Data&Society

Who Controls the Public Sphere in an Era of Algorithms?

Questions and Assumptions

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Introduction[i]

A growing body of research from media theorists and practitioners examines the ways in which algorithms and data-driven models are increasingly affecting what news and information is produced for, and consumed by, the public. As the relationship between media producers and consumers changes with the expansion of new media technologies, a number of scholars, journalists, and public advocates are asking: Who controls the public sphere in an era of algorithms?

Many of the issues raised by scholars and policymakers who are concerned about the role of technology within the public sphere should, however, be situated within a historical context and a set of research that has long considered the relationship between media and democracy. This primer identifies some of the underlying values and assumptions of the current debate, and connects them to existing scholarship within media history working to understand the organizational, institutional, social, political, and economic factors affecting the flow of news and information.

Algorithms and data-driven models, as they underpin many of the platforms currently working to mediate the public sphere and political discourse (such as search engines, recommendation systems, and social media sites) serve to automate many of the factors affecting how news and information is produced and distributed. Many of the issues raised by the role of new technologies are related to

critiques that have been levied against past media systems, as well as the relationship between media and democracy more broadly. For instance, concerns about how bias can enter into media systems has been a subject of scholarly debate since the early-to-mid twentieth century, and has expanded as media practitioners and scholars worked to question the relative role of media producers alongside corporations, government, and consumers, in shaping the availability of news and media content. The relationship between media and the "public interest" has been similarly complicated: different time periods, characterized by different media, regulatory, and economic environments are likewise accompanied by different values and assumptions about the purpose media can and should serve within democracy.

What follows are a list of assumptions and values about the role media plays within democratic systems. Scholars have critiqued all of these, but they still often go uncontested in broader public discourse about the role of technology in society. In listing them and discussing the way that they operate, we are not suggesting that these *should* be assumed or that these values *should* be accepted, but rather that it is important to keep them in mind as we seek to untangle how various contemporary technologies reconfigure the public sphere.

Common Assumptions About the Public Sphere

1) **One public sphere**: References to the public sphere often imply *one* public sphere for discourse that is accessible to all and where everyone has equal ability to discuss and debate. This frame obscures the multiple, varied, or counterpublic ways in which people communicate, spread information, and challenge institutional structures.

2) **Idealized notions of democracy:** Much of the discussion about the ideal public sphere(s) involves evaluations of how the public sphere is or isn't functioning in ways that support democracy. Not only does this assume that democracy as it exists is the ideal governance structure, but also that there is one ideal form of democracy and that a democratic media environment is one that facilitates choice, as well as freedom of information and freedom of speech, ignoring the different ways that democracy exists around the world.

3) **Media as a check to power:** In addition to the assumption of the democratic public sphere as one of choice and freedom, there is an assumption that the news media function as an independent check to power, even though traditional news media—with their own institutional connections, values, and priorities—have often failed to effectively challenge powerful institutions and norms or to prioritize public interest content.

4) **Gatekeeping & journalistic ethics:** The idea that journalists should adhere to a code of ethics, not only to ensure accuracy and impartiality, but also to produce content in the public

interest, implies a significant gatekeeping role that journalists and media institutions play with regard to information in the public sphere. These concepts are often referenced in relation to the emergence of algorithmic media, calling into question whether previous theories about gatekeeping and ethics apply to data-driven models, or to the institutions that deploy them.

5) **Internet as solution:** For those who see technology as a key part of progress, there's an assumption that networked technologies will alleviate many of the gatekeeping issues of the past. Yet, as more and more people gained access to the Internet, new actors emerged and took on similar gatekeeping roles previously relegated to media institutions. Although the potential for a decentralized Internet is still galvanizing for Internet activists, most people's experience with the Internet is far from what advocates idealize.

6) **Algorithms as neutral:** As content on the Internet flourished and we entered the era of "big data", algorithms took on a seemingly natural, needed "managerial" role of sorting and filtering content to give people "what they want." Critics often argue that this dynamic is unique and unprecedented, but many of the issues that emerge resemble earlier concerns.

One public sphere

Democratic theorists, sociologists, and communication scholars refer to the public sphere to describe the idea of a discursive space in which members of a community can discuss important matters of the day, and in which rational, reasoned debate would determine public opinion. This model is frequently informed by the work of the sociologist Jürgen Habermas, whose historical take on the transformation of the "liberal bourgeois public sphere" from early-to-late stage capitalism provided one way of understanding the relationship between media and democracy. Though he focused primarily on the media institutions and public spaces that emerged in the 18th century, Habermas's theory was actually a critique of the media landscape that had emerged in the 20th century. From Habermas's perspective, 20th century mass media, which had become controlled by corporate interests and often colluded with the state, had stopped serving the public interest and no longer facilitated discussions around policy and politics, as it had in the liberal bourgeois ideal. Habermas argued that the 20th century media landscape gave the media tremendous political power and the potential to manipulate the public.

Given that the concept of the public sphere is implicated in many discussions around the impact of algorithms on social media platforms, it's important to recognize the usefulness and limitations of this concept, as well as how different conceptualizations of the public sphere impact how we expect it to function. In critiquing Habermas' work, many scholars have pointed out that his concept of the public sphere idealized a homogenous upper-middle class white male population at the expense of other burgeoning publics that were not included within his account. Public sphere theorists, like Nancy Fraser,[ii] also claim that this ideal – a public sphere free from manipulation and mediation – was not

possible in early capitalism or in any stratified society in which power, social class, and capital would work to influence the formation of public attitudes and beliefs.

Critics also question whether it is useful to maintain the notion of "one public sphere" or to allow for the possibility of multiple, competing publics that work to shift and shape the democratic process and political discourse. This notion has been taken on by scholars such as sociologist Todd Gitlan, who proposed the concept of public "sphericules" in aruging that while information technologies have facilitated the creation of multiple spheres of communication around particular interests or groups, these multiple spheres do not necessarily move toward or feed into a broader "public square" model.[iii] Social theorist Michael Warner further articulated the notion of "counterpublics" to describe the existence of multiple publics that are subordinate to, and are impacted by (and impact) dominant publics.[iv] Taking a similar approach, Catherine Squires[v] employs three concepts of public spheres—enclaves, counterpublics, and satellites—to account for the diversity of goals motivating simultaneously existing Black public spheres, rather than framing these goals and methods as necessarily a fragmentation of one Black public sphere.

For the most part, however, the history of the "public sphere" has been a history of exclusion, with different groups excluded at various times and from various platforms. As new types of media have emerged to shape and co-construct the public sphere, tensions have surfaced over whether the ideal is one of a universal public sphere or a collection of public spheres. At the center of these tensions is a debate about what role the media should be playing in democracies – as a space to inform one public unified by a common set of issues, or to support the emergence of multiple publics that may otherwise be marginalized by the construction of a singular, common set of concerns. Advocates for a single, unified public sphere tend to emphasize the role media plays in informing the citizens, and working to shape public discourse, which often requires access to a set of common concerns to ground this discussion and debate. As Eli Pariser states about the impact of increased personalization online, "Democracy requires a reliance on shared facts; instead we're being offered parallel but separate universes."[vi] At the same time, pointing out the fact that personalization is further fragmenting the public sphere can be seen as implying that there previously existed a unified public sphere accessible to all. When media fragments and different people consume different news, advocates often raise concerns about the implications for democracy, failing to recognize that there has never been a universal narrative. What has changed is that the fragmentation of publics is more visible now than ever before.

Key questions:

- How do different definitions of the public sphere change the way we evaluate how gatekeepers curate content for the public?
- How do publics interact in a networked landscape and what are the implications of a system that is simultaneously universal and fragmented?

Idealized notions of democracy

In theory, in a society with an ideal public sphere aided in part by the news media, robust public discourse would result in a functioning and flourishing democracy: citizens would be informed, voices would be heard, and deliberation would result in political consensus. This view often fails to account for how democracy actually exists in different contexts. Such an approach also assumes that a media industry independent from the government will ensure that the media isn't distorted by political influence, ignoring the significant influence that capitalism and other forces have on how media is produced and disseminated.

Theory that grapples with the role of media in enabling the public sphere stems from a Western and democratic perspective. As new communications and information technologies emerge, historical barriers between democratic and non-democratic societies have eroded, raising significant questions about censorship, informed publics, and political power. More notably, debates over government versus corporate control of media highlight significant disagreements about what systems of power can corrupt media.

The emphasis on a media ecosystem independent of government control is particularly salient in the United States. Even in the U.S., there has been a long history of challenging the control of the media. A 20th century history of U.S. media institutions, particularly in the 1940s, features numerous debates about the increasing commercialization and concentration of broadcast and print media. A movement to hold media institutions accountable to the people through government regulatory functions emerged to ensure media companies produce at least some content in the public interest. Yet these and other reforms were ultimately compromised away, solidifying a corporate-libertarianism model that continues to persist, in which media corporations are given free reign and any intervention by the government is seen as an infringement on First Amendment protections.[vii]

Much of the history of the American media landscape has privileged an idea of free speech in which the government does not interfere, in contrast to countries like the UK or Canada where the government takes an active role in funding public media. This trend has been further solidified in favor of corporate interests and at the expense of the public's desire for a positive concept of free speech, in which the government can and should intervene to ensure that the *public*'s First Amendment rights are protected. In other words, the American concept of free speech as anti-regulatory is the result of specific historical compromises.

This model of corporate libertarianism, in which news media companies have gone largely unregulated (particularly in comparison to other media environments around the world), has in some ways been complemented by the idea of a democratic media environment that has developed within a capitalist system. For example, Fred Turner[viii] examines the history of media following WWII, in which

intellectuals tried to create a form of media that would encourage the "democratic" personality. Despite being premised on choice—exhibition-goers were surrounded by screens and images at different heights, allowing the individual to "choose" which image to focus on—these spaces were highly curated, with the curators hidden from view. Indeed, most public sphere arenas in the United States are heavily commercialized—private spaces being treated as public spaces, where obscured forces determine the parameters of choice. In this context, business and corporate interests have long played a significant role in distorting democratic functions.

The particular configuration of media, democracy, and capitalism varies around the globe, with different emphases on the role of the media in constructing a public sphere for democratic debate. Yet, in many parts of the world, democracy is taken for granted, alongside the ideal of using media to enable public sphere discourse. The close relationship between democracy and the public sphere highlights assumptions about the public sphere that may not hold true across cultures and contexts where public spheres take different forms.

Key questions:

- How do varying notions of democracy alter our expectations of the role of media in a healthy public sphere?
- Given the idealized notions of democracy, public spheres, and the media, how do we contend with a realized version that is never so perfect? Can the fight for the ideal blind us from the imperfections that make these systems function?

Media as a check to power

Complementing the assumption that the ideal public sphere is one of democratic choice and free expression is the notion that the news media function as a check to power by producing content in the public interest.

Within the United States, there have been calls for news media to produce more public interest content when the public deemed that these channels had become overly commercialized. In the 1940s, following a period of media consolidation and public criticism of the commercialization of media, the Hutchins Commission issued a report stating that the news media had a social responsibility to act in accordance with the public interest. As scholars have noted, the purpose of the commission—to explore the function and regulation needed of a democratic media—was largely co-opted by powerful interests from the profit-driven media industry, who wanted to ensure that the government did not interfere with the news media.[ix] This tension between keeping the news media industry independent from government interference, while still holding those institutions accountable to the public, highlights the

challenges to media independence in neoliberal democracies.

In addition, scholars have challenged the notion of public interest journalism by arguing that different journalistic periods have been tied to different "imaginings" of the audience and, in turn, different ideas about the role that journalism should play in holding power to account.[x] Ethnographic studies of U.S.-news media organizations conducted by Herbert Gans in the 1960s and 1970s found that, despite audience measurement tools and other feedback mechanisms, journalists had only vague notions of the audiences for which they worked and held little regard for audience judgment.[xixii] The public journalism model that emerged in the late 1980s, which envisioned the audience as taking a role in setting the news agenda, heralded these values of media serving as a check to power. However, critics would argue that this model of public journalism in the United States was relatively short-lived and was quickly replaced by a media as entertainment model that dominated the 1990s and 2000s.

Furthermore, history has shown that this profit-driven industry and its ties to other powerful networks (such as governments and corporate enterprises) greatly influence the degree to which individual journalists or editors can in fact challenge the status quo. Following the increased consolidation of media in the 1980s and 1990s, as well as the globalization of a mainly U.S.-controlled media industry that was exported abroad, a number of scholars began to question how powerful interests, and relationships between these powers, were working to shape discourse both in the U.S. and abroad.[xiii] These scholars have argued that the powerful networks between government and media, and complex relationships involving capital flowing from and to both sides, cause the mainstream media to tend to report favorably, or at least in the accepted discourse of, the powerful interests of the society in which they are embedded.[xiv] Several case studies have shown that the media's coverage of global events largely aligns with the views of the U.S. government or dominant economic interests of the owners of media conglomerates.[xv] In a more recent case, a study undertaken by the *Columbia Journalism Review* of U.S. news coverage of the financial sector prior to the 2008 found that, while the financial news outlets warned of issues related to the mortgage crisis, they were too close to the institutions they covered to see the pending crisis and to hold those powerful institutions accountable.[xvi] Highlighting the difference between "access reporting" and "accountability reporting," this study is just one example of how the alignment between access reporting and the financial needs of news media outlets, as well as the tendency for access reporters to privilege insider sources over adversarial ones, leads to the marginalization of accountability journalism.

Although most instantiations of Internet-based media resemble the organizational and institutional structures found in more traditional media enterprises, the rise of distributed efforts like Anonymous and WikiLeaks have raised serious questions about whether a distributed media ecosystem, with different relationships to capitalism and nation-state structures, can serve as a more effective check to power than those media enterprises that are beholden to state or capitalist agendas.

Key questions:

- What different forms of power should media seek to hold accountable? Who holds the media accountable?
- Is it possible for the media to serve as a viable check on other powerful interests—political, corporate—when media institutions and individuals exist within these systems?
- How is the "media as check to power" model facilitated by different kinds of media systems or media technologies?

Gatekeeping & journalistic ethics

Journalistic codes of ethics—with values like accuracy, impartiality, and fairness—have been part of discussions about the role of journalism since the Enlightenment and have evolved in response to an acknowledgement that the news media has a responsibility to publics.[xvii] As ownership of news media outlets came to be more consolidated and concentrated in the mid-to-late 20th century, the gatekeeping role of editors and journalists became more significant, and continued to face critiques. While some journalists moved to enhance and further solidify norms of journalistic ethics, holding on to the notions of objectivity in reporting, others began to embrace bias as inherently unavoidable and sought to pursue activist, investigative forms of reporting.

Given the significant gatekeeping role of traditional media institutions and the biases that impacted how news was constructed and disseminated, stemming in part from the ownership and structure of news media organizations, the early days of the Internet were filled with the promise of breaking down these impediments to a diverse and representative media environment. In theory, anyone with access to the Internet could start a blog, and spread information on social media. The traditional material means of creating and disseminating news—access to airwaves, camera equipment.—were no longer a prerequisite to entering the public sphere as a source of information. The rise of the Internet put into sharp relief the degree to which news media had long served as a gatekeeper, making visible the limitations of who had access to communicate by and through contemporary news media

New gatekeepers emerged to curate content and broker relationships between media and viewers. Notably, what emerged—and has been threatening to traditional media outlets—is a disaggregation of production, dissemination, and curation of media content, which both undermines the financial interests of commercial news media and reconfigures what information is consumed by whom. This has also prompted significant debates about "clickbait," virality of media artifacts, and salacious content, paralleling and complicating longstanding concerns about earlier efforts to generate attention through sensational headlines and "if it bleeds, it leads" news coverage. As traditional news media outlets respond to economic challenges and fragmented attention, new questions about journalist

ethics and values have emerged. Lacking a monopoly on gatekeeping power, the power of news media in enabling the public sphere and serving as a check to power has also been destabilized.

Key questions:

- What is the ideal construction of a gatekeeper or curator in news media?
- What social, technical, and psychological tools are acceptable for gatekeepers to employ?
- What checks to gatekeeping power should exist?

Internet as 'solution'

As a distributed, networked platform, the Internet in its early years was regarded by many as a solution to some of the salient problems with the news media landscape. Individuals would no longer be relegated to passively receiving news, information, and opinions from the media elite—they could construct narratives and report on local events for themselves, and share it with the world. The supposed "rise of the citizen journalist", for example, challenged the power dynamics between media institutions, journalists, and the public, with the public taking a more active and direct role in producing, curating, and disseminating news, information, and opinions.[xviii] For many of the visionaries, the Internet would ideally be a borderless, government-less sphere available to anyone. As John Perry Barlow[xix] wrote in 1996, "We are creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth. We are creating a world where anyone, anywhere may express his or her beliefs, no matter how singular, without fear of being coerced into silence or conformity." In other words, the Internet was imagined to be a space that could support the emergence of multiple publics and individual voices, outside of the dominant, hierarchical traditional media ecosystem; this view was supported by advocates who saw the potential for more vibrant discussions which could reflect a more diverse set of interests and aims.

While most early Internet advocates realized that their fantastical hopes for the next Enlightenment were unlikely, there was still great hope that the Internet would enable new kinds of political action and public discourse. Many who are wedded to the potential of technology to enable change struggle with the ways in which these tools reify if not magnify existing inequalities. One of the more persistent myths about the Internet is that it would be this great democratizing force: all people—*who have access*—would be able to participate in public sphere(s) enabled by technology. This assumption has since been called into question. As Matthew Hindman argues, while previous gatekeeping barriers may have been altered by the Internet, concentrations of power shifted "from the *production* to the *filtering*" of information.[xx] Even online, some individuals have a larger platform than others, and pre-existing hierarchies – both online and off – have a role in shaping the types of discussions that take place, as well as who gets to take part. Furthermore, recent research[xxi] into the benefits of Internet access have suggested that those in society who already have access to wealth and influence are

benefitting more from access, whereas the theoretical advantages for marginalized groups—reduction in poverty, increases in government accountability, etc.—have lagged behind expectations.

Because so many individuals who are influential in framing public discourse embrace the narrative that technology will solve otherwise intractable problems, tensions arise between those who see the public spheres emerging out of and constructed through technology as hopeful versus those who see it as destructive.. This tension is epitomized by conversations around the Arab Spring, for example, with technology both serving as a key intermediary and an obfuscator of the socio-political factors at play.[xxii]

The hope of many that the Internet would provide a platform for formerly marginalized voices, particularly those challenging institutional power structures, is complicated by the fact that individuals' access is increasingly mediated by companies deploying algorithms that impact what content is seen and by whom. Although advocates relish decentralized systems, corporate involvement has centralized and computationally controlled most popular communications and information services. Public opinion in this corporate sphere becomes moderated and synthesized through algorithms, rather than discourse.[xxiii]

Key questions:

- How does the Internet reconfigure the very nature of speech and publics?
- How does the obsession with the Internet as the solution (or, increasingly, problem) cloud conversations about the public sphere?

Algorithms as neutral

As of 2015, there were nearly 1 billion websites online, and 3.2 billion people had access to the Internet in some form. With an overwhelming amount of content for an individual user to browse through, most sites now employ algorithms and data-driven models to classify, sort, and deliver content based on an internal set of criteria. Many platforms, particularly those that now serve as significant sources of news and information (Facebook, Google, etc.), develop systems that value content based on whether an individual is more likely to be interested in that content, based on that user's prior interaction with the platform as well as the actions of other users in the network.

Given the rise of data-driven models as a mediating force on the Internet, many scholars are seeking ways to understand the role that these systems are playing in relation to the public sphere. Although editorial control of information access is not new, the notion that an algorithm might be providing the editorial role of curation and filtering or personalizing content bothers many who are seeking an idealized public sphere. Concerns over the role of corporations, questions over what values are driving the decisions, and issues with the mechanisms of accountability have been central to every new media

development. However, the modes of analysis and mechanisms of accountability are changing as more mediating responsibility is shifted onto algorithms and new corporate actors with different commitments. Yet, how much these new technologies affect what people consume and how they develop their opinions in comparison to previous media curation is unclear.

Many factors affect what news and information is made available to the public, and how individuals interpret the information they encounter through media outlets and algorithmic media. The political ideologies of particular news outlets both reflect and shape their audience.[xxiv] People are also influenced by the views and information presented by their social relations. Most algorithmic-driven news sources – from search engines to social media – attempt to identify what an individual is interested in and guarantee that this is what they receive. How much this differs from what they'd voluntarily consume is a topic of significant debate.[xxv]

Key questions:

- What is truly new about algorithms playing a central role in gatekeeping and curation?
- How should those using algorithms to filter or curate news balance individual interests against the public good?

Conclusion

Algorithms play an increasingly significant role in shaping the digital news and information landscape, and there is growing concern about the potential negative impact that algorithms might have on public discourse. Examples of algorithmic biases and increasingly curated news feeds call into question the degree to which individuals have equal access to the means of producing, disseminating, and accessing information online. At the same time, these debates about the relationship between media, democracy, and publics are not new, and linking those debates to these emerging conversations about algorithms can help clarify the underlying assumptions and expectations. What do we want algorithms to do in an era of personalization? What does a successful algorithm look like? What form does an ideal public sphere take in the digital age? In asking these and other questions, we seek to highlight what's at stake in the conversation about algorithms and publics moving forward.

The assumptions and biases outlined here set the stage for better understanding what is at stake when one asks who controls the public sphere in an era of algorithms. For a deeper understanding of the factors involved in the algorithmic curation and dissemination of news, read Mediation, Automation, Power and consider the Case Studies.

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Data & Society is a research institute in New York City that is focused on social and cultural issues arising from data-centric technological development. Data & Society is committed to identifying issues at the intersection of technology and society, providing research that can ground public debates, and building a network of researchers and practitioners who can offer insight and direction. http://www.datasociety.net.

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