Rhetoric Society Quarterly

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rrsq20

Graphed into the Conversation: Conspiracy, Controversy, and Climategate's Visual Style

Dustin A. Greenwalt & Atilla Hallsby

To cite this article: Dustin A. Greenwalt & Atilla Hallsby (2021) Graphed into the Conversation: Conspiracy, Controversy, and Climategate's Visual Style, Rhetoric Society Quarterly, 51:4, 293-308, DOI: 10.1080/02773945.2021.1947515

To link to this article: https://doi.org/10.1080/02773945.2021.1947515

Published online: 05 Oct 2021.

RHETORIC SOCIETY QUARTERLY
2021, VOL. 51, NO. 4, 293–308
https://doi.org/10.1080/02773945.2021.1947515

Graphed into the Conversation: Conspiracy, Controversy, and Climategate's Visual Style

Dustin A. Greenwalt and Atilla Hallsby

ABSTRACT

This essay reads the 2009 Climategate blogosphere through the rubric of visual style. We argue that Climategate bloggers used the stolen e-mails between prominent climate scientists to leverage claims about the proper perspective for seeing data, imitate institutional forms of climatological inquiry, and posit transparency as a moral imperative in many online forums. Rather than attacking science *tout court*, these appeals to visibility operated on the grounds of visuality and proof established by institutional forms of scientific inquiry, thus alleging climate change-denying bloggers were the "actual" scientists. By forwarding alternative visualizations of global temperature data and characterizing institutional climatology as secretive, Climategate bloggers significantly shaped public understandings of global warming. Ultimately, our purpose is to show how a visual style is an ambivalent form of rhetoric that scientific experts may also deploy in public science communication.

KEYWORDS

Conspiracy theory; data visualization; global warming; metaphor; visual rhetoric

On 17 November 2009, over 1,000 e-mails between scientists at the University of East Anglia's Climatic Research Unit (CRU) and their associates (including Pennsylvania State University's Michael Mann, NASA's Gavin Schmidt, and former CRU head Phil Jones) were hacked and posted to numerous self-described climate skeptic blogs (McIntyre, "Sent loads"). The e-mails circulated throughout the nearly 200-site network of the climate change-denying blogosphere, including blogs like *Climate Audit*, *The Air Vent*, and *Climate Skeptic* (Sharman). The hack kindled a firestorm of claims about the veracity of the methods used to develop the iconic "hockey stick" graph of the Intergovernmental Panel on Climate change (IPCC). Bloggers specifically accused climatologists of colluding with establishment interests to discredit dissenting views. The e-mails allegedly proved that the CRU and its associates had violated scientific norms (Grundmann; Jaspal et al.), that claims of Anthropogenic Global Warming (AGW) were an elitist conspiracy (Bricker), and that climatologists shared a quasi-religious and unscientific dogmatism (Nerlich). Rallied by the claim of insufficient transparency in climate science, conspiracy theorists who denied climate change during the Climategate scandal comprised a highly visible resistance to established climatology (Walsh, "'Tricks'" 89).

This essay focuses on climate change deniers' visual rhetorical strategies, which styled their false claims that climatologists spread disinformation and lacked transparency. Rhetorical scholar Lynda Olman (FKA Walsh) has claimed that Climategate instigated a crisis of scientific *ethos*, deploying the "problematic warrant . . . that climate graphs should be transparent windows on reality" ("The Visual Rhetoric" 364). Building on Olman's observations about climatologists' compromised and rehabilitated ethos, we attend to what we term Climategate bloggers' *visual style*. The expression visual style is capacious and describes many artistic genres and esthetic objects. In this essay, we use the expression specifically to describe visual representation in scientific controversies. Our use of visual style refers to

Dustin A. Greenwalt is an assistant teaching professor in the Department of Communication Arts and Sciences, Pennsylvania State University, 234 Sparks Building, University Park, PA 16802, USA. E-mail: Dag30@psu.edu
Útilla Hallsby is an assistant professor in the Department of Communication Studies, University of Minnesota Twin Cities, 225 Ford Hall, 224 Church Street SE, Minneapolis, MN 55455, USA. E-mail: hall1039@umn.edu

the confluence between scientific visualizations and their metaphorical characterization, which yields a selective or partial interpretation of visual data. In the words of Max Black, "Metaphors can be supported by specially constructed systems of implications, as well as by accepted commonplaces" (290). We claim that visual style was critical for supporting one such commonplace, in which climate conspiracy theorists applied politicized doubt to IPCC-produced images and climatologists' hacked e-mails. As a strategy for reading the overlap between scientific image and discourse, visual style grants readers the capacity to look for hidden depth in otherwise public scientific discourses. This hidden depth takes on the character of a mythic belief upheld by a visually and verbally stylized repertoire of graphs and text that supported climate change deniers' incorrect presupposition that science is a conspiracy among scientists. As a rhetorical strategy, the visual style of climate change denial also accentuated the probabilistic and collaborative features of CRU research to disqualify it as a form of legitimate science.

We wish to set visual style alongside similar scholarship on pseudoscientific visual argument, visual/verbal collaboration, and ocularcentrism by emphasizing its strategic and rhetorical aspects in public scientific controversies. Nathan Stormer's description of how cinematic narratives mediate virtual representations in *The Miracle of Life*, for instance, focuses on how the documentary voiceover coaches viewers, naturalizing a selective overlap between words and images to construct pseudoscientific public understandings of the body; Susan M. Hagan similarly points to the overlap among semiotic components of language and images to construct "cross-modal meaning" that may "clarify, contradict, or challenge" the taken-for-granted understanding of visual information (54). Finally, "ocularcentrism" accounts for the saturation of foundationally visual metaphors into speech, language, and representation (Jay 1). Rhetorical scholars have used this concept to explain how sound, text, and image create copresence in televisual discourse (Gronbeck). In contrast to these approaches, which describe a general and rhetorical coconstruction of image, speech, and text, we understand visual style in the limited context of Climategate bloggers' use of graphs and visual metaphor to obscure and politicize scientific evidence. Ultimately, our purpose is to situate a visual style as a strategy leveraged by climate change deniers in their ongoing efforts to legitimize antiscience conspiracy theories.

As we argue, climate change-denying bloggers leveraged a visual style to lend their politicized truth claims the appearance of neutrality, transparency, and self-evidence. By calling attention to visual style, we hope to illustrate how the rhetoric of data visualization and written metaphors work in tandem for strategic and politicized ends. Rather than claiming that visual style was a more or less effective means of arguing, our purpose is to illustrate how visual style was a consistent feature of the Climategate crisis and, more generally, the rhetoric of data visualization. By drawing attention to these strategies, we hope to anticipate future propagandistic broadsides against scientific evidence and theorize new strategies to respond to antiscience disinformation campaigns.

We open by reviewing the communicative frameworks that Climategate's academic critics have developed to account for the event. We then offer our theory of *visual style*, grounded in visual rhetoric and metaphor, as dual means of encouraging selective interpretations of the natural world. This essay then reads key images and postings from the Climategate controversy as instances of visual style. As we show, a visual style created a "proper" perspective against climate science and leveraged imitative appeals that encouraged audiences to see the network of climate change deniers as the CRU's doppelgänger. The visual style also characterized bloggers as more transparent than scientists to contest the prevailing AGW consensus.

Climategate's Communicative Frameworks

Nearly a decade old, the Climategate controversy remains a landmark event for rhetorical scholars, partly for the way it foregrounded rhetoric's resonances as a strategic ruse or deception. Jörg Friedrichs argued that journalistic sensationalism corrupted representations of climate science. This out-of-control rhetoric foregrounded "the political nature of the alliance between climate experts and promoters of vigorous action to control climate change" at the expense of reporting

widespread agreement on the subject of imminent climate catastrophe (Friedrichs 473). Amelia Sharman and Candice Howarth similarly warn against "framing fundamentally political debates as scientific" and argue for a stricter demarcation of political and scientific discourse in public-facing science communication (827). Luke C. Collins and Brigitte Nerlich argue that Climategate contains lessons about demarcating "emotive language" from representations of scientific knowledge. Such emotions, they claim, ought to be explicitly marked to guard the accuracy of science in public-facing contexts (660). Michael E. Mann, a long-time defender of the CRU and author of *The Hockey Stick and the Climate Wars*, likewise warns against the dangerous rhetoric of "climate change deniers," which he describes as "threatening" or "heated and violent" (152, 261–62). More than indicting "mere" rhetoric, these scholars recognized that rhetoric plays a pivotal role in communicating scientific information and can often lead to distortions or mischaracterizations of the facts.

Rhetorical scholars have taken up the task of fighting scientific disinformation by showing how disingenuous or conspiratorial framings of scientific data distort confirmed findings or create an artificial lack of consensus. Specifically, rhetorical theories of conspiracy and controversy demarcate scientific from nonscientific discourse because, in both cases, rhetoric generates the appearance of falsehood within confirmed scientific conclusions. As Charles Alan Taylor has argued, "the discursive practices of multiple social actors, including but hardly limited to practicing scientists, are taken as constructing the boundaries that mark off the domain of science from, for example, pseudoscience and politics" (5). In other words, rhetorical scholars' engagement with Climategate as a disinformation campaign has provided a way to separate legitimate science from unscientific propaganda. This engagement also demonstrates how antiscience disinformation campaigns unfold as formally recognizable, if not also erroneous, patterns of rhetorical argument.

On the one hand, conspiracy rhetoric lends structure to the chaos of Climategate by illustrating how antiscience scandals generally unfold as false patterns of association that connect speculative claims. These associations, in turn, comprise the shifting affiliations and evidence of conspiracy theory, which is generically opposed to established institutions. According to Peter Knight, conspiracy *theories* are "an infinite regress of suspicion" in which "the location of the ultimate foundation of power is endlessly deferred" (193). Conspiracy *rhetoric*, by extension, describes patterns of expectation and logical association created by conspiracy-driven speech (Goodnight and Poulakos; Neville-Shepard). According to Brett Bricker, the conspiracy theory that climatologists were deliberately misleading the public in 2009 was "particularly resonant because it had a potent mix of scientific information, conservative ideology, powerful interest groups that take a propagandistic approach to science, and anti-intellectualism" (233). As conspiracy rhetoric, these associations comprised a structure and form for spreading disinformation during Climategate, creating group identifications through loosely connected evidence while formally opposing "establishment" science.

On the other hand, Climategate is also a *manufactured* or *disingenuous controversy*, a bad faith argument designed to sow public doubt (Ceccarelli). Disingenuous controversies are separate from genuine disputes among an expert scientific community, or "public scientific controversies," which describe "disputes about scientific knowledge that arise when technical authority intersects with public interests within salient political exigencies" (Crick and Gabriel 202). AGW may certainly spur such legitimate scientific controversies. Climategate, however, neatly fits as a disingenuous or manufactured controversy, which injects unwarranted uncertainty into well-accepted scientific conclusions (Ceccarelli 196; Fritch et al. 192–94; Paroske 151–53). The framework of disingenuous controversy captures how "commercial and political entities labor to generate a perception of widespread debate among a scientific community where instead there is a strong agreement" (Banning 287). Climategate fits this description well because its major, contributing bloggers would not be persuaded by *any* scientific evidence, and instead led with claims about climatologists' moral corruption:

> [Climate change deniers] have been certain for some time that the core argument for AGW is based on scientific fraud. This does not deny that much or most of climate science, recognising and coping with deep scientific uncertainties, is sound; it's the policy-relevant core, that we might call "global-warming science" that is perceived as rotten. (Ravetz, "'Climategate'" 156)

The Climategate controversy was disingenuous because the conclusion that "AGW is based on scientific fraud" preceded and excluded the scientific evidence supporting AGW. Climate change deniers claimed that climate science could not be as scientific as the *prima facie* denial of climate science. Ultimately, this bad faith argument conjured a disingenuous controversy because it performed the dissensus that bloggers falsely alleged existed already within the scientific community.

In this light, rhetorical inquiry most often captures the distortion of scientific information as it moves from the technical sphere to a nonexpert public. As separate but related modes of disinformation, conspiracy rhetoric and disingenuous controversies take shape as false-but-logical claims or consistent-but-corrupt enactments of dissensus. Rather than accounting for how images make arguments that conspiracy theorists or disingenuous arguers misconstrue, our approach highlights the consistent sensory and rhetorical features of Climategate bloggers' claims. By troping on *visual style*, we here imagine rhetorical criticism as a practical way to stanch the flow of antiscience discourses and reflect on creative strategies for scientists to address public audiences moving forward.

Climategate Bloggers' Visual Style

This section theorizes Climategate bloggers' visual style as interactions between literal-visual renderings of data and metaphoric discourse. The literal-visual register refers to scientific data visualizations and the taken-for-granted frameworks applied to images to yield partial and competing interpretations. This register builds on the work of rhetorical scholars who have criticized climate change deniers for leveraging disingenuous interpretations of the IPCC hockey stick graph by drawing attention to diagrams as modes of visual evidence (Besel; Walsh, "The Visual Rhetoric of Climate Change"). The second register, metaphor, describes linguistic appeals whereby the self-evidence of sight or seeing functions as an implied warrant for an otherwise unscientific claim. Importantly, metaphors are not merely about ornamentation or intentional framing but the appearance of realism through a juxtaposition of textual figures and visual images. This figural-visual register employs language to make seeing tantamount to believing, such as bloggers' metaphorical characterization of their conspiracy theories as "transparent" and the CRU as "opaque." Metaphor consistently entails a visual shift in perspective, even when it does not directly reference faculties of sight or seeing, such as when bloggers employ metaphors like "trickery" to describe climatologists' hidden intentions. As a visual style, these registers open the way for audiences to perceive something new within visually rendered data. Folded together as features of the Climategate controversy, these literal and metaphorical registers erected a visual paradigm to compete with climatologists' authenticated interpretation of visual information.

Our theory of visual style also builds on what Olman calls "the myth of natural inscription," whereby scientific graphs are assumed to represent the natural world with "immutable" accuracy and fidelity. As she argues, critics of the IPCC leveraged this mythic belief against the CRU and peer-reviewed, rigorously scientific climatological research:

> If we look at [the hockey stick graph printed in the 2001 Third Assessment Report of the United Nations], we don't see the IPCC authors inserted anywhere in the chain of visualization. At first all we see are inscriptions made by computer programs. If we follow the directions of the series labels to seek the source of these inscriptions, we see only mathematical formulas operating on numbers. . . . The IPCC authors have arranged all of the traces in such a way that they point away from themselves and toward nature; the implication is that nature's finger has traced the spaghetti onto [the hockey stick graph]. (99)

By pointing "away from themselves and toward nature," scientists endowed the image with the appearance of a total correspondence between historical global temperatures and the computer-generated data

visualization. Regardless of whether this deflection is a myth or a misconception, our theory of visual style extends Olman's argument that "critics rightly reproached [the IPCC authors] for allowing and even encouraging viewers to interpret human judgments about data as the untrammeled inscription of nature" (101). We argue that visual metaphors and imagistic interpretations folded together to turn this myth, its "mode of signification," and its metaphoric form against scientific practitioners (Barthes 109). In other words, the visual style produced, supported, and upheld a pre-existing ideology through a combination of visual and verbal symbols. Enlisting the formal gestures of a visual style, the conspiracy theorists who disseminated this myth prefigured how audiences might see the data and the scientific practices that generated it. As we will show, a visual style of climate change denial figured cynicism about AGW as "more scientific" than the evidence provided by Mann and his colleagues.

The coconstitutive work of metaphor and visual evidence is supported by contemporary readings of *phantasia* in Aristotle's corpus. In his reading of *On Rhetoric* and *de Anima*, Ned O'Gorman positions this concept as the faculty of assembling mental images that serves as "the basis for thinking" (20) in deliberative contexts. Linking *phantasia* with *lexis*, or style, O'Gorman shows how all deliberative discourse has epideictic qualities. Language, he argues, evokes an esthetic function of thought. Following O'Gorman, Debra Hawhee highlights the peculiar visual qualities of *phantasia*, which "is activated when viewable matter is not immediately at hand and must be otherwise conjured, as with dreams, delusions, and memories" (142). Language imbued with *energia*, or energy, liveliness, and sensuality, constitutes a potent tool for conjuring images. An apt metaphor or stylistic turn can shape audience perceptions by evoking particular images, whereas sensual language inflects our understandings of the world and produces an intermingling of vision and rhetorical sight. Climategate bloggers' repetitions of metaphorical snippets such as "hidden in plain sight" or "Mike's Nature Trick" conjure images of a conspiracy at the heart of institutionalized climatology, shaping how audiences might approach representations of climate data. According to Hawhee, "words facilitate vision" and "have the capacity, in bringing energetic images before the eyes, to compete with, or perhaps even overtake, what is already before the eyes of the audience" (159). Metaphors and other stylistic turns are a powerful means of shaping how audiences see the world, folding language onto the images and objects presented to them.

Literal and metaphorical ways of seeing also abound in Kenneth Burke's work, which points to style's capacity to reshape perspectives on scientific practice. As Floyd Anderson and Lawrence Prelli show, Burke's motives and ratios layer language and visual elements to construct a composite verbal-visual text. Coining their novel approach to criticism "pentadic cartography," Anderson and Prelli chart a "verbal and visual symbolic terrain" by likening perspectival metaphor to Burke's discussion of the relief map as a mode of representation (*A Grammar of Motives* 89). Perhaps most famously, Burke describes metaphor in visual terms as "a device for *seeing* something in terms of something else" that "brings out the thisness of a that, or a thatness of a this" (*Grammar* 404, emphasis added). Aligned with "poetic realism," metaphor shapes objects by creating different perspectives on being. Rather than proposing an ontological distinction between scientific and poetic discourse, Burke posits that metaphor is fundamental to both. The only difference between scientific and poetic discourse is that "the scientific analogy is more patiently pursued, being employed to inform an entire work or movement, where the poet uses his [sic] metaphor for a glimpse only" (*Permanence and Change*, 127). If the metaphors of scientific discourse are the same rhetorical structures underwriting poetry, then rhetoric as a device for seeing may always participate in the creation and interpretation of scientific facts (Tietge). In public science communication, climatological facts are subject to various perspectives that determine their force and, indeed, their very being. Bloggers' visual metaphors, for instance, symbolized the hockey stick graph as evidence concealed within evidence, as an improbable kernel hidden in plain sight.

In both *phantasia* and Burke's poetic realism, words and images overlap in fundamentally similar ways. Visuality, in other words, is crucial to both *phantasia* and metaphorical perspective. For Burke, metaphor creates perspective the way that dreams retroactively condense a hidden meaning; they work by the "revealing of hitherto unsuspected connectives which we may note in the progressions of

a dream" (*Permanence and Change*, 119). This description resembles Aristotelian *phantasia* as the mental assemblage of dreamlike images, emphasizing their sequential character (Hawhee). In both Aristotle's *phantasia* and Burke's tropes, rhetorical style and sight fold together, shaping understandings and deliberations about the world. Burke goes a step further by attending to how perspective creates occulted spaces through "neglect" of other perspectives. In *Permanence and Change, Burke* discusses at length how "A way of seeing is also a way of not seeing—a focus upon object A involves a neglect of object B" (70). Metaphors simultaneously reveal and conceal different aspects of objects. As a device for seeing, that is perspective-making and perspective-taking, Climategate's metaphors and graphs coconstituted a rhetorically limited perspective on AGW data.

Attention to visual style as the folding together of language and image also contributes to emerging literature seeking to map antiscience conspiracy theorists' rhetorical choices. In their reading of conservative think tank the Heartland Institute's Nongovernmental International Panel on Climate change (NIPCC), Nicholas S. Paliewicz and George F. McHendry show how the IPCC's doppelgänger report created a facsimile of scientific reasoning. This mimicry of scientific composition at the level of sentence structure, layout, and image made "it superfluous for viewers to read and evaluate the content of the NIPCC's arguments" and authorized deniers' belief in the Heartland Institute's pseudoscientific claims (298–99). Visual style extends Paliewicz and McHendry's attention to the text's layout, images, and sentence structure to include the correspondence between specific linguistic and graphic elements as rhetorical strategies in their own right. Likewise, a visual style helps demonstrate how the Climategate bloggers constructed a way of seeing that amplified the seeming self-evidence of their data, graphs, and pseudoscientific inquiry. Through mimicry of scientific networks and stylized descriptions of the CRU as opaque and conspiratorial, Climategate bloggers encouraged a perspective from which their interpretation of the data was the only believable one.

Constructing a "Proper" Vision

Climategate bloggers employed visual style first by framing their figural claims about climate science as a point of view captured by the literal-visual juxtaposition of "raw" and "adjusted" data. As we describe it, the appeal to proper vision is conjectural rhetoric in which proper is always in scare quotes because even spurious data points must be visible. Bloggers used the CRU's language about statistical "tricks" to encourage audiences to see deniers' simple calculations as the self-evidently correct way of approaching data, especially when compared to the complex math used by establishment climatology. Ultimately, Climategate bloggers spun these superfluous differences into tell-tale evidence of the CRU's malintent. We explain how they constructed a proper visual perspective with the phrases "Mike's Nature Trick" and "hide the decline" and examine the bloggers' distinctions between simple/complex code and raw/adjusted data.

Originating from the CRU's stolen e-mails, the phrase "Mike's Nature Trick" refers to statistical operations used to add different global surface temperatures to calculate the IPCC's hockey stick graph's data points. According to Martin Camper, bloggers defined "trick" to mean "deception in line with the most common sense of the word as a devious ploy," and scientists responded that "trick" often denotes "a useful solution to a problem" within their community (51). Bloggers insisted that the word trick was "proof of climate scientists' rhetrickery" (Pfister 170). As Olman claims, the "tricks" bloggers attributed to climatologists "were not statistical but rather rhetorical" and capitalized on the myth of natural inscription, in which scientists are neutral, nonintervening observers of the natural world ("Tricks" 83).

Deniers' accusation that scientists were tricking the public comprised an appeal to proper vision because it signaled that scientists had used the research process to obscure the self-evident truth. The polyvalent term "trick" blurred distinctions between "clever, but ethical and routine, ways of reconciling data sets" and "manipulation, falsification, chicanery, or artifice" (Pfister 170). As Olman

("Tricks") explains, the latter way of interpreting "trick" contradicted abundant evidence that the scientists' statistical procedures were, in fact, legitimate:

> If we grant that the seven formal, independent, international inquiries into the ethics of these scientists arrived at the correct determination, then we can assume that the "tricks" the IPCC scientists employed in the proxy-series graphics fell within the bounds of normal, ethical technical practice. . . . While the formal inquiries referenced established scientific and legal practices in the handling and representation of data, the informal inquiries focused on the scientists' right (or lack thereof) to make arguments and the related perception that by articulating AGW they were pushing a political cause. (92)

The rhetorical ambivalence of "Mike's Nature Trick" registers climate change deniers' appeal to proper vision because it transformed the word's multiple connotations into a righteous interpretation presumed obvious or beyond doubt. Deniers latched onto the focal word, trick, as not just polyvalent but as deliberate double entendre used to accuse scientists of hiding their true ideological motives. The figural trick folded ideological motives over scientists' justifiable statistical operations, encouraging audiences to see interpretations deviating from the IPCC orthodoxy as the proper way of approaching scientific inquiry.

A related claim was that the CRU was "hiding a decline" in global temperatures, which further constructed a proper visual perspective, this time using a juxtaposition between hidden and included data. Scooped from hacked CRU e-mails, the phrase "hide the decline" led to accusations that dendrologist Keith Biffra was deliberately hiding divergent post-1960 tree-ring proxy measurements from the Arctic circle. Among Climategate bloggers, the decline in proxy data was "hiding in plain sight," lending the conspiracy an aura of visual self-evidence. In a post that uses numerous snippets from the e-mails, JeffID ("Hidden in Plain Sight," par. 1, capitals in the original) proclaims that "What the media doesn't know because they don't read the climate blogs is that 'HIDE THE DECLINE' is not unusual." JeffID then uses the motif of hiding to read the CRU e-mails and the scientists' published papers. Mann's early publications, the code revealed by the e-mail hack, and other documents provide further examples of the CRU's hidden methods and clandestine decision making. Biffra's hiding metaphor thus provided Climategate bloggers with a means of folding the image of malpractice on widely accepted scientific operations of data visualization, even when referring to plain-text e-mails.

Bloggers similarly conjured hiddenness by asserting that proper code was simple code and that complexity was a sign that CRU scientists' calculations were deliberately opaque. In one post on his *Bishop Hill* blog, Andrew Montford ("Met" par. 5) posited that the CRU had released a cleaned-up version of its code for a land temperature index based on the Global Historical Climatology Network (GHCN) database of temperature proxies because the original was "just too awful to make available for public inspection." Anthony Watts's blog, *Watts Up With That* (WUWT), went further by commenting on the programmers' notes. In a post about "hide the decline," Watts discussed "a compendium of programming code segments that show comments by the programmer that suggest places where data may be corrected, modified, adjusted, or busted" ("Climategate" par. 1). Avoiding an analysis of the code itself, Watts argued that "the comments by the programmer tell the story quite well even if the code itself makes no sense to you" ("Climategate" par. 1). Despite the cleaner visuals it produced, complex code signified improper opacity or occulted motives. Folded onto the CRU's graphs, the accusation of obfuscation produced the illusion that there was evidence within the evidence that would disprove the AGW thesis.

Finally, bloggers offered a proper perspective on climate data through selectively posted corrected and uncorrected data visualizations. In brazen contradiction with their demand for simplified code, bloggers indicted climatologists for making unwarranted corrections that reduced their calculations' complexity by omitting extraneous data. One WUWT post levies the accusation that "the inconvenient data has [*sic*] simply been deleted" ("McIntyre" par. 4). As proof, Watts juxtaposes two data plots of temperature trends within a single graph, where the red plot includes omitted data and corrected pre-1960 data appear in black. Watts reads this juxtaposition as a significant lie by omission. Maps of Antarctic climate stations similarly leverage the appeal to proper vision to distinguish between raw and adjusted images.

The bloggers amplified this insignificant distinction's importance by showing calculations with data from more stations than were considered for climate calculations. Notably, one blogger claims that "the 'homogenized' value-added version of GHCN has a trend that is EIGHT times higher than actual for the ENTIRE ANTARCTIC CONTINENT" (JeffID, "GHCN" par. 20). Here, the visible omission of Antarctic stations in the adjusted data visualization folds on metaphorical claims that climatologists used tricks, hid evidence, and deliberately obfuscated calculations. Across climate change-denying blogs, conspiracy theorists used juxtaposition to create a proper perspective, generating a way of seeing the data that ostensibly proved AGW's falsehood. Despite apparent contradictions among their arguments, bloggers maintained that seeing such differences amounted to believing that Mann and his colleagues had purposefully disregarded and manipulated data. Their proper perspective read tricks as lies, complexity as purposeful hiddenness, and adjusted data as willful artifice.

The Appeal to Imitation

The second aspect of Climategate's visual style is the appeal to imitation. To create alternative climate communities and data visualizations, bloggers resorted to mimicry and mirroring to produce the appearance of similarity between an original discursive or visual object and a secondary or derivative representation. While Paliewicz and McHendry point to how climate change deniers mimicked the appearance of scientific reports to distract from their arguments, we claim that bloggers mimicked the discourse of the climatological community to validate their networks and conspiratorial claims. During Climategate, bloggers mimicked scientists' language and visualizations to encourage audiences to see their community, and thus their arguments, as more legitimate than institutional climatology. As this section demonstrates, the appeal to imitation emerged from deniers' opposition to peer review and their reliance on visual data that openly resembled established climatological research.

Climate change deniers have long appealed to their networks to challenge academic climatology. Richard Besel, for instance, argues that appeals to the "counter-actor-network" (128) invoked by climate change-denying witnesses and legislators were "inventional resource[s]" during 2006 Congressional hearings that featured the IPCC hockey stick graph as key evidence (122). During Climategate, a similar counternetwork leveraged opposition to academic peer review by situating their work as another perspective on the data, worthy of response by the broader climatological community. Alan Gross draws attention to climate change deniers' war on peer review when describing the argument tactics of Steven McIntyre, a former mining company executive. The latter regularly published climate change skeptical commentary in academic journals and on his blog *Climate Audit* (21). In the years before Climategate, McIntyre publicly opposed the publication of an article entitled "Millennial Temperature Reconstruction Intercomparison and Evaluation" in *Climate of the Past*. Although his prepublication feedback was incorporated in the final article, McIntyre took issue with its publication and began circulating counterevidence on his blog (Gross and Harmon). According to Gross and Harmon, these *Climate Audit* posts "devalue[d] science community commentary" by legitimating a separate community built around *topoi* of climate change denial (143). Scientists writing at the pro-climate science blog *RealClimate* expressed frustration with *Climate Audit* because it "instantly 'telegraphed'" pseudoscientific uncertainty "across the denial-o-sphere while being embellished along the way to apply to anything 'hockey-stick' shaped and any and all scientists, even those not even tangentially related" (par. 11). Moreover, the Climategate e-mails revealed CRU contributors had described McIntyre as an unserious scientist and conspiracy theorist (Sheppard). Consequently, bloggers touted scientists' dismissal of McIntyre as proof of his credibility and dismissed the CRU in favor of his *Climate Audit* blog.

During Climategate, a similar imitative appeal emerged with the phrase "peer-to-peer review," which invited audiences to see the climate-denial blogosphere as a system of scientific practices parallel to, and no less legitimate than, traditional academic peer review. "Peer-to-peer review" appeared across climate change-denying blogs. The phrase also appears in a Climategate article on the conservative *Breitbart* website, which used it to describe the "community of blog commenters" composed

of "global warming contrarians" (Courrielche par. 9). This phrase positioned bloggers' circular self-citations as legitimate alternatives to sound science. However, in practice, peer-to-peer review conflated academic peer review with shallow quotation practices, using selective fragments of evidence to convey a partial interpretation of technical information to a wider public (Pfister). Folding the network of peer-to-peer review against institutional systems of peer review, bloggers sought to displace the legitimacy of the latter with the shallow and self-citing networks of the climate change-denying blogosphere.

According to climate change deniers, commentary on blog posts and *Wikipedia* articles were peer-to-peer reviews that were better than the traditional journal process. Bloggers extended their stylization of visible and simple science as trustworthy by claiming their self-commentary generated publicness as an advantage. In contrast, climatologists reviewed each other's work behind closed doors to skew their results to support AGW (e.g., McIntyre, "Jones Reviews Mann, "Schmidt 2009," "Wikipedia"; Montford, "The Code," "More Evidence"; Watts, "Pielke Senior"). In November 2009, Wesley J. Smith ("Climategate" par. 1) published an entry on *First Things*, a blog published by the Institute on Religion and Public Life, that claimed, "[G]lobal warming . . . has exposed a cancer on the body of science that seeks to bar heterodox thinkers from having their work published in respectable journals." The entry cited the *National Review* (Steyn), which called the Climategate affair a "tree-ring circus," while belittling peer-reviewed outlets like *Science* and *Nature* for gatekeeping and claiming that the "global warm-mongers have wholly corrupted the 'peer-review' process" (par. 6). Shortly after, JeffID of *The Air Vent* ("Douglass") posted a link to a separate blog post by David H. Douglass and John R. Christy that accused *International Journal of Climatology* editor Glenn McGregor of illegitimately interfering in the peer-review process. According to Douglass and Christy ("Climatology" par. 9), McGregor intended to "correct the scientific record" by "preventing [Douglass et al.] from providing what is considered normal in the peer-reviewed literature: an opportunity to respond to their critique, or as they put it, 'be given the final word.'" These blog posts functioned, in turn, as this interminable final word. Smith ("Inquisition" par. 5) summarizes the attitude of climate change deniers toward the peer review process neatly: "To think these censors and bullies smugly presume that they're walking in the footsteps of Galileo, when in fact, they are actually the new Inquisition." As this story broke in early 2010, mainstream journalistic outlets like the *Guardian* bolstered the claims of conspiracy theorists by characterizing the CRU's peer review as fostering "everyday jealousies, rivalries, and tribalism of human relationships" (par. 5) and gave credence to bloggers' position that the CRU engaged in tactics that "outside observers would regard as censoring [the CRU's] critics" (Pearce par. 7) By folding the injunction against censorship upon the standard channels of peer review, the bloggers thus invited audiences to see the CRU's highly visible data visualizations and AGW claims as cultish mystifications.

Bloggers also explicitly folded their linguistic imitative appeals onto graphs and commentary they generated, which pointed to the peer-to-peer network's uptake. Just as climatologists touted the hockey-stick graph as a definitive representation of AGW science, climate change-denying bloggers employed images such that audiences could see their legitimacy. In one instance, Watts ("Release") posted a celebration of his blog's popularity alongside a graph of the number of hits on 20 November 2009. McIntyre ("The Climategate" par. 1) similarly quipped that visualizations of Google searches for Climategate both resembled and challenged the original IPCC graph: "If anyone's keeping a tab on 'Climategate' hits, they have a very Hockey-Stick shaped pattern." The mere visual resemblance between the IPCC's hockey stick graph and hits on these blogs proved that they had a foothold in the debate. Bloggers also mimicked scientific graphs to prove the CRU's corruption. *The Air Vent* latched onto climate research funding as evidence that scientific practice was driven by greed. Featuring an e-mail wherein Keith Biffra mentions his dwindling funding, a post by JeffID ("Would You Believe" par. 1) discusses how Phil Jones received "an average of 120,000 USD USD per month for 15 years" in grants. The post repeats this and other figures that emphasize Jones's reliance on raising grant money to maintain his academic position before arguing that this motivates climate scientists to produce results confirming the AGW thesis. A graph of Jones's grant awards, which increase

dramatically after the year 2000, accompanies the post. Akin to other graphs, this image draws on the seemingly self-evidentiary nature of visuals to obfuscate meaningful context or explanation. Readers were not offered any comparison to other scientists' grant funding or explanation of the application process. Instead, by viewing Jones's grant funding, JeffID conjures a self-justifying visual illustration for his claims about corrupt climatological research. As a public-facing enterprise, this visual imitation offered the blog network a means to assert climate change denial as legitimate in the public scientific debate.

The Appeal to Transparency

As a final plank of visual style, climate change deniers encouraged audiences to see through climatologists' opaque and ostensibly antidemocratic practices and adopt a perspective that aligned transparency with proper science. While encouraging audiences to see simple calculations and data as more accurate, it also emphasized "not seeing" the institutional demands that necessitate scientific secrecy or the politically constructed character of the transparency ideal. The explicitly political nature of the bloggers' appeal was obfuscated, in other words, by the argument that transparency was an unequivocal good and that deniers vocal good and that deniers behaved in a way that was more transparent than the way scientists did. Consequently, the appeal to virtuous transparency discouraged consideration of the hack as a violation and deflected from deniers' ideological motivations for circulating the stolen correspondence.

Transparency, of course, references the literal visual phenomenon of seeing through a surface as if given direct access to what lies beyond it (McQuire; Mumford). Rhetorics that idealize scientific transparency often rely on metaphors of "openness" or "clarity" to foreground widened accessibility of information or the dispelling of nature's opacity through the discovery of its secrets (Eamon; Steiner and Barnes). Scientific transparency is historically associated with values of participatory governance and public oversight, which emphasize visible decision making in an imagined public square (Jasanoff). However, contemporary scientific practices also require a degree of invisibility insofar as technical knowledge often needs translation before it enters the public (Goodnight). Scientists have, for instance, balanced demands to publicize technical information with public safety and the need to limit access to methods used to produce that knowledge (Galison). Scientific and technical processes may also remain hidden from view because of intra- or interinstitutional protocols that slow disclosure and protect economic standing. Certain features of scientific practice, like anonymous peer review, also warrant temporarily hiding information for the sake of proper vetting. However, blanket rationales for secrecy are "not sufficient to ensure lack of bias or full accountability," resulting in a general preference for transparency for the sake of oversight (Jasanoff 39). Consequently, the law often arbitrates the appropriateness of scientific disclosure and concealment. In other words, the play of transparency and concealment in scientific practice foregrounds that, for a nonexpert public audience, science is always only partially accessible. In turn, fluctuating boundaries of transparency invite differing perspectives on the legitimacy of measurements, data sets, statistical procedures, and other scientific practices.

Climategate's appeals to transparency constituted a perspective from which transparency's uncovering of "unjust and immoral actions" can simultaneously conceal its capacity to work "as a stalling tactic to prevent just and moral actions" (Besel 122). By asserting that prominent scientists obscured the truth by colluding with private financial interests, the bloggers said the quiet part out loud. Accusing the CRU of colluding with private financial interests concealed how bloggers' advocacy and policy proposals had been sponsored by "various political action groups, the Republican National Committee, energy industry representatives, and conservative punditry positioned in mainstream media news and elsewhere" (Banning 287). These demands for transparency functioned as a cudgel against climate science and shifted focus away from demands that climate change deniers disclose their own funding sources and political affiliations. By encouraging audiences to "see through" the CRU's institutional practices, bloggers' appeal to transparency aligned the Climategate conspiracy's visual perspective with a demand for more publicness. The appeal also

turned the story of an invasive e-mail hack into a wave of accusations against the hacked, accusing scientists of concealment while their communications were on public display. By assuring audiences that they were on the side of transparency, bloggers claimed there was nothing to see behind *their* curtain and that they had no ulterior motive. Many of the bloggers' claims about the CRU's lack of transparency centered on long-standing disputes over the status of Freedom of Information Act (FOIA) requests in the United States and United Kingdom. The hack revived these concerns by revealing scientists' discussions about avoiding the requests, allowing climate change deniers to portray the scientists who touted the transparency ideal as hypocrites. Responding to a *Nature* editorial that defended "the allegation that U.S. scientists have been unduly burdened by FOI requests" (par. 3), McIntyre equates scientific fact-checking with mere repetition: "While the scientific method is supposed to require fact-checking, in this case, the mantra had merely been repeated over and over by climate scientists like a sort of tribal chant . . . " (FOI par. 2). According to McIntyre, scientists did not practice the transparency they preached, using the racist metaphor of the "tribal chant" to describe their lack of erudition. Another *Climate Audit* post recirculates a critique of the CRU by Eschenbach, who filed several FOI requests (McIntyre, "Willis Eschenbach's" par. 3–5). Eschenbach emphasizes the importance of transparent science and peer-to-peer review with a confused visual metaphor:

> To me, the main issue is the frontal attack on the heart of science, which is transparency. Science works by one person making a claim, and backing it up with the data and methods that they used to make the claim. Other scientists attack the work by (among other things) trying to replicate the first scientist's work. If they can't replicate it, it doesn't stand. So blocking the FOIA allowed Phil Jones to claim that his temperature record (HadCRUT3) was valid science. This is not just trivial gamesmanship, this is central to the very idea of scientific inquiry. This is an attack on the heart of science, by keeping people who disagree with you from ever checking your work and seeing if your math is correct.

Transparency is conjured not simply as visibility but as a figural heart under attack from the front. By avoiding FOI requests, the CRU became an army attacking the very heart of what makes science trustworthy. Eschenbach reinforces the bloggers' visual perspective by elevating peer-to-peer fact-checking over established peer review. In doing so, he and other bloggers prolonged debate over whether the CRU's climate change predictions were sound science using an accusation and deflection of transparency. Bloggers alleged that peer-to-peer review was self-evidently transparent, absent of political or economic motives, and caricatured scientists' refusal to honor FOI requests as evidence of secret collusion among the CRU, the British government, and the IPCC.

By turning the focus from their motives, bloggers encouraged audiences to see their informal network of peer-to-peer review as transparent, visible, and valid. A guest post on *The Air Vent* blog by John F. Pittman, a frequent commenter on the climate-skeptical blogosphere, makes this point by highlighting the importance of "common sense." Noting that he was "instructed not to give up [his] 'common sense'" when he was once summoned for jury duty, Pittman claims that Mann " . . . asks us to come to a judgment without data. In other words, do something that defies common sense" (Pittman par. 3). Instead of opaque methods and confidential data sets that in practice yield scientific conclusions, Pittman emphasizes the importance of evidence that is visible, or otherwise present, to the senses. Pittman concludes by reinforcing associations between visibility, transparency, and scientific reproducibility, a move that positions the peer-to-peer network as a standard form of science:

> No, Dr. Mann, what we are seeking is open and transparent science, and if you would do your part such as release the code for your works such that they were reproducible, then you wouldn't have to be holding up Sarah Pallin [sic] as a worthy opponent. You could be addressing McIntyre and McKitrick, and a growing number, instead. (Pittman par. 10)

Whereas political debates with people like Sarah Palin are ostensibly biased or ideologically motivated, McIntyre, McKitrick, and the peer-to-peer network craft an image of themselves as bastions of a more transparent scientific establishment.

Bloggers, finally, performed transparency as self-disclosure and self-evidence to situate their networked practices as exemplars of openness and visibility, further deflecting from their hidden motives. In a post about the hockey stick graph, JeffID ("Hockey Stick") stylizes his lack of climatological expertise as still sufficiently qualified to interpret climatological data and statistics correctly. After disclosing that he is "an Aeronautical engineer by training but work[s] as an optical engineer," he proclaims Mann's hockey stick graph "is absolute rubbish that couldn't get published in a college lab. It's been one of the bane's [*sic*] of this blogger that anyone with a technical background could possibly accept these techniques as reasonable" (JeffID, "Hockey Stick" par. 1). JeffID's unsolicited confession about his expertise is an example of how transparency needs not to be constructed. By airing his engineering background as a performance of transparency, JeffID suggests scientists have a related responsibility: to air their techniques of calculation publicly and to ensure that this evidence is simple, self-evident, and easy to decipher.

Conclusion

Communication scholars share an imperative to theorize more just, effective, and suasive modes of public-facing scientific discourse. We agree with Phaedra Pezzullo's injunction that "we should no longer need to justify *if* 'communication' and 'cultural studies' are implicated in such earth-shattering matters" as climate change (302). To this end, we have sought to account for Climategate bloggers' visual style as the folding together of data visualizations and metaphor. Neuroscientist Cristina Cacciari suggests that "[l]anguage, be it literal or metaphorical, can construct a perceptual scenario that might even substitute the corresponding perceptual reality" (439). Visual style activates this alternative "perceptual scenario," which works across visual registers to prefigure the interpretation of scientific evidence. Accusations that CRU data are hiding in plain sight or lack transparency, for instance, are ways that a visually styled rhetoric may encourage audiences to see something beyond what graphs and data literally symbolize. Because the noncorrespondence between data and their visual representation appears to violate the myth of natural inscription because of their trace human authorship, the IPCC's hockey stick graph signified visual evidence of conspiracy rather than an attempt to render patterns in data more accessible.

The Climategate controversy also has long-term importance for the understanding of rhetoric and visual style. Bloggers' use of metaphors and graphs to shape audiences' perception of data and scientific practice may be reappropriated to function in other contexts as a rhetorical strategy against climate change denial and on behalf of climatological science writ large. In the hands of climate change deniers, visual style muddies what counts as evidence by lending absent information the form and appearance of data. By insinuating that scientists were concealing data beyond what was out in the open, climate change deniers' visual style conjured evidence as yet-to-be-found information, but that purported to prove the existence of a scientific conspiracy. This deployment of visual style lent the absence of evidence legitimacy because it juxtaposed verified conclusions with widespread speculation —as if these were opposed or even commensurate modes of proof.

Ultimately, the CRU has been repeatedly validated, and its conspiracy-theorist accusers are deniers of an evident and ongoing climate catastrophe. The case also illustrates how climatologists and conspiracy theorists have similar rhetorical strategies at their disposal, even if rhetoric has not been the traditional provenance of scientific experts. The Climategate controversy is also an invitation for climatologists specifically, and scientists generally, to adopt an understanding of and orientation to the visual style as a mode of a rhetorical response.

Michael E. Mann offers an example of a countervisual style in a tweet dated 23 February 2020. The provocative tweet contains a side-by-side visual comparison of Tesla Motors's steep uptick in stock market value alongside a similarly sharp visual uptick in global temperatures represented by Mann's hockey stick graph. Mann's "Coincidence?" highlights the minimal visual resemblance between the two images and offers the tentative hypothesis that Tesla's expansion might have something to do with global climate change. Unlike climate change deniers, the playful "Coincidence?" does not confidently

assert the existence of a climate conspiracy, but invites audiences to attend more carefully to the implications of absent evidence. Suppose electric auto manufacturers like Tesla are experiencing a financial boom *because* Earth is undergoing a climate catastrophe. At a minimum, the visual correlation between these measurements would suggest that consumers seek a purchasable way to decrease their carbon footprints, if not that Tesla's profitability is pegged to climate change and its continuation.

Put otherwise, a visual style testifies to rhetoric's ambivalence or its characteristic duplicity. As a framework of interpretation and argument, the visual style offers a strategic means by which to present evidence not only as a faithful reflection of reality, but also as ephemeral and hidden in plain sight. As we have argued, climate change deniers deployed a visual style to marshal the appearance of scientific arguments against the IPCC and the CRU. As we hope to have shown, this style also has the potential to bolster public-facing science communication, offering indicators for conspiracy theorizing and a potential avenue for a rhetorical response. In the face of continued reticence against collective action necessary to mitigate or adapt to climate change, acknowledging how public, scientific knowledge depends on rhetorical maneuvers remains deeply urgent.

Acknowledgments

The authors contributed equally to the production of this article. The authors thank Chelsea Graham, Paul E. Johnson, Michael Lechuga, Patrick Wade, and Emily Winderman for their helpful comments on earlier versions of this essay. Portions of this essay were presented at the National Communication Association Conventions in 2018 and 2019 in Salt Lake City, Utah, and Baltimore, Maryland, respectively.

Additionally, the authors would like to note that many of the images analyzed in this essay could not be printed due to permission-based restrictions, although the images are all publicly accessible and can be easily found by following the links provided in this article's works cited.

Works Cited

Anderson, Floyd D., and Lawrence Prelli. "Pentadic Cartography: Mapping the Universe of Discourse." *Quarterly Journal of Speech*, vol. 87, no. 1, 2001, pp. 73–95. doi:10.1080/00335630109384319.

Banning, Marlia E. "When Poststructural Theory and Contemporary Politics Collide—The Vexed Case of Global Warming." *Communication and Critical/Cultural Studies*, vol. 6, no. 3, 2009, pp. 285–304. doi:10.1080/14791420903049736.

Barthes, Roland. *Mythologies*. Hill and Wang, 1972.

Besel, Richard D. "Opening the 'Black Box' of Climate Change Science: Actor-Network Theory and Rhetorical Practice in Scientific Controversies." *Southern Communication Journal*, vol. 76, no. 2, 2011, pp. 120–36. doi:10.1080/10417941003642403.

Black, Max. "Metaphor." *Proceedings of the Aristotelian Society*, vol. 55, 1954–1955, pp. 273–94. doi:10.1093/aristotelian/55.1.273.

Bricker, Brett J. "Climategate: A Case Study in the Intersection of Facticity and Conspiracy Theory." *Communication Studies*, vol. 64, no. 2, 2013, pp. 218–39. doi:10.1080/10510974.2012.749294.

Burke, Kenneth. *A Grammar of Motives*. U of California P, 1945.

———. *Permanence and Change: An Anatomy of Purpose*. 3rd ed., New Republic, 1935.

Cacciari, Cristina. "Crossing the Senses in Metaphorical Language." *The Cambridge Handbook of Metaphor and Thought*, edited by Raymond W. Gibbs Jr., Cambridge UP, 2008, pp. 425–43.

Camper, Martin. *Arguing over Texts: The Rhetoric of Interpretation*. Oxford UP, 2018.

Ceccarelli, Leah. "Manufactured Scientific Controversy: Science, Rhetoric, and Public Debate." *Rhetoric & Public Affairs*, vol. 14, no. 2, 2011, pp. 195–228. doi:10.1353/rap.2010.0222.

Collins, Luke C. and Brigitte Nerlich. "How Certain Is 'Certain'? Exploring How the English-language Media Reported the Use of Calibrated Language in the Intergovernmental Panel on Climate Change's Fifth Assessment Report." *Public Understanding of Science*, vol. 25, no. 6, 2016, pp. 656–73. doi:10.1177/0963662515579626.

Courrielche, Patrick. "Peer-to-Peer Review: How 'Climategate' Marks the Maturing of a New Science Movement, Part I." *Breitbart*, 8 Jan. 2010, https://www.breitbart.com/the-media/2010/01/08/peer-to-peer-review-how-climategate-marks-the-maturing-of-a-new-science-movement-part-i/. Accessed 20 Jan. 2020.

Crick, Nathan, and Joseph Gabriel. "The Conduit between Lifeworld and System: Habermas and the Rhetoric of Public Scientific Controversies." *Rhetoric Society Quarterly*, vol. 40, no. 3, 2010, pp. 201–23. doi:10.1080/02773941003614464.

Douglass, David H., and John R. Christy. "A Climatology Conspiracy?" *American Thinker*, 20 Dec. 2009, https://www.americanthinker.com/articles/2009/12/a_climatology_conspiracy.html. Accessed 3 Feb. 2020.

Eamon, William. "From the Secrets of Nature to Public Knowledge: The Origins of the Concept of Openness in Science." *Minerva*, vol. 23, no. 3, 1985, pp. 321–47. doi:10.1007/BF01096442.

Friedrichs, Jörg. "Peak Energy and Climate Change: The Double Bind of Post-Normal Science." *Futures*, vol. 43, 2011, pp. 469–77. doi:10.1016/j.futures.2010.12.004.

Fritch, John, et al. "Disingenuous Controversy: Responses to Ward Churchill's 9/11 Essay." *Argumentation and Advocacy*, vol. 42, no. 1, 2006, pp.190–205. doi:10.1080/00028533.2006.11821654.

Galison, Peter. "Removing Knowledge: The Logic of Modern Censorship." *Agnotology: The Making and Unmaking of Ignorance*, edited by Robert N. Proctor and Londa Schiebinger, Stanford UP, 1999, pp. 37–54.

Goodnight, G. Thomas. "The Personal, Technical, and Public Spheres of Argument: A Speculative Inquiry into the Art of Public Deliberation." *Journal of the American Forensic Association*, vol. 18, Spring 1982, pp. 109–19.

Goodnight, G. Thomas, and John Poulakos. "Conspiracy Rhetoric: From Pragmatism to Fantasy in Public Discourse." *The Western Journal of Speech Communication*, vol. 45, 1981, pp. 299–316. doi:10.1080/10570318109374052.

Gronbeck, Bruce E. "The Spoken and the Seen: Phonocentric and Ocularcentric Dimensions of Rhetorical Discourse." *Rhetorical Memory and Delivery: Classical Concepts for Contemporary Composition and Communication*, edited by John F. Reynolds, Lawrence Erlbaum, 1993, pp. 141–57.

Gross, Alan G. *Starring the Text: The Place of Rhetoric in Science Studies*. Southern Illinois UP, 2006.

Gross, Alan G., and Joseph E. Harmon. *The Internet Revolution in the Sciences and Humanities*. Oxford UP, 2016.

Grundmann, Reiner. "'Climategate' and the Scientific Ethos." *Science, Technology & Human Values*, vol. 38, no. 1, 2011, pp. 67–93. doi:10.1177/0162243911432318.

Hagan, Susan M. "Visual/Verbal Collaboration in Print: Complementary Differences, Necessary Ties, and an Untapped Rhetorical Opportunity." *Written Communication*, vol. 24, no. 1, 2007, pp. 49–73. doi:10.1177/0741088306296901.

Hawhee, Debra. "Looking into the Eyes of Aristotle: Toward a Theory of Rhetorical Vision." *Advances in the History of Rhetoric*, vol. 14, no. 2, 2011, pp. 139–65. doi:10.1080/15362426.2011.613288.

Jasanoff, Sheila. "Transparency in Public Science: Purposes, Reasons, Limits." *Law and Contemporary Problems*, vol. 69, 2006, pp. 21–45.

Jaspal, Rusi, et al. "Contesting Science by Appealing to Its Norms: Readers Discuss Climate Science in the *Daily Mail*." *Science Communication*, vol. 35, no. 3, 2012, pp.383–410. doi:10.1177/1075547012459274.

Jay, Martin. *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought*. U of California P, 1994.

Jeff ID. "Douglass and Christy on Climategate." *Air Vent*, 20 Dec. 2009, https://noconsensus.wordpress.com/2009/12/20/douglass-and-christy-on-climategate/. Accessed 1 Jan. 2020.

———. "GHCN Antarctic, 8X Actual Trend – Uses Single Warmest Station." *Air Vent*, 13 Dec. 2009, https://noconsensus.wordpress.com/2009/12/13/ghcn-antarctic-warming-eight-times-actual/. Accessed 12 Oct. 2018.

———. "Hidden in Plain Sight—A Criticism of Media Coverage." *Air Vent*, 25 Nov. 2009, https://noconsensus.wordpress.com/2009/11/25/hidden-in-plain-sight-a-criticism-of-media-coverage/. Accessed 10 Dec. 2018.

———. "The Hockey Stick Peer Review Gauntlet." *Air Vent*, 24 Nov. 2009, https://noconsensus.wordpress.com/2009/11/24/1324/#more-6297. Accessed 1 Feb. 2020.

———. "Would You Believe." *Air Vent*, 6 Jan. 2010, https://noconsensus.wordpress.com/2010/01/06/285693/. Accessed 1 Feb. 2020.

Knight, Peter. "Outrageous Conspiracy Theories: Popular and Official Reponses to 9/11 in Germany and the United States." *New German Critique*, vol. 35, no. 1, 2008, pp. 165–93. doi:10.1215/0094033X-2007-024.

@MichaelEMann (Michael E. Mann). "Coincidence?" Twitter, 23 February 2020, 6:50 a.m., https://twitter.com/MichaelEMann/status/1231562016315203586.

Mann, Michael E. *The Hockey Stick and the Climate Wars: Dispatches from the Front Lines*. Columbia UP, 2013.

McIntyre, Steven. "The 'Climategate' Hockey Stick." *Climate Audit*, 28 Nov. 2009, https://climateaudit.org/2009/11/28/the-Climategate-hockey-stick/. Accessed 13 Oct. 2018.

———. "Climategatekeeping: Jones Reviews Mann." *Climate Audit*, 23 Dec. 2009, https://climateaudit.org/2009/12/23/Climategatekeeping-jones-reviews-mann/. Accessed 29 Sept. 2018.

———. "Climategatekeeping: Schmidt 2009." *Climate Audit*, 22 Dec. 2009. https://climateaudit.org/2009/12/22/Climategatekeeping-schmidt-2009/. Accessed 29 Sept. 2018.

———. "Climategatekeeping: Wikipedia." *Climate Audit*, 19 Dec. 2009, https://climateaudit.org/2009/12/19/climategatekeeping-wikipedia/. Accessed 28 Jan. 2020.

———. "FOI Myth #1: USA." *Climate Audit*, 28 Dec. 2009, https://climateaudit.org/2009/12/28/foi-myth-1-usa/. Accessed 14 Nov. 2018.

———. "'Sent Loads of Station Data to Scott." *Climate Audit*, 1 Jan. 2010, https://climateaudit.org/2010/01/01/sent-loads-of-station-data-to-scott/. Accessed 1 Feb. 2020.

———. "Willis Eschenbach's FOI Request." *Climate Audit*, 25 Nov. 2009, https://climateaudit.org/2009/11/25/willis-eschenbachs-foi-request/. Accessed 1 Feb. 2020.
McIntyre, Steven, and Ross McKitrick. "Corrections to the Mann Et Al. (1998) Proxy Data Base and Northern Hemispheric Average Temperature Series." *Energy & Environment*, vol. 14, no. 6, 2003, pp. 751–71. doi:10.1260/095830503322793632.
McQuire, Scott. "From Glass Architecture to Big Brother: Scenes from a Cultural History of Transparency." *Cultural Studies Review*, vol. 9, no. 1, 2003, pp. 103–23. doi:10.5130/csr.v9i1.3587.
Montford, Andrew W. "The Code." *Bishop Hill*. 23 Nov. 2009, http://bishophill.squarespace.com/blog/2009/11/23/the-code.html. Accessed 5 Oct. 2018.
———. "Met Office Code." *Bishop Hill*, 22 Dec. 2009, http://bishophill.squarespace.com/blog/2009/12/22/met-office-code.html. Accessed 1 Feb. 2020.
———. "More Evidence of Gatekeeping." *Bishop Hill*, 17 Dec. 2009, http://bishophill.squarespace.com/blog/2009/12/17/more-evidence-of-gatekeeping.html. Accessed 28 Jan. 2020.
———. "What Do You Make of This?" *Bishop Hill*, 22 Nov. 2009, http://bishophill.squarespace.com/blog/2009/11/22/what-do-you-make-of-this.html. Accessed 29 Sept. 2018.
Mumford, Lewis. *Technics and Civilization*. Harcourt Brace Jovanovitch, 1934, pp. 138–41.
Nerlich, Brigitte. "'Climategate': Paradoxical Metaphors and Political Paralysis." *Environmental Values*, vol. 19, no. 4, 2010, pp. 419–42. doi:10.3197/096327110X531543.
Neville-Shepard, Ryan. "Paranoid Style and Subtextual Form in Modern Conspiracy Rhetoric." *Southern Communication Journal*, vol. 83, no. 2, 2018, pp. 119–32. doi:10.1080/104174X.2017.1423106.
O'Gorman, Ned. "Aristotle's Phantasia in the Rhetoric: Lexis, Appearance, and the Epideictic Function of Discourse." *Philosophy and Rhetoric*, vol. 38, no. 1, 2005, pp. 16–40. doi:10.1353/par.2005.0009.
Paliewicz, Nicholas S., and George F. (Guy) McHendry, Jr. "When Good Arguments Do Not Work: Post-dialectics, Argument Assemblages, and the Networks of Climate Skepticism." *Argumentation and Advocacy*, vol. 53, no. 3–4, 2017, pp. 287–310. doi:10.1080/00028533.2017.1375738.
Paroske, Marcus. "Deliberating International Science Policy Controversies: Uncertainty and AIDS in South Africa." *Quarterly Journal of Speech*, vol. 95, no. 2, 2009, pp. 148–70. doi:10.1080/00335630902842053.
Pearce, Fred. "Climate Change E-mails between Scientists Reveal Flaws in Peer Review." *Guardian*, 2 Feb. 2010. https://www.theguardian.com/environment/2010/feb/02/hacked-climate-emails-flaws-peer-review. Accessed 2 Feb. 2010.
Pezzullo, Phaedra C. "'There Is No Planet B': Questions during a Power Shift." *Communication and Critical/Cultural Studies*, vol. 10, no. 2–3, 2013, pp. 301–05. doi:10.1080/14791420.2013.806161.
Pfister, Damien. *Networked Media, Networked Rhetorics*. The Pennsylvania State UP, 2014.
Pittman, John F. "Common Sense and Prosecutor's Fallacy(s)." *Air Vent*, 21 Dec. 2009. https://noconsensus.wordpress.com/2009/12/21/common-sense-and-prosecutor%E2%80%99s-fallacys/#more-7141. Accessed 2 Feb. 2020.
Ravetz, Jerome R. "'Climategate' and the Maturing of Post-normal Science." *Futures*, vol. 43, 2011, pp. 149–57. doi:10.1016/j.futures.2010.10.003.
Sharman, Amelia. "Mapping the Climate Skeptical Blogosphere." *Global Environmental Change*, vol. 26, 2014, pp. 159–70. doi:10.1016/j.gloenvcha.2014.03.003.
Sharman, Amelia, and Candice Howarth. "Climate Stories: Why Do Climate Scientists and Skeptical Voices Participate in the Climate Debate?" *Public Understanding of Science*, vol. 26, no. 7, 2017, pp. 826–42. doi:10.1177/0963662516632453.
Sheppard, Kate. "Climategate: What Really Happened?" *Mother Jones*, 21 Apr. 2011, https://www.motherjones.com/environment/2011/04/history-of-climategate/. Accessed 28 Jan. 2020.
Smith, Wesley, J. "Climategate: Mark Steyn Asks, "'who Peer Reviews the Peer Reviewers?'" *First Things*, 29 Nov. 2009, https://www.firstthings.com/blogs/firstthoughts/2009/11/Climategate-mark-steyn-asks-who-peer-reviews-the-peer-reviewers. Accessed 29 Sept. 2018.
———. "The New Inquisition: Ideology's Corruption of Science," *First Things*, 28 Nov 2009, https://www.firstthings.com/blogs/firstthoughts/2009/11/the-new-inquisition-ideologys-corruption-of-science/. Accessed 15 Mar. 2021.
Steiner, Rudolf and John Michael Barnes. *Nature's Open Secret: Introductions to Goethe's Scientific Writings*. Anthropomorphic, 2000.
Steyn, Mark. "CRU's Tree-Ring Circus," *National Review*, 28 Nov. 2009. https://www.nationalreview.com/2009/11/crus-tree-ring-circus-mark-steyn/. Accessed 28 Jan. 2020.
Stormer, Nathan. "Embodying Normal Miracles." *Quarterly Journal of Speech*, vol. 83, no. 2, 1997, pp. 172–91. doi:10.1080/00335639709384179.
Taylor, Charles Alan. *Defining Science: A Rhetoric of Demarcation*. U of Wisconsin P, 1996.
Tietge, David J. "The Role of Burke's Four Master Tropes in Scientific Expression." *Journal of Technical Writing and Communication*, vol. 28, no. 4, 1998, pp. 317–24. doi:10.2190/BM93-7Y2G-BUG4-BGGY.
Walsh, Lynda. "'Tricks,' Hockey Sticks, and the Myth of Natural Inscription: How the Visual Rhetoric of Climategate Conflated Climate with Character." *Image Politics of Climate Change: Visualizations, Imaginations, Documentations*, edited by Birgit Schneider and Thomas Nocke, Transcript P, 2014, pp. 81–101.
———. "The Visual Rhetoric of Climate Change." *WIREs Climate Change*, vol. 6, 2015, pp. 361–68. doi:10.1002/wcc.342.

Watts, Anthony. "Climategate: Hide the Decline—Codified." *Watts Up With That?* 25 Nov. 2009, https://wattsupwiththat.com/2009/11/25/climategate-hide-the-decline-codified/. Accessed 2 Feb. 2020.

———. "McIntyre: The Deleted Data from the 'Hide the Decline' Trick." *Watts Up With That*? 26 Nov. 2009c, https://wattsupwiththat.com/2009/11/26/mcintyre-data-from-the-hide-the-decline/. Accessed 13 Oct. 2018.

———. "Pielke Senior: Revkin Perpetuates a Myth about the Surface Temperature Record." *Watts Up With That?* 30 Nov. 2009, https://wattsupwiththat.com/2009/11/30/pielke-senior-revkin-perpetuates-a-myth-about-surface-temperature-record/. Accessed 8 Oct. 2018.

———. "Release of CRU Files Forges a New Hockey Stick Reconstruction." *Watts Up With That?* 20 Nov. 2009, https://wattsupwiththat.com/2009/11/20/release-of-cru-files-forge-a-new-hockey-stick-reconstruction/. Accessed 2 Feb. 2020.