

A Rhetorical Data Studies Approach to Data Advocacy

A White Paper authored by Laurie Gries for Data Advocacy for All

Key Concepts:

Rhetoric

Rhetorical Situation

Rhetorical Data Studies

Data Storytelling

Framing

Data Advocacy

Rhetorical politics of Accountability

Data

Terministic Screens

Visual Rhetoric

Pharmakon

Data Analysis

Multimodality

Audience Analysis

Data Justice

Guiding Questions:

1. What is rhetoric, what is data advocacy, and why is rhetoric relevant to data advocacy?
2. What is rhetorical data studies? How does rhetorical data studies define data? And what characteristics about data does it push us to seriously consider?

3. What are the ethics of doing data advocacy from a rhetorical data studies perspective that practitioners need to heavily consider? How can a rhetorical data studies approach guide our entire data advocacy process—from data collection to data storytelling?

In 2015, the number of people killed by police in the United States was on the rise. On almost any given day in cities across the United States, a police-related killing ended someone's life--typically a Black male--and on several days, more than one person was killed. In California alone, for instance, more than 3 people were killed by police on ten days in 2015¹. In response to such ubiquity of violence, a number of organizations and teams of concerned citizens began documenting the number of killings by police and making the data public. *The Guardian*, for example, produced [The Counted](#), We the protestors, founded by four Black Lives Matter activists, created [Mapping Police Violence](#), and D. Brian Burghart, a journalist, began a crowdsourcing project called [Fatal Encounters](#). Such public websites were necessary, these entities argued, because the government, at the time, was not keeping and publishing records of such violence. Everyday citizens, they insisted, needed to know about this alarming and ubiquitous means of systemic injustice that was disproportionately impacting Black Americans in the United States.

This genre² of websites produced by *The Guardian*, We the Protestors, and Burghart, which some refer to as murder maps, is a contemporary example of data advocacy. ***Data advocacy is a deeply ethical integrative practice of analysis, design, and communication in which insights from a dataset are effectively conveyed to raise public awareness and drive social change.*** In

¹ See 2015 data about police killings published on [MappingPoliceViolence.org](#).

² From the perspective of rhetorical studies, and more particularly Carolyn Miller, a genre can be understood as typified ways of communicating in recurring situations. Genres, in other words, become commonly depended on within a community to achieve certain rhetorical goals. So, for instance, murder maps, as a genre, have become common ways for people and organizations to present data about homicides and to advocate for social change in regard to unjust killings, typically but not always by the police.

terms of genres, data advocacy is certainly not limited to public-facing websites such as Mapping Police Violence; data advocacy can come in the form of slide shows, brochures, reports, legislative bills, maps, and even public-facing articles and op-eds. Data Advocacy is also not a new communicative practice. In the 1800s, as just two examples, physician John Snow collected and mapped data to document the number of people who died during the 1854 cholera outbreak in London, and civil rights activist Ida B. Wells collected data about the alarming rates of lynching in the United States as well as fraudulent justifications of lynching made by white people at the time. In the 21st century, however, data advocacy has become an increasingly powerful way to harness data to address a wide range of critical issues—whether advocating for environmental justice, driving legislative reform, or educating the public.

Because data advocacy has become such a powerful means of communicative action, data storytelling has become an increasingly important rhetorical skill to develop, whether one plans to go into journalism, science, politics, or public advocacy work. ***Data storytelling* [refers](#) to the “ability to effectively communicate insights from a dataset using narratives and visualizations” (Cote, n.p.).** This ability may sound simple and easy enough, but data storytelling demands a multitude of literacy skills. Depending on the project, data storytelling may entail collecting, assembling, cleaning, and/or analyzing data via qualitative and quantitative research methods. It also may entail visualizing data in graphs, maps, or other presentation means. In addition, no matter the project, data storytelling entails harnessing a wide range of communicative and media elements—from stories and testimonies to photographs and videos—to establish one’s credibility on a given topic, ethically represent the matter at hand, capture and sustain an audience’s attention, and make persuasive claims that appeal to both reason and emotion.

As an example of what data storytelling for advocacy looks like in the genre of a feature article, take a look at this [article](#) published in *The Conversation* written by James Densley, David

Riedman, and Jillian Peterson, in which these authors address the pressing issue of school shootings and advocate for more action to stop student access to firearms. In this one article alone, the authors share anecdotes about multiple school shooting incidents; weave in data and facts from a database of school shootings that they created; report data from surveys conducted by other research organizations; include self-designed data visualizations; use vivid language to raise alarm about the ubiquity of school shootings; and forward arguments to offer ways of addressing this seemingly unending socio-cultural problem. While the authors manage to pull off such data advocacy with seeming ease, data storytelling, no matter the genre--and even if one is not pulling from one's own data--demands much time, labor, and communicative know-how.

While different frameworks can help one learn how to tell effective data stories, rhetorical data studies (Gries 2023) is particularly well-suited for learning how to harness data for effective advocacy. Rhetorical data studies is both a critical and constructive framework. As a critical lens, rhetorical data studies investigates the links between data, communication, and power in order to better understand how data-driven stories and arguments generate knowledge, garner public attention, and, among other actions, mediate socio-cultural change. As a constructive framework, rhetorical data studies draws on the ancient art of rhetoric to help one, in Aristotle's words, determine the most effective "available means of persuasion" for a particular data advocacy situation. Rhetoric, in some ways, has a suspicious reputation, as many people associate rhetoric with manipulation, if not downright deceit. Politicians, for instance, are notoriously charged with using rhetoric to play upon and mislead the public. However, rhetoric is better understood as an art or practice that is used in a variety of everyday contexts by a variety of people to achieve a variety of communicative goals. Whether a scholar is crafting a written argument, a director is filming a documentary, or an activist is designing a social campaign, rhetoric is a useful framework for meeting one's communication goals. Rhetoric especially comes in handy when doing data advocacy as it can

help one develop the critical sensibilities, persuasive skills, and reliable ethos needed to craft and deliver effective and powerful stories for social change.

Data Advocacy as a Rhetorical Practice and Ethical Praxis

A quick overview of five characteristics of rhetoric makes clear why and how rhetorical data studies can enhance one's ability to develop data storytelling skills and do data advocacy.

First, rhetoric is multimodal. Rhetoric is not limited to words; in terms of form, especially in the digital age, rhetoric often entails the weaving of words, images, sounds, numbers and other diverse modes of communication. Second, rhetoric is contextual; the communicative choices one makes is dependent on audience, setting, timing, socio-cultural conditions, genre, and purpose. (The argument one might make about gun violence would differ depending on whether one is speaking at a conservative men's club in a rural town or a local high school in an urban city.) For this reason, rhetoric is, third, also flexible and versatile. Rhetoric is deployed in a variety of genres (speeches, advertisements, brochures, posters, op-eds, documentaries, etc.) to achieve a variety of nuanced goals: education, critique, motivation, dissuasion, entertainment, etc. Fourth, rhetoric is both official and non-official. It is practiced in formal institutional settings such as courtrooms, delivered by high governmental officials such as senators, and deployed in formal genres such presidential speeches. Yet, rhetoric is also a vernacular practice, meaning that it is used by individuals and groups in everyday situations—conversations in homes and restaurants, debates in college classrooms, and workplace genres across a wide range of businesses and organizations. Fifth, rhetoric is civic; it is often used by citizens to address local concerns, whether used by a mayor to garner support for new legislation or by local activists to critique unequal power dynamics or social workers to motivate equity and social change. Data advocates, in all kinds of public arenas, especially lean on rhetoric, as

it helps one to make effective communication choices for a variety of civic-minded goals, whether one aims to educate, inform, shift public opinion, or change public policy.

Because of its ability to drive social change, many scholars insist that we should actually think about rhetoric not just as a means of persuasion but as an important means of *altering reality*. Lloyd Bitzer, for instance, suggests that rhetoric typically emerges in response to some problematic situation that has exigence—urgency—and that a **rhetor** (author, politician, journalist, activist) attempts to address that problem by generating discourse that aims to change the reality of the situation through the mediation of thought and action (4). Bitzer calls this situation a **rhetorical situation** and emphasizes that rhetoric has best chances for efficacy when it is addressed to an audience of strategic actors who actually have potential to help shift the reality of the situation. Bitzer's colleague Richard Vatz reminds us that rhetoric does not just respond to already-existing exigent situations, however. Depending on a rhetor's own goals, understandings, and audience, rhetoric also *calls into being* that situation by framing the problem and positioning it in a certain light. In simplest terms, then, you can think of rhetoric as both responsive to and generative of situations that are deemed in need of altering by a particular rhetor with the hopes of motivating and manifesting change in and of the world.

One clear example of how rhetoric both responds to and calls into being an exigent situation is through the practice of framing, a technique of communication that has everything to do with data advocacy but is also commonly used in the media when delivering data-driven claims and arguments. **Framing is a strategy of identifying, selecting, and emphasizing certain information to shape audience perceptions of that certain situation.** Framing, in other words, is about salience—about making rhetorical choices so that certain details stand out, capture audience attention, and resonate with meaning. Framing is enacted in all kinds of ways when making claims about a certain situation—choosing certain words, images, or angles to describe or represent the situation; omitting

or distorting certain details, statistics, perspectives, or voices relevant to the situation; identifying and responding to certain causes of the situation over others; etc. As an example of how framing shapes data-driven claims, click on [this link](#) and consider how Fox News and Fox News Latino frame two different stories about the same rhetorical situation. Whereby Fox News Latino shows a close up shot of a young Hispanic man with the headline “In Rare move, University Grants \$22K Scholarship to Undocumented Student,” Fox News shows the same picture with the headline “Money for Illegals.” Rhetoric, as a critical framework, pushes us to ask of this story: How do the labels “undocumented student” vs. “illegals” shape audience perceptions of Latino/a/x students? How does the omission of “scholarship” and inclusion of just “money” in the Fox News report bait audience members differently? In this clear example, yes the data-driven headline is responding to a specific situation, but the framing of it generates different realities, if you will, of that situation, and that framing matters as it shapes public perception about higher education, immigration, and Latino students, which can, in turn, shape future funding in higher education, not to mention treatment of Latino/a/x students. The lesson here for data advocacy is that when we are responsible for telling data-driven stories, we must be extra careful with our communicative choices, understanding that the choices we make matter to our social realities—symbolically, materially, culturally, and politically.

Developing such critical awareness about our communication choices is especially important because while data advocacy is often enacted by a rhetor concerned with social justice issues impacting their own bodies, relations, and communities, data advocacy is also often enacted on behalf of others, and sometimes on behalf of peoples and communities to which an advocate does not demographically belong (racially, politically, financially, geographically, etc.). As such, it is incredibly important to think about data advocacy not just as a rhetorical practice but as a highly reflective ethical *praxis*. Generally, praxis is a word that signifies the nexus of *thinking*, *making*, and *doing* that is constitutive of any rhetorical action in public life. No matter what data-driven story we

aim to tell, praxis recognizes the reciprocal process of thinking, collecting, synthesizing, crafting, and presenting that makes possible all rhetorical production. But, more specifically, Paulo Freire (1972) pushes us to think of **praxis as action plus reflection that makes possible transformation** (p. 52). From this perspective of praxis, critical reflection is especially important to rhetorical production in that it helps to align our theories, values, and practices so that we are better equipped to work for change in ethical and just ways.

The praxis of data advocacy entails reflecting critically on many important matters, only three of which I emphasize here. First and foremost, it is important to critically reflect on one's own identity and positionality in relation to both the situations one is raising concerns about and the communities for which one is advocating. We cannot assume, for instance, that we understand the rhetorical situation in the same light as those whose very lives are being significantly impacted by that situation or that we have the best solutions to the problems another community member may be facing. As such, we must constantly check our assumptions, interrogate how we may be (mis)identifying and (mis) representing situations and peoples, and consistently seek to learn about and include the perspectives of people for whom we are advocating.

Second, and especially when working with data to generate our own rhetorical productions, we must think deeply about accountability. The rhetorical politics of accountability (Gries 2023) is a term that perhaps best describes such complicated critical needs when doing data advocacy. **The rhetorical politics of accountability refers to the struggle over how to ethically collect, process, and deploy data, alongside narratives and other rhetorical strategies, to account for ongoing injustices in attempt to fight for social change.** A rhetorical data studies approach to data advocacy pushes us to not shy away from such struggle but instead to fully immerse ourselves in it by interrogating throughout the data advocacy process *how we account*—who and/or what gets and does not get counted; whose accounts are typically seen, heard, and legitimized; how such accounts

are designed, produced, displayed, and distributed; and to what consequences such accounts contribute? In a data-driven society, in which data is reconfiguring how we take measure, produce policy, acquire control, and participate in public life, such questions about *how we account* have everything to do with how we both conceive of and deploy data to do advocacy work. It is thus imperative to, third, also establish a strong rhetorical understanding not only about what data is but what benefits and harms can come from data-in-use.

Thinking Rhetorically about Data

Data is commonly thought about in terms of form; whether we think of it in the form of numbers or words, stories, or pictures, data is generally understood to be “any type of information that is systematically collected, organized, and analyzed” (D’Ignazio and Klein, p. 14). Yet, beyond this general understanding, our conceptions of data are highly dependent on the perspectives that shape our understandings of it. From a [business perspective](#), for instance, we might think of data as an opportunity for personalizing customer experiences and a vehicle for improving efficiency and decision-making. From a [social science perspective](#), on the other hand, we might think about data as a highly sought-after commodity that is breeding new life into asymmetrical systems of capitalism and surveillance. From a rhetorical data studies perspective, **data is understood to be a multifaceted communicative action that is always embroiled in and constitutive of social relations of power. As a communicative action, data is both a form of representation *and* a rhetorical act with mediating power to effect socio-material change.** Data not just *is*, but *does*, in other words, and often what it does comes to publicly and seriously matter.

As evidence for its public mattering, just consider the following data advocacy case in which misleading Covid statistics caused a public uproar due to its potentially harmful consequences. Misleading statistics, as Bernardita Calzon [explains](#), refers to the intentional or erroneous misuse of

numerical data, which often results in the distribution of deceiving information and the creation of false narratives. [This incident of misleading statistics](#) occurred about 5 months after Covid-19 began spreading—in May 2020—when the US Georgia Department of Public Health generated a visualization that depicts the number of Covid Cases as decreasing in the top 5 counties in Georgia that had the highest COVID-19 cases in the past 15 days (Calzon). As Calzon explains, if you look closely and critically at the [data visualization](#) distributed by the US Georgia Department of Health, you will notice how the dates under the bars identifying case rates in specific counties were not ordered chronologically. This design choice, in addition to not depicting the counties in the same order, leads viewers into thinking that cases are gradually decreasing, which was not the case at the time in Georgia. As Calzon also notes, such misleading statistics are not without consequence during a global pandemic as the spread of such misinformation can lead to less precautions, higher spread, and even more death rates. Fortunately, the US Georgia Department of Public Health was quick to fix the graph after public uproar before the visualization could have a major impact on public action. But what I want to emphasize through this case is that *data matters*, and data matters because data are rhetorical actions, commonly used in public facing genres, that have potential to cause all kinds of consequences in the world.

A rhetorical data studies approach is especially useful for developing this ability as it understands that data is never a neutral, objective act. Instead, data-driven visualizations, narratives, and arguments are understood to be important meaning-making acts that largely function to advance knowledge, enhance public understanding, and motivate forward action by depicting, envisioning, and motivating certain constructions of reality. ***Terministic screen* is a rhetorical term developed by Kenneth Burke that acknowledges how all language is both a reflection and deflection of reality.** As Burke puts it, “Even if any given terminology is a reflection of reality, by its very nature as a terminology it must be a selection of reality; and to this extent it must function also as a

deflection of reality.” From a rhetorical data studies perspective, data, especially in data storytelling and advocacy, functions in a similar way in that whether thinking of dataset, a bar graph, or a data-driven story, each collection, selection, *and* presentation of data directs our attention to certain aspects of the issue in focus, which simultaneously turning our attention away from thinking of it in other ways. Data, in other words, constrains our sense of reality and what we come to deem important, truthful, meaningful, and worthy of forward action.

While all data (and language) functions as terministic screens, data advocacy and data storytelling often take inadvertent, if not intentional, advantage of such function to present selective truths of reality. Such selective truth-making in data advocacy work is particularly transparent in the deployment of *visual rhetoric*, which simply refers to the use of visual information—photographs, drawings, symbols, charts, maps, etc.—alongside other modes of communication—text, typography, white space—to communicate, argue, and persuade, among many other actions. Consider the genre of maps, which are commonly used by data advocates for a variety of purposes. Mark Monmonier notes how maps that attempt “top portray meaningful relationships for a complex three-dimensional world on a flat sheet of paper or a video screen” (1996, 1) are always “massive reductions of the reality they represent, and clarity demands that much of that reality be suppressed” (2005, 215). As such, cartographers are always trapped within a paradox: “to present a useful and truthful picture,” he goes so far to say, “an accurate map must tell white lies” (1996, 1).

Important to note is that even as all maps engage in selective truth-making, they are still considered to be a very popular genre of data advocacy, especially among organizations working toward social justice. A **data advocacy genre**, by the way, can be understood as a go-to means of data-driven communication that advocates rely on in recurring situations to accomplish certain rhetorical goals. Many data advocates, for instance, turn to the genre of maps to help to

establish exigence around certain rhetorical situations that an organization deems important and to move people toward certain emotions and actions. This is an especially popular rhetorical function of maps when it comes to representing issues that often go unnoticed. The Southern Poverty Law Center (SPLC), for instance, has generated a [hate map](#) that makes visible where hate and anti-government extremist groups are located in the contemporary U.S. Their hate map uses a color scheme of red and black to signify danger and raise alarm, as the SPLC believes the U.S. needs to be very concerned with a rising authoritarianism in mainstream society and politics. This hate map also omits typical geographical information one might find on a map such as city and state names as well as topographical information in order to maintain a sharp focus on the extremist groups. While one might be quick to critique such distortions of reality, the trick, from a rhetorical data studies perspective, is to be cognizant of how ones' use of data is always, going back to Burke's terms, selecting and deflecting reality and to think carefully and ethically about one's selective truth-making choices.

Rhetorical mindfulness when it comes to selective truth-making with data is especially crucial because the unethical use of data in genres such as map-making has potential to contribute to unjust circumstances and can create much public distrust. Consider gerrymandering as just one data advocacy case in point. As Eric Deluca and Sara Nelson clearly explain, *gerrymandering* is the process of manipulating “the boundaries of an electoral constituency in order to favor a particular political party or group” by consolidat[ing] or distribut[ing] political power, with such tactics as isolating opponents (known as packing) and breaking up areas of opposition (cracking).” Dating back to 1812, they note, while gerrymandering has a “storied history” in the United States, gerrymandering is still in much use today and not without consequence. The contemporary redistricting and reapportionment that goes into congressional gerrymandering, as they note, “can have very real consequences for people who live in these areas, limiting their representation, protecting incumbent

seats, and compromising access to federal funding.” Due to such blatant manipulation, many people today believe that gerrymandering functions as nothing short of “legal election rigging” (Deluca and Nelson), and legal battles to abolish the legality of the practice are not uncommon. In 2023, for example, Alabama's congressional redistricting plan, adopted after the 2020 census, came under legal fire. According to NPR, “the Republican-dominated legislature drew new district lines that packed large numbers of Black voters into one congressional district, and then spread out the remaining Black population in other districts so that Black voters had little chance of electing a second representative of their choice in a racially polarized state.” Fortunately, and especially for already disenfranchised Black American and African American voters, a three-judge district court panel found that Alabama’s redistricting plan amounted to illegal racial gerrymandering under the Voting Rights Act, and, in June of 2023, the Supreme Court agreed. It seems, then, at least for now, that minority voters in Alabama may have greater chances for their voices to be heard. But the lesson here for data advocates is that when advocating for social and/or political change, it is imperative to think deeply about how one chooses to take advantage of selective truth-making in our efforts to constrain understandings of reality. As much as our rhetorical data choices can work for public good, they can also be put to unjust use where some are disenfranchised at the expense of advantaged others.

Due to this ability for data and data advocacy genres to do both good and harm, it is as important to think about data and data-driven work as a *pharmakon* as it is terministic screens and selective truths. **A *pharmakon* is a rhetorical term that signifies the ambivalence and oppositional possibility of a single rhetorical action.** In a very famous interview “The Rhetoric of Drugs,” Jacques Derrida uses drugs as a perfect example of *pharmakon* in that drugs, whether recreational or medicinal, have the ability to both remedy and poison, benefit and injure. And long before Derrida, Gorgias, an ancient Greek rhetorician, referred to speech itself as a drug and a

pharmakon due to its ability to both cause delight and fear often simultaneously. As Debra Hawhee's reading of Gorgias suggests, "for Gorgias, speech (*logos*) can move through the soul (*psyche*) like drugs through the bloodstream, and the effects can be as potent as hemlock or as soothing as rubbing oil" (29). The thing about pharmakons, as we learn about late in Plato's *Phaedrus*, and through Derrida's interpretation of it³, is that a pharmakon is plagued with seductive ambivalence; bearing oppositional possibilities within itself, it is yet to be determined what the consequences of a pharmakon will become until it is engaged in rhetorical action. Knowing this about data places great responsibility on rhetorical practitioners doing data advocacy work. We must always keep in mind that the data we deploy with intent to function as a benefit—for liberation, empowerment, resistance—can very well turn into a poison—for further reification, marginalization, harm, etc. (McCarthy-Nielson, 2016, p. 155). As Christelle Kamaliza (2020) notes, "Without [data], decision makers are unable to effectively invest, improve, streamline, reach their audience. [Yet] [t]hat same data also has a growing power to divide, marginalize, exclude, and reinforce abhorrent constructs in a society..." (n.p.). As such, when doing data advocacy, we must always be cognizant of "how power unfolds in and around data" (D'Ignazio and Klein, 2020, p. 26).

Taking a Rhetorical Data Studies Approach to Data Advocacy

In light of such ambivalent relations between data and power, a rhetorical data studies approach insists on considering the consequential implications of data and rhetorically engaging with data *through all phases of the data advocacy process*. We have already seen through the discussion of maps above, for instance, how the selection and presentation of data can distort certain senses of reality. Let's now think about how the collection of data, in of itself, can also be both useful and detrimental all at once. One common example deals with sampling bias, which can occur through under

³ See Derrida, J.; *Dissemination* (translation of *La dissemination*. Paris, 1972). Chicago, 1981.

coverage or poor representation of specific groups in a data set. Let's imagine--as a very simple hypothetical example--that you work for a social justice organization that wants to learn about the social issues that are most important to young adults age 18-22 in order to determine where the organization should concentrate its advocacy efforts. To gather data, your organization randomly surveys college students at 10 selective colleges located in various regions across the United States that happen to be very well-funded. Your organization then analyzes the survey results from your data set and decides from that analysis to focus, say, on mental health issues among young social media users. How might such data collection process suffer from sampling bias? Well, the Center on Education and the Workforce at Georgetown University [reports](#) that "white students are overrepresented at selective public colleges that are well funded with high graduation rates," while Black and Latino young adults are "funneled into overcrowded and underfunded open-access public colleges with low graduation rates." In collecting data from predominantly white, well-funded public institutions, your data set thus very likely underrepresents the opinions, concerns, and needs of students of color who very well might not place mental health due to social media use as one of the most significant social issues they are concerned about. While your findings might be useful in addressing social issues that matter to many white students in the United States, your organization may miss out on opportunities to work on social issues of significance to underrepresented students, thereby reinforcing social conditions that continue to support white privilege.

It is not just the collection of data that needs rhetorical interrogation, however. We also need to be rhetorically mindful throughout the data analysis process. For data advocacy purposes, we can think about *data analysis* as the process of organizing, cleaning, and processing raw data in order to extract relevant information that can help generate informed insights about research questions and shape future actions of rhetorical address. While the processing of data often includes coding and tagging data, it also, in many cases, relies on data visualizations, which can

range from simple static bar graphs to interactive timelines to geographical maps with different layers and filters. The Urban Institute, a nonprofit research organization in Washington, D.C., encourages data advocates to really think through the rhetorical choices in our data visualizations, legends, and maps in order to avoid racial and ethical concerns that may undermine our advocacy purposes. For instance, in their “Do no Harm Guide” authored by Jonathan Schwabish and Alice Feng (2021), “label people, not skin color” is one of their mantras for producing ethical data visualizations (p. 41). Others include, avoid reinforcing gender or racial stereotypes when using colors and icons to represent certain demographics. Avoid ordering data in ways that reflect historical biases. Use people-first language. These are all suggestions (p. 41) that encourage rhetorical mindfulness because we know that when “communicated carelessly, data analysis and data visualizations have an outsized capacity to mislead, misrepresent, and harm communities that already experience inequity and discrimination” (Schwabish and Feng, n.p.).

Black digital humanists have also emphasized that we also cannot dismiss how race, data, and technology are often intertwined and impact not only the tools we use to do advocacy but also our research processes. This is especially important in that the very tools we may take up to, say, fight for racial and/or environmental justice may very well be contributing to racial and environmental injustice. As Safiya Noble (2019) argues, the information and communication technologies that we rely on for our research are often “fully implicated in racialized violence and environmental destruction; from extraction to production, and from consumption to disposal of digital technologies” (p. 31). Further, as Noble (2018) exposes in *Algorithms of Oppression*, our digital research collection processes often rely on biased algorithms that may very well impact our data findings. In her own research of women of color’s identities and representation, for instance, Noble noticed that when she typed in “Black girls” or “Latina girls” or “Asian girls,” Google Search would invariably generate results alluding to hyper-sexuality, if not pornography; yet when she typed in “white girls,”

she would get drastically different representations. Rhetorical practitioners doing data advocacy work thus especially, and from also the perspective of Ruha Benjamin (2019), need to close pay attention to *discriminatory design*, how biased judgements that are encoded into the technical systems we rely on may unknowingly be impacting our entire research process. We cannot ignore, in other words, both how data is inherently tied to often unjust “technological, political, social, and economic infrastructures that sustain it” (Currie, Paris, Pasquetto, and Pierre, 2016, p. 3) and how our own practices might be maintaining such structures even as we seek to challenge them.

In a recent interview with Dr. Keon Pettiway (Gries 2022), I asked him how such awareness might actually come into play as we do work in data advocacy. Pettiway is an independent rhetoric and black digital humanities scholar who works on critical race design. He says that in very real ways, scholars who work with digital technologies can never escape the fact that very tools and platforms that we rely on are complicit in perpetuations of unjust systems. But at the very least, he says, we must foreground that phenomenon, so that we never forget about this complicity. We can also try to counterbalance such phenomena by making rhetorical choices such as presenting *counter designs* that challenge dominant perceptions of historical and contemporary events and by embracing Kim Gallon’s (2016) ideas about *technologies of recovery*. Gallon, a founding scholar of Black DH, defines technologies of recovery as “efforts to bring forth the full humanity of marginalized peoples through the use of digital platforms and tools” (p. 44). A rhetorical data studies approach embraces such tenet of the black digital humanities by keeping in mind that data advocacy needs to always be a double move. In one sense, it is about making visible injustices, but, too, it ought also always be about finding ways to bring forth humanity in data advocacy projects by making sure that the very humans our work attempts to benefit are actually present in our work—present on the research and design team, present in the audience, present in the data through voice and story. As just a few examples, then, in addition to asking how algorithms and filter bubbles impact what data we are

exposed to, we can ask: whose groups and stories have been and not been included and/or represented in our data and projects; how have we made our data findings accessible to the very people and communities it aims to help; and which people and communities have been given the opportunity to weigh in on both design and outreach, and even, in some cases, consent to being counted?

A final point I want to make before concluding is that rhetorical data studies approach to data advocacy also pushes us to be rhetorically mindful of how the multimodal design choices in our work appeal to logos, pathos, and ethos. **Multimodality is a term that signifies how all rhetorical acts use various resources (or modes) to communicate**--whether one is giving an oral speech (words, voice, gestures), presenting a slideshow (words, photographs, data visualizations, music), or presenting a data visualization (words, numbers, lines, other symbols). Being rhetorically mindful with data entails, on the one hand, thinking carefully about how our multimodal choices ought to be tailored for a specific audience and for a specific purpose. But thinking rhetorically also requires contemplating how those choices not only impact what we want our audience to think/realize (appeal to logos) and feel (appeal to pathos) but also how our multimodal choices impact our own credibility as rhetors (appeal to ethos). Careful consideration of audience is especially essential in this clear example provided by Joanne Wolfe in *Writing about Data*.

If our purpose is to persuade readers to improve a particular traffic intersection, ...we may present our data in one way for an engineer and a different way for a politician. A traffic engineer will want data on the number of accidents per vehicle using the intersection and how that intersection compares with similar ones throughout the country. By contrast, a politician charged with allocating public funds may only care about the accidents per person living in that area (in other words, the probability that a resident will experience an accident).

Important to understand, then, is that our audience, in conjunction with purpose, shapes the frames we deploy, the selection and presentation of data we want to make salient, as well as decisions about data collection, analysis, *and* presentation.

Because one's audience is so crucial to rhetorical production, a rhetorical data studies approach insists on always taking time to perform an audience analysis when doing data advocacy.

Audience analysis simply entails taking time to identify important factors about the audience that may constrain not only the argument one might make and solutions one might pose but also how a rhetor will ultimately communicate and advocate for a particular social change. These factors include: audience demographics; audience expectations; knowledge about the rhetorical situation and the issue in general; attitudes toward the situation and concerns about it; obstacles (material, financial, political, etc.) that may limit an audience's possible actions; willingness to act vs. resistance toward social action. While a rigorous audience analysis is ideal when doing data advocacy with a specific audience of strategic actors in mind, audience analysis can also be done rather quickly and imaginatively when done for a general public, as one can never fully gather such detailed information about a large group. Either way, from a rhetorical data studies perspective, taking time to consider audience is key to effective multimodal rhetorical production, as various factors will shape everything from framing to appeals to even minor concerns about various modes.

Careful consideration of purpose is also especially important in order to ensure that when doing data advocacy, we think very specifically about outcomes we want from the audience we are addressing. Returning to the earlier hypothetical example about college students' concerns about social issues, let's say, the data advocacy organization collected data from both well-funded and underfunded public colleges and received data from a very diverse student population. This time, it turns out that the data still showed concerns with mental health, but the perceived causes were not

just identified as social media use, but also intense family pressure, unequal access to education, racism on college campuses, and employment discrimination. Let's imagine now that you want to collect, analyze, and present data for an article to be published in the *Chronicle of Higher Education*, a publication highly read by college administrators and faculty. What is the *very specific action* that you would be trying to accomplish with your data-driven story in that article? Do you want administrators to lower tuition and/or make available more scholarships and grants to students? Do you want campuses to increase mental health support services for students? Do more to directly address racisms students experience through new programming? Do you want faculty to consider the mental health pressures students are under and do a better job accommodating their needs when developing curricula? Do you want all and/or other actions?

Identifying our specific audiences and both our own and our research participants' very specific desired outcomes can help shape our research process from the inception of our studies all the way through to our data storytelling of research findings and persuasive arguments. Depending on your answer to the questions above, for instance, would you need to collect more data about, say, acceptance rates, mental health services on local campuses, experiences with racisms, curricular accommodations? How would you analyze that specific data in ways you did not when just looking at student concerns about social media? And also, depending on your answers, what very specific multimodal choices would you make in your data stories to appeal to logos, pathos, and ethos? How would you, for instance, begin your article to move administrators and faculty to care about the issue(s) in the first place? What stories might you include to trigger empathy for students? What numbers and facts and ideas would you present to move administrators and faculty toward action? And very importantly, how would you establish the credibility of your study, your data, and yourself as an organization and an author? Thinking rhetorically about data advocacy is so powerful because

it pushes us to consider all of these matters from the ground up and throughout our entire data research and storytelling process.

Conclusion

If there is one mantra I have tried to convey thus far in this chapter, it is this: *Data Matters*. Data matters to the public, to the people for whom we are trying to benefit through our data advocacy, to our own ethos as data advocacy practioners. I also have tried to press upon you, as current and/or future data practioners, how to rhetorically think about data so that you are both mindful of the ways that data often functions as frames, as terministic screens, and as pharmakons and are knowledgeable about ways to think rhetorically about data throughout the research process in order to help you enact data advocacy in the most ethical and rhetorically astute ways possible.

One other mantra I want to leave you with is that while data matters, *data justice matters* as well. ***Data Justice* refers to equity and fairness in the way people and pressing social issues are made visible, represented and treated as a result of the collection, analysis, and presentation of data⁴.** Data justice is not a simple affair, but rhetorical data studies can help us negotiate the rhetorical politics of accountability that is so central to data justice. As I hope this chapter has impressed upon you, the rhetorical politics of accountability has everything to do with our data collection processes—knowing that whose bodies and voices and where we get our data from, among other matters, impacts the validity of our claims and shapes the outcomes of our forward actions. The rhetorical politics of accountability also has everything to do with our analyses, specifically our coding and visualizing processes--knowing that naming, ordering, and classifying are always a highly ideological enterprise full of rhetorical ramifications. More so, the rhetorical politics of accountability has everything to do with our presentation choices-- knowing that data driven

⁴ This definition has been adapted from a definition of data justice forwarded by Linnet Taylor (2017).

stories are not only always a negotiation of selection and omission, revealing and concealing (Prelli 2006), but also reliant on culturally situated aesthetic conventions (Kostelnick 2012) and culturally valued ways of knowing that are often imbued with gendered and racial implications.

Negotiating the rhetorical politics of accountability to data justice work is, of course, not a new responsibility in the highly mediated digital world that many of us find now ourselves working and living in. Data use has always had serious ramifications for how we think, what we claim to know, and how we decide to act in all kinds of situations and has often, when deployed, resulted in unjust affairs. One only has to think back to the role data played in the scientific racism of the mid-18th century or to data about enslaved peoples recorded in logbooks of slave ships in the 17th century to remember that data has often been used as racist and colonial enterprises. Yet, perhaps more than ever due to the sheer ubiquity of data, the links between data and power made increasingly complex due to advents of new technologies, and the multiplicity of ongoing injustices that are impacting many diverse populations today, the felt need to do highly ethical data advocacy work is, perhaps, more pressing than ever. During the ongoing Covid pandemic, as just one example, the director of the Urban Indian Health Institute, Abigail Echo-Hawk (Pawnee) (2021), shed light on the distorted accounting of Covid-19's impact on Native communities, going so far to argue that the omission of data on Native communities has essentially resulted in "data genocide," a phenomenon in which Native people are continuously eliminated in the public eye and thus dismissed, ignored, and mistreated (Urban Indian Health Institute, 2021, n.p.). In other words, as paraphrased in a news article about this dilemma, "No data on Native people means no need to meet obligations or provide resources" (Bennett-Begaye, Clahchischilligi, and Trudeau, 2021, n.p.). Such incidents make the rhetorical politics of accountability not only an imperative matter for data justice but also, in many cases, for individual and collective survivability.

A rhetorical data studies approach is not a panacea for doing data justice. But I hope I have convinced you that this approach, alongside others, can help to increase chances for ethically-minded and rhetorically astute data advocacy work. As you move forward with your data advocacy education, then, *think rhetorically*. The efficacy and credibility of your data just might depend on it!



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