted focus on the ways in which authority is constructed—particularly through the testimony of certain figures—this project has joined a robust conversation surrounding climate communication. While there have been many limitations—and the findings are certainly provisional—my hope is that they have piqued a new interest in and awareness of ethos in mass communication. The topic of climate change in particular is an area of unique interest in that it brings together a

complex matrix of actors, speakers, discourses, and values that are incredibly difficult to mediate. Understanding that there is no one-size-fits-all approach to climate communication only further complicates this process. That being said, we should not be deterred from asking how we can approach this problem in a way that not only reaches out to wider and more diverse audiences for engagement and persuasion; but we should also ask ourselves how these practices have the potential to discriminate against and/or epistemically harm different communities along the way. While this project has been mainly centered on climate communication and online print media, my hope is that it also spurs a broader inquiry into how issues of epistemic injustice can be seen in a larger discussion of ethos. Over these last pages, I will attempt to both summarize and demonstrate the importance of this conversation to climate change communication while also posing questions and suggestions for further extrapolation of these ideas.

In the introduction to Fricker's book on epistemic injustice, which has informed so much of this conversation, the author phrases her goal in plain terms. She writes that, "The overarching aim is to bring to light certain ethical aspects of two of our most basic everyday epistemic practices: conveying knowledge to others by telling them, and making sense of our own social experiences. Since the ethical features in question result from the operation of social power in epistemic interactions, to reveal them is to also expose a politics of epistemic practice" (Fricker 1-2). Fricker's breakdown of the issue and subsequent offering of a corrective mode of thinking offer a new theoretical standpoint from which to view these epistemic problems. My hope is that in linking some of her theory to this discussion of climate communication, I have opened a window into

considering the politics of epistemic practice which occur in everyday mainstream discourses. Fricker's insistence on the importance of social power in this conversation has added new importance to considerations of ethos and the figures of authority appealed to both here, but also anywhere the collective hermeneutical resource is being contributed to (so basically everywhere social knowledge is formed). By applying some of these ideas to climate communication, Fricker gives us a theoretical language with which to expose the political power that lie in choices about who can convey knowledge on a given subject, and also whose social experience is privileged or ignored when making sense of these problems.

Now, in order to illustrate the importance of all of this I would like to bring in a few more statistical findings from Leiserowitz et al. study, *Climate change in the American mind: December 2018*. This study is one of the most recent and expansive breakdowns of public perceptions of climate change, and there are some telling figures to meditate on here. Within the study's executive summary, there are a few findings which speak directly to this project. Many of them are positive, or at least trending upward; however, they also speak to a need for further progress. First, the authors note that, "Nearly half of Americans (46%) say they have personally experienced the effects of global warming, an increase of 15 percentage points since March 2015" (3). Additionally, "Nearly half of Americans (48%) think people in the United States are being harmed by global warming 'right now.' The proportion who believe people are being harmed 'right now' has increased by 16 percentage points since March 2015 and by nine points since our previous survey in March 2018" (3). Lastly, they assert that, "About half or more

Americans think they (49%), their family (56%), and/or people in their community (57%)

will be harmed by global warming. Even more think global warming will harm people in

the U.S. (65%), the world's poor (67%), people in developing countries (68%), plant and

animal species (74%), and/or future generations of people (75%)" (3). There is a lot to

unpack with these statistics, and certainly there are different ways to interpret them.

However, a few things seem clear in conjunction with this project. First of all, while more

people are starting to believe that climate change is already affecting their lives

personally, many still see it as a distant problem (both temporally and spatially).

Additionally, many people likely do not recognize the immediacy of climate change

impacts that are already affecting low-income communities and climate refugees already

being displaced both at home and abroad. It's telling that the percentage of people who

believe global warming will affect the world's poor and people in developing countries is

higher than those who believe they are personally experiencing those affects—or that

their own community will. The last quote is perhaps most interesting in how it frames the

fact that many more people believe global warming will affect the world's poor and

people in developing countries than believe that their families, communities, and own

selves will face equal effects.

Now, these figures are drawing from polls, and shouldn't be thought of as

conclusive or entirely representative; but consider these statistics alongside some of the

findings in this analysis. Particularly, the finding that some of the few references to at-

risk communities in this corpus were framed so as to present them in a way which sees

them as a burden to U.S. communities. How does the lack of representation of climate

refugees and at-risk communities in our own public discourse affect the opinion that

climate change is a far off problem that will hurt underdeveloped and foreign countries

before our own? Additionally, how do these findings reflect an overall lack of awareness

of the fact that many people in this country are already suffering from the effects of

climate change, and how? My inclination is that on some level the lack of reference to

and acknowledgement of those types of communities in mass-mediated representations

plays a role in their invisibility to the broader community. My sense is that in some way,

making visible the experience of those communities which are already being impacted

and displaced by climate change might serve to inform a broader public of the reality and

immediacy of the problem. At minimum, it could at least allow for those communities to

have their lived experience understood in what we are calling the hermeneutical resource.

This approach at least offers the potential for marginalized communities or climate

refugees to have their experience recognized as more than just a burden to people and

places which are more affluent.

The statistical findings laid out in Leiserowitz et al. study and others seem to

indicate that more and more people are moving toward an acceptance of certain climate

change realities. While this is encouraging, there is still a large lack of awareness of both

the massive consensus that is actually held by the majority of scientists, as well as an

unequal recognition of the impact it will have on the world's poor and underdeveloped

countries (Leiserowitz et al. 3-4). While the discourse tends to fall into two larger

arguments about who is right and who is wrong, the communities and people whose

experience may speak most to the reality of climate change are largely held at arm's

length—often as convenient evidence more than compelling testimony. Not only do these practices serve to reinforce already existing binaries, but they harm entire ways of knowing and understanding the issue from a range of perspectives. In the process, those communities which are appealed to mainly as a crutch for fear mongering have their social experience partially or completely obscured in the service of this bifurcated way of framing the climate problem.

While I have offered many different perspectives and readings of media representation here, I have done less to offer guided solutions. The basic fact is that I don't have those solutions. This project was aimed at evaluating current rhetorical approaches to climate change representation, and the results were a product of their own. If anything, I believe this work opens the door to a range of different approaches that work toward including broader perspectives and epistemologies. The real work of climate communication is in finding ways to make it relevant, accessible, and engaging for the broadest coalition of people imaginable—the whole planet!

As I've stated many times, there is no one-size-fits-all approach for that. But this fact need not keep us from trying to make the conversation more expansive and inclusive nonetheless. Additionally, the focus on epistemic injustice does not mean to suggest that we should (or would even be able to) include a representative for every single range of values possible in one sitting. There is always a selection process at hand in constructing authoritative voices, and ethos more generally, in media representations. But that is also not an excuse to sit by idly as legitimate understandings of a complex problem are completely ignored. If we are to follow some of Fricker's prescriptions, we would do

well to simply ask ourselves to be critical of any media representations with regard to who they allow to speak, how those figures might be viewed by audience members, and whose epistemologies are being privileged as such. We should also ask ourselves how other people might experience and make meaning of any situation, and whether that knowledge can contribute to our own understandings. Climate change is not simply a scientific problem, nor is it solely a political one. It is also deeply social and cultural, and socio-cultural understandings and experiences should be brought to fore. This is not to say that the experience of climate refugees can help us to understand the science better (although it probably could), but rather that those experiences are important for formulating responses and understandings in a socio-cultural sense. The binary framings and oppositional figures of authorities which I've illuminated in this project are only problematic in so far as they prevent an expanded view of climate change which moves beyond an intellectual debate and toward a recognition of its immediate reality. We might only be able to work toward more solutions once we recognize the problem on common ground. But if that common ground is only representative of the epistemologies of those in line with climate progressive notions or right wing politics, then many groups might remain on the periphery. I believe that we should start making more concerted efforts at bringing different, and especially marginalized voices into the conversation if for nothing other than better understanding those perspectives. When climate change is constructed as an issue where you either agree with the scientists, or you agree with the deniers, we miss the potential to see where others are coming from and how we can further shape discourse to take into account those views and experiences.

With particular focus on the marginalized groups in this analysis, it seems evidently necessary to include those voices. Climate change has been such a difficult issue to represent mainly because its effects are thought to be far off in both time and space, and because it has no single event, cause, or result. These are all things that condition the need for some of the journalistic norms stated earlier—like personalization and dramatization. But we are already seeing the effects of climate change with things like extended droughts, massive wildfires, and sea level rise as just a few examples. Those problems are affecting communities in real time, and those communities probably have more to say about the issue than most. At minimum, the reflective views of groups being displaced by climate change now could contribute to our understanding of how to prepare for and respond to future displacement. Ideally, the inclusion of such voices also generates a greater social understanding of the problem and the many people who will be affected by it, while also respecting and legitimizing their own epistemologies. We don't have to say that only climate scientists know what it looks like, and we don't need to group ourselves into believers and nonbelievers. We need to start making space for more knowledge and understanding, and to do so in the public realm. I firmly believe that this type of thinking would contribute in some way to growing public consensus around the problem, and doing so in a way that lets people understand it more on their own terms— not just as a scientific fact or a political talking point.

In considering ethos constructions, it's useful to ask how the privileging of certain authorities may be seen through different eyes, specifically with a focus on social power. With an issue that is so highly polarized like climate change, I don't think it's enough

anymore to simply present the facts. We need to do more to acknowledge and address the real social and cultural embeddedness of certain opinions and views. How do we do that? It starts with asking what people already make of the situation. In the case of climate change, we know quite a bit about how certain political orientations or ideologies might affect reception of information. We also know that for many years now, communicators have done their best to fill the knowledge gap in society. Ultimately, however, those attempts have had mixed success. I believe it is time to start appreciating the broader dimensions of climate change and the concurrently broad group of people implicated within it. If there are people who do not understand the scientific method, but who understand that their home will be underwater in five years, those people have something to say about climate change. If there are people who do not vote, but whose agricultural way of life is being completely threatened by drought, then those people have something to say about climate change. These people may not be 'experts' in the paradigmatic sense that has been laid out in previous sections, but they are experts in some form or another. Many of them probably know more about the issue in their lived experience than those who are arguing at the top. It's time that we opened the climate conversation beyond the scope of its traditional adherents so that we might come to a place that moves beyond the traditional debate. By addressing these issues one small piece at a time—whether that's by simply acknowledging a marginalized person's experience or by placing whole communities in the position to contribute new understandings—we can move into a new discussion. In essence, that is essentially what I have tried to encourage with this project—a new discussion. There are ways in which we as a community of humans can

begin to change the conversation not only to propel us beyond these tired frameworks and debates, but to also work toward including more people and epistemologies. Along the way, I think we will find whole new meanings, as well as entirely new approaches to the problem that go beyond debate and toward solutions.

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