Deliberative, Agonistic, and Algorithmic Audiences:
Journalism's Vision of its Public in an Age of Audience Transparency

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Building on earlier empirical work in newsrooms, this paper contends that a fundamental transformation has occurred in journalists' understanding of their audiences. A new level of responsiveness to the agenda of the audience is becoming built into the DNA of contemporary news work. This article argues, however, that this journalistic responsiveness to the "agenda of the audience" has multiple, often contradictory meanings. It traces these out through a critical-historical sketch of key moments in the journalism-audience relationship, including the public journalism movement, Independent Media Center (Indymedia), and Demand Media. These different visions of the audience are correlated to different images of democracy, and they have different sociological implications. The public journalism movement believed in a form of democracy that was conversational and deliberative; in contrast, traditional journalism embraced an aggregative understanding of democracy, while Indymedia's democratic vision could best be seen as agonistic in nature. Demand Media and similar ventures, this article concludes, may be presaging an image of public that can best be described as *algorithmic*. Understanding this algorithmic conception of the audience may be the first step into launching a broader inquiry into the *sociology and politics of algorithms.*

Based on data obtained from several years of ethnographic research in newsrooms, this article argues that a fundamental transformation has occurred in journalists' understanding of their audiences. A new level of audience responsiveness is now being incorporated into the DNA of contemporary news work. This new journalistic deference to the "people formerly known as the audience" is often contrasted with an earlier understanding of the news audience by journalists, the so-called "traditional" or "professional" view, in which the wants and desires of audience members are subordinated to journalists' expert news judgment about the stories that audience members need to know. In much of the popular rhetoric surrounding "Web 2.0," journalists' newfound audience responsiveness is represented as a democratic advance over older professional models, with the increasing journalistic attention paid to audience preferences being framed as concomitant with the general democratizing trends afforded by the Internet.

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The primary claim of this work is that this simple dichotomy between audience ignorance and audience responsiveness obscures as much as it reveals, and that multiple, complex, and contradictory visions of the news audience are buried within popular understandings of the relationship between journalism and Web 2.0. Its primary claim is that *the algorithm* is playing an increasingly important sociotechnical role in mediating between journalists, audiences, newsrooms, and media products, and that this mediation has both sociological and normative implications. This study builds on work by writers as diverse as John Battelle (Battelle, 2005) and Helen Nissenbaum (Introna & Nissenbaum, 2000) who have convincingly argued that diverse sociomaterial combinations of technology, organizational structure, and human intentionality afford diverse democratic potentialities and prefigure distinct publics. In particular, I argue that diverse materializations of the audience not only afford distinct publics, but also stand as an intermediary between *visions* of an audience-as-public and the relationship between audiences and democracy. In short, the manner in which journalists imagine their audience has public consequences, and the relationship between audience responsiveness and democracy involves particular, not necessarily compatible, understandings of what democratic practice actually entails.

To flesh out these arguments, this article adopts a method that is primarily historio-critical and, following Max Weber (1949), discusses ideal-types.[1] I trace the conception of audience in three "outsider" news organizations spanning the 40 years since Watergate: the public journalism movement, the citizen's journalism movement known as Indymedia, and, finally, the quasi-journalistic company Demand Media. While my arguments are primarily synthetic, each of my case studies grows out of my own empirical scholarship: four years of newsroom fieldwork in Philadelphia, and seven years of participant-observation with Indymedia collectives in New York City. I draw on this research (as well as on the research of other scholars when discussing the public journalism movement and the growth of so-called news "content farms") in order to add nuance and texture to these discussions of the journalist-audience relationship. Elaborating upon this analysis, the second section of this paper ties different visions of the audience into distinct strands of democratic theory. In this section, I hope to demonstrate how an embrace of "the people formerly known as the audience" can mean very different things, depending on the larger social and political context in which this articulation occurs. While I touch on the ways that previous political and social theory has understood the public—primarily in "deliberative," "aggregative," and "agonistic" senses—the bulk of the section explores notions of the algorithmic public and algorithmic democracy. It is through these concepts, I argue, that we can best understand some of the key sociomaterial dynamics of the digital era.

Journalism and Audiences

The Professional View

The relationship between the audience and the news industry examined here is not one in which media messages "impact" the audience in particular ways; nor is it one in which an audience "interprets"

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1 For Weber, ideal-types represented abstractions useful for their ability to generate generalized images of particular social phenomena. They were not to be confused with descriptions of actual social reality as such.

media messages in a variety of ways depending on a variety of personal and demographic factors. Rather, the newsroom activities in this study are an example of what Joseph Turow has called the "industrial construction" of audiences (Ettema & Whitney, 1994; Turow, 2005); "the ways that the people who create [media] materials think of" the people who consume that media, which in turn have "important implications for the texts that viewers and readers receive in the first place" (Turow, 2005, p. 106). As journalistic visions of the audience for journalism shift, these new visions ultimately affect editorial products.

Herbert Gans' landmark study *Deciding What's News* (Gans, 2004) has shaped the conventional academic wisdom regarding the relationship between journalists and their audiences for several decades. First published in 1979, this ethnographic study of news-making processes at "CBS Evening News," "NBC Nightly News," *Newsweek,* and *TIME* usefully distinguished between "qualitative" (letters to the editor or to individual journalists) and "quantitative" (audience research studies) forms of feedback (Hermans, 2004). Gans notes that he:

> began [his] study with the assumption that journalists, as commercial employees, take the audience directly into account when selecting and producing news . . . I was surprised to find, however, that they had little knowledge about the actual audience and rejected feedback from it. Although they had a vague image of the audience, they paid little attention to it; instead, they filmed and wrote for their superiors and themselves, assuming, as I suggested earlier, that what interested them would interest the audience. (Gans, 2004, p. 229)

Gans argues that multiple factors play a role in journalists' relative disconnect from their audience—an inability to intellectually imagine an audience of millions of people, a distrust of audience news judgment, and the division between the editorial and marketing departments (creating a situation in which business personnel and news editors create a buffer between journalists and their audience). The key values in tension in Gans' study were thus professional incentives versus commercial imperatives. Journalists, adds Gans, are reluctant to accept any procedure that casts doubt on their professional autonomy. Within the boundaries of his study, professional values remain strong, and the preferences and needs of the audience were largely neglected during the news-making process.

It should be noted that Gans does nuance his observations to some degree. He writes that "in the last analysis, news organizations are overseen by corporate executives who are paid to show a profit . . . [and] if corporate economic well being is threatened, executives may insist that their news organizations adapt" (Gans, 2004). Additionally, Gans notes that local news production (which was not part of his 1979 study) has always been more sensitive to commercial and audience pressures than national news. Despite these qualifications, most of the research from what Barbie Zelizer has called the "golden era" of the newsroom ethnography, (Zelizer, 2004) has echoed Gans' conclusions about the relative unimportance of the news audience to journalistic judgment. "Audience images," James Ettema et al. summarize, "seem to

have minor influence on journalistic performance relative to other potential influence sources" (Ettema, Whitney, & Wackman, 1997, p. 40). And while some scholars (Beam, 1995; Hujanen, 2008; Pool & Shulman, 1959) have argued that the audience plays a larger role in *shaping* the news than is generally assumed by most ethnographers and media sociologists, even these authors have generally acknowledged that this shaping force is still the product of an "incomplete" understanding of the audience, which is "not keyed in to demographic information" (DeWerth-Pallmeyer, 1997).

"The People Formerly Known as the Audience"

A radically new attitude toward audiences that has emerged in recent years, alongside the rise of digital technologies, social media, and user-generated content, can be referred to by the helpful new-media maxim "the people formerly known as the audience" (Coddington, 2010). First articulated by media theorist and New York University Professor Jay Rosen in an influential blog post (Rosen, 2006), the notion of "the former audience" and its relationship to journalism ultimately revolves around a series of digital technologies that shift the direction of communication from a one-to-many broadcasting system to a many-to-many conversational system. These technologies include social media, like online commenting systems and Facebook; media for creative personal expression, like blogs and podcasts; and new channels of distribution, like Twitter. Rosen argues that this passively receptive audience is no longer the model for thinking about media consumption, especially when this new model treats consumption itself as part of the production of media. He writes that:

> [T]he people formerly known as the audience . . . are those who were on the receiving end of a media system that ran one way, in a broadcasting pattern, with high entry fees and a few firms competing to speak very loudly while the rest of the population listened in isolation from one another—and who today are not in a situation like that at all. (ibid., n.p.)

All of these changes, Rosen and many others have argued, are impacting the profession of journalism, a profession whose autonomy was ultimately grounded in the kind of closed, mostly one-way system of communication now being displaced by the old model (Shirky, 2008). Although the notion of professionalized news decisions discussed in detail by Gans and others isn't usually directly cited in discussions of this new image of the audience, it seems likely that the practice of journalists "filming and writing for their superiors and themselves, assuming . . . that what interested them would interest the audience," (Gans, 2004, p. 230) is one of the professional behaviors under serious stress in the new media environment.

Nevertheless, most of the recent scholarship examining whether the explosion of social media has affected journalism's agenda-setting function presents something of a mixed picture (Delwiche, 2005), with a number of studies demonstrating the continued power of professional journalists to "decide

what's news" (Boczkowski, 2007; McCombs & Shaw, 2006). Other research has documented that, while happy to adopt particular social media tools, many journalistic Web sites have held back from a full-throated embrace of "the people formerly known as the audience" (Domingo et al., 2008; Lewis, Kaufhold, & Lasorsa, 2010).

In light of this emerging class of empirical findings, it is important to add some historical and theoretical nuance to the perhaps overly simplistic dichotomy between a vision of the "people formerly known as audience" and traditional journalistic professionalism. Two analyses in the pages that follow will elaborate on what the audience is, and on how it has related to news production. First, I will trace the conception of the audience in three nontraditional journalistic experiments: 1) the public journalism movement, 2) the radical collective reporting movement known as Indymedia, and 3), finally, the much-discussed media company Demand Media. Then, I will tie these visions of the audience into distinct strands of democratic theory, to show how even an overt embrace of "the people formerly known as the audience" can mean very different things, depending on the context in which this embrace occurs.

Alternative Understandings of News Audiences:
Public Journalism, Indymedia, Demand Media

The three organizations and movements I discuss below—public journalism, Indymedia, and Demand Media—should not be seen as representative in any meaningful sense. Rather, they might better serve as theoretical ideal-types, in which particular characteristics of social reality are emphasized in order to create a class of abstract categories, which can then be used as the basis for further, less abstract empirical research. Each of these three institutions and movements has its own large analytical academic literature, and my brief description of them here should not be seen as comprehensive. For further information, readers are encouraged to follow the cited works below. I also try to leaven the stylized description with some of my research observations from the field. As this article primarily aims for theoretical synthesis, rather than thick description, I can only make the briefest of gestures in this direction, but each of the categories discussed will hopefully serve as a basis for future quantitative and qualitative research, by both myself and others.

The *public journalism movement* has been called "the best organized social movement inside journalism in the history of the American press" (Schudson, 1999, p. 118), and it has an institutional, theoretical, and practical history (Haas, 2007). Institutionally, public journalism was a professional reform movement that emerged within the American press in the late 1980s, with its heyday in the early to mid-1990s, and which, as a distinct movement, can be said to have ended in the first years of the 21st century. Theoretically, public journalism drew on strands of deliberative and participatory democratic theory, arguing that post-Watergate journalism had grown overly concerned with representing the points of view of political insiders, trucked in corrosive cynicism about the meaning and importance of political life, and lacked any meaningful understanding of journalism's relationship to democracy (Carey, 2002). Critics contended that political journalism was overly obsessed with "horse race" coverage and polls, and that this was to the detriment of the coverage of actual public issues. As an antidote, public journalism

reformers (Glasser, 1999) argued that journalists should acknowledge themselves as democratic actors, should help to *create* a public, rather than just inform it, and that they should embrace a thick concept of democratic life centering on political deliberation, rather than simply on elections and polls. On the broadest philosophical level, public journalism advocates explicitly cited Jurgen Habermas' notions of deliberative democracy and John Dewey's invocation of community conversation as normative principles that should guide journalistic coverage.

Practically, public journalists working inside newsrooms undertook a number of professional and reportorial experiments during the heyday of the movement, including sponsoring deliberative forums to help highlight issues that local communities thought worthy of news coverage and sponsoring special election initiatives designed to transcend horse-race political reporting. Public journalism experiments were explicitly adopted at various newspapers, most notably the *Witchita Eagle* (Rosen, 1999).   As described by leading public journalism theorists Lewis A. Friedland and Sandy Nichols:

> The *Philadelphia Inquirer's* "Citizen Voices '96," one of the breakthrough projects this year, sponsored a series of deliberative forums with attendance solicited and selected by the editorial board of the paper as an "experiment in political conversation." The *Charlotte Observer's* "Your Voice, Your Vote" project expanded to collaborate on public coverage of the 1996 elections with other news organizations statewide. By 1997, the number of elections projects began to decline, not just cyclically but continuing steadily through the present. (Friedland & Nichols, 2002, n.p.)

With the popularization and spread of the World Wide Web in the mid-1990s, and with an upsurge in left-wing social movement activity in 1999 around the somewhat uneasily titled "anti-globalization movement," a new, less genteel challenge to traditional journalism emerged as a cluster of radically participatory citizen journalism Web sites grouped under the banner of the Indymedia movement. Indymedia's slogan sums up much of its emphasis during these years: *"don't hate the media, become the media."* First launched during the 1999 World Trade Organization protests in Seattle, Indymedia was characterized by its strong political agenda, its decentralized and localized structure (with Indymedia Center [IMCs] in more than 150 cities worldwide at the movement's peak), and its notion of radically participatory journalism. As described by Biella Coleman:

> Indymedia centers are run as local collectives that manage and coordinate a news website; some also operate an affiliated media resource center for local activists. These websites give any user of the site (regardless of whether or not they are part of the collective) the ability to create, publish, and access news reports of various forms—text, photo, video, and audio. The result is a free online source for unfiltered, direct journalism by activists, sometimes uploaded in the heat of the moment during a demonstration or political action . . . Where traditional journalism holds editorial policies

that are hidden in the hands of a few trained experts, Indymedia provides the alternative of "open publishing," a democratic process of creating news that is transparent and accessible to all, challenging the separation between consumers and producers of news. (Coleman, 2005, n.p.)

Unlike the public journalism movement, which was a reform movement primarily directed at journalistic professionals, Indymedia argued for a de-professionalized vision of citizen journalism in which people would be their own reporters. And unlike the public journalism movement, which was relatively self-reflective about the theoretical underpinnings of various interventions into spheres of journalistic practice, Indymedia spokespeople were more likely to critique the operations of global capitalism from an anarchist or Marxist perspective than to theorize deeply about their own status as new journalistic actors. Nevertheless, as we will see momentarily, it is certainly possible to reconstruct Indymedia's basic understanding of how it operated as a journalistic reform movement, as well as how related to its audience.

The first decade of the 21st century marks the beginning, but not necessarily the end, of a period of fundamental transformation in the worlds of journalism and digital technology. Starting in 1999 and continuing to the present, many authors and academics have chronicled the virtual disintegration of the American business model for local news under the impact of digital technologies and shifting patterns of advertising (Doran, 2008; Downie & Schudson, 2009; Free Press, 2009; The Project For Excellence in Journalism, 2008), a precipitous decline in the cultural authority of traditional journalists (whose credentials were challenged by both journalism thinkers and an army of so-called "citizen journalists") (Lemann, 2006; Lenhart & Fox, 2006; Lewis et al., 2010); The Project for Excellence in Journalism, 2008), and an explosion in the practices of audience measurement and behavioral tracking afforded by the digital traceability of the Internet. Of these three developments, it is the increased ability of news organizations to monitor their audiences that has the most relevance for my discussion of a third outlier: algorithmic journalism.

The material traceability afforded by the Web (Latour, 2007) presents journalism with a fundamentally new series of professional challenges and economic opportunities. All user behavior on an online Web site is potentially capturable for analysis by server logfiles, and "whether the audience realizes it or not, their activity is tracked" (MacGregor, 2007). As journalism analyst Steve Outing noted in 2005, while reporters and editors at the news organizations analyzed by Gans operated largely in ignorance of their audience,

newspaper Web sites . . . have detailed traffic numbers at their disposal. Today's news editors know for a fact if sports articles are the biggest reader draw, or if articles about local crimes consistently outdraw political news. They can know how particular stories fared, and track the popularity of news topics. (Outing, 2005, n.p.)

In my own research on the use of audience metrics inside Philadelphia and Newark newsrooms, I discovered that audience metrics were paying an increasingly important role in shaping newsroom judgment, and that it was both journalists' excitement over their seemingly sudden and immediate glimpse into the mind of their audience, along with the use of metrics by newsroom managers as a management tool, that did the most to shape newsrooms' responses to these technologies.

While a growing body of fieldwork has documented the impact that online metrics are having on newsrooms, an even more powerful form of quantitative journalistic decision making has come into being that is explicitly focused on base audience preferences. These companies learn what the audience searches for online, consider which topics will make them the most money, and chooses its subjects solely on these computer-generated metrics. This methodology is powered by *algorithmic intelligence*, and the key practitioners of this new, algorithm-based technique of "deciding what's news" include communications companies like Demand Media, Seed, and Associated Content (Rosen, 2009; Roth, 2009).

In a widely discussed article, Daniel Roth of *Wired* magazine describes the role played by algorithms in both Demand Media's production and labor compensation processes:

> Demand Media has created a virtual factory that pumps out 4,000 video clips and articles a day. It starts with an algorithm. The algorithm is fed inputs from three sources: Search terms (popular terms from more than 100 sources comprising 2 billion searches a day), the ad market (a snapshot of which keywords are sought after and how much they are fetching), and the competition (what's online already and where a term ranks in search results) . . . Pieces are not dreamed up by trained editors nor commissioned based on submitted questions. Instead they are assigned by an algorithm, which mines nearly a terabyte of search data, Internet traffic patterns, and keyword rates to determine what users want to know and how much advertisers will pay to appear next to the answers. The process is automatic, random, and endless . . . It is a database of human needs. (Roth, 2009, n.p.)

In sum, the dichotomy between professional and responsive visions of the news audience is too simplistic, and a maintaining an over-rhetoricized view of such a relationship runs the risk of minimizing the actual complexity of news-audience visions. Each of the three outsider journalistic movements and organizations movements I have discussed above can be seen as posing its own vision of journalism's relationship with its audience, visions that complicate simplistic distinctions between audience power and audience irrelevance. In the next section, I want to unpack these journalist-audience visions before concluding by discussing how these visions ultimately ground themselves in differing notions of communication and democracy.

A Genealogy of the Journalism-Audience Relationship

These four ideal-typical paradigms of journalistic practice—traditional journalism, public journalism, Indymedia journalism, and algorithmic journalism—offer very different models of audience. These models conceive of their audiences and their relationship to democracy in terms that have changed over time. In order to understand this shift, we need to ask how they each:

1. Think about the relationship between the news audience and journalistic institutions,

2. Think about the relationship of the audience to itself.

3. Think about the relationship between the audience and political institutions.

It is helpful to organize this analysis in a table, combining the four paradigms along the left side, and the three perspectives on journalism, audiences, and politics along the top:

Table 1: Journalistic Models and Their Visions of the News Audience.

	The audience's relationship to journalism as . . .	The audience's internal relationship to itself as . . .	The audience's relationship to politics as . . .
Professional journalism sees . . .	. . . consumptive, agenda-receiving, occasionally as sources.	. . . atomistic, consumptive.	. . . disengaged, aggregated.
Public journalism sees . . .	. . . deliberative, agenda-setting.	. . . a conversational public.	. . . engaged, communicative via deliberation.
Indymedia journalism sees . . .	. . . participatory, agenda-setting. Journalism provides audience with "ammunition."	. . . agonistic, witnessing, and occupying miniature, subordinate "public spheres" .	. . . engaged, confrontational, witnessing.
Algorithmic journalism sees . . .	. . . agenda-setting, non-participatory, atomized.	. . . algorithmic, quantifiable.	. . . predictable, understandable through "big data," unconcerned with eliminating "bad information.

From the perspective of *professional journalism*, news audiences are seen as rather ignorant consumers of media content; they are thus ignorant of both what news really "is," and of what journalists do. Under this view, the agenda for what counts as news is determined by professional journalists, who provide it to an audience that can choose to either accept or reject it. The fact that professional journalists envision their audience as both "consumptive" and "easy to ignore" points to a tension that lies at the heart of this vision. Few producers (of media or other forms of consumer products) will operate under a consumption regime and yet argue that the consumers have little role to play in the determining the shape of the products they buy. Yet, this is essentially the argument that traditional journalism has made. It is this tension that has periodically manifested itself in the battle between news professionals, who argue that journalism must provide the information citizens need ("citizens must eat their spinach"), and news populists, who argue that journalism must give an audience what it wants (and that any journalism in the public interest needed to coat itself in a wrapper of audience friendliness). The controversy is somewhat overdrawn, yet it speaks to a general truth. Journalists who see themselves as producers of consumer content would be expected to care deeply about what an army of news consumers wanted.

In this analytic framework, members of professional journalism's atomized consumptive audience are discrete individuals who, in the tradition of both classic liberalism and market theory, both consume news and relate to each other in an individualized, utilitarian fashion. It is this vision of the audience that was the primary target of reformers in the *public journalism* movement; rather than an aggregate collection of autonomous individuals, the audience should be conceived as relating to itself as a *conversational public.* As Haas notes, visions of an audience composed of "engaged, responsible citizens who are capable of active, democratic participation" (Haas, 2007, p. 4) mirror James Carey's argument that "the public will begin to reawaken when they are addressed as conversational partners and are encouraged to join the talk rather than sit passively as spectators before a discussion conducted by journalists and experts" (Carey, 1995, p. 14). For theorists of public journalism, the audience relates to itself, not as a collection of consumptive individuals, but as a collection of citizens engaged in public dialogue about the important political issues of the day.

If, according to these theorists, the audience relates to itself as a deliberative body of citizens, then its relationship to the journalism profession must also be not only deliberative, but potentially-agenda setting, as well. While most of public journalism's early reform efforts were directed at forcing the journalism establishment to see itself as an institution implicated in acts of public "creation" as well as public "inform-ation," questions quickly arose as to how reporters should engage with the agenda of that assembled public. Should local deliberative councils, convened by newspapers as part of public journalism initiatives, determine the topics covered by those newspapers? Or were they simply meant as feel-good exercises in mutual enlightenment? Should the deliberative citizenry be agenda-setting? It was this tension that Michael Schudson pointed to when he claimed that:

> Public journalism does not remove control over the news from journalists themselves . . . [and] in this regard, public journalism as a reform movement is conservative . . . [it]

> stops short of offering a fourth model of journalism in a democracy, one in which authority is vested not in the market, not in a party, and not in journalists, but in the public. Nothing in public journalism removes the power from the journalists or the corporations they work for. (Schudson, 1999, p. 122)

It seems safe to summarize that the audience envisioned by public journalism theorists was thus both deliberative and *agenda-setting in a weak sense.* Ultimately, the relationship between the audience-as-public and the institutions of journalism was mediated by highly formal mechanisms: public meetings, deliberative polls, and special reports. And it was this formal character of the journalist-audience relationship that was shattered by the technological affordances (Graves, 2007) of the Internet and the spread of digital production and distribution devices. I have summarized these developments, and the new vision of the audience that emerged with them, under the general category of "Indymedia journalism," although I think this shifting audience conception can be generalized to include many of the early experiments in digital content creation (blogs, citizen-journalism Web sites, and so on). For Indymedia activists and theorists, the audience was not only strongly implicated in setting the news agenda, but the very distinction between a consumptive and agenda-setting audience was blurred to the point of nonexistence (Atton, 2002). This blurring was the result of Indymedia's highly participatory character. In exhorting activists to "be the media," the promise was that ordinary people would create their own news agenda through the very act of doing journalism itself. The journalism undertaken by Indymedia's "prosumptive" (Bruns, 2005) audience, finally, could not be separated from that audience's political activity. It would serve as a weapon in a variety of social-movement struggles and political protests.

This view of journalism as "political ammunition" was closely tied to Indymedia's status as a collection of left-wing social movements. A comparison with the audience envisioned by theorists of public journalism might be instructive here. Rather than a deliberative audience engaged in the civil discussion of political issues in order to advance the public good, Indymedia saw its audience as a rowdy collection of political partisans acting in support of a *particular* (yet still valuable) good. Or, as John Durham Peters noted in reference to the deliberative pretensions of public journalism:

> Public journalism is right to call for better sources of information and fresher forums of debate. [But] The insistence on dialogue undervalues those modes of action that defy and interrupt conversation. St. Francis and Martin Luther King bore witness; they did not engage in conversation. Any account of democracy has to make room for moral stuntsmanship, for outrageous acts of attention getting employed by an Ezekiel or Gandhi, greens, anti-nuke activists, or even right lifers . . . just as there is a dignity in dialog, there can be a dignity in refusing to engage in dialog as well. (Peters, 1999, p. 105)

It was the Indymedia movement which embodied this vision of the "witnessing," "stunt-oriented" public and sought to apply it to journalism. Finally, Indymedia never claimed to represent "*the*" public, as proponents of public journalism did. Indeed, for Indymedia theorists, the very existence such a public was an illusion. Following in the tradition of Nancy Fraser and Todd Gitlin, Indymedia activists saw themselves as producing journalism for a particular set of public sphericules (Gitlin, 1998)—related to, but irreducible to, the larger public as a whole. They were the journalistic mouthpieces of a loosely connected series of "sub-altern counter publics" (Fraser, 1990), or in less formalized language, they represented the return of the 18th-century party press to the journalistic stage (Schudson, 1999). The Indymedia vision of the audience was of an agonistic, agenda-setting, deeply participatory, fractured public.

With the emergence of Demand Media and its "content-farm" counterparts, the affordances of the Internet have swung from participation to traceability and algorithmically oriented production. These forms of algorithmic journalism once again establish the wall between producer and consumer. While Demand Media's producers are multitudinous, the relationship between them and the central office is the relationship between a highly precarious freelancer and their employer, rather than that of the intrinsically motivated creator to the object of his temporary affiliation. This reintegration of the producer/consumer wall does not disempower the audience, however; its wishes and wants are presumed to be understood better than ever before. As Demand Media founder Richard Rosenblatt noted in an interview with Jay Rosen:

> [W]e respect journalists very much. We think they need to use technology to help them figure out what audiences want and how to get value from their content more effectively. And there are big opportunities for them to increase quality by removing inefficiencies in the process of content creation. (Rosen, 2009, n.p.)

The agenda-setting vision of the audience, common to both public journalism and Indymedia journalism, is combined with a consumptive, atomistic, and quantifiable vision of the audience taken from the professional model of journalism. Unlike the professional model, however, the tension between the visions of the audience either as a consumptive organism or as subject to a professionally determined concept of "what counts" as important content is eliminated, in a direction entirely favorable to the audience. If the audiences' needs and wants are entirely knowable, then why should they *not* be catered too, particularly if catering to those wants can lead to the implementation of a highly successful business model? The ultimate traceability of audience wants is determined through the algorithm, a complex and mathematically grounded sociomaterial black box that seems to do far more than simply aggregate preferences. In the vision of the audience embraced by Demand Media and its counterparts, the algorithm is a stand-in for journalistic judgment, and it eviscerates the barriers between content production and consumer demand. According to this new generation of algorithm-based news producers, it is in number crunching that the ultimate guarantor of both communicative democracy and business model success can be found.

Democratic Horizons of the Journalism-Audience Relationship

In this final section, I want to tie the four ideal-typical visions discussed above to particular notions of democracy. In this endeavor, I am inspired by the public journalism movement, which—alone among the models I have discussed above—made its normative democratic commitments both transparent and central to its daily practices. What are the democratic horizons of traditional, public, participatory, and algorithmic journalism, and how do they relate to journalistic conceptions of the audience? In sum, traditional journalism understands democracy as an aggregative process. Public journalism, in opposition, puts forward a deliberative democratic model, while Indymedia theorists saw democracy as a primarily agonistic exercise. Algorithmic journalism embraces an "algorithmic" understanding of democratic processes. It is this algorithmic vision of democracy that might represent the most recent, and thus most unsettling, model for both communication and democracy.

Public journalism theorists embraced a strongly normative, deliberative conception of democracy. In it, the legitimacy of political decision-making was assumed to rest only upon the force of the superior argument, advanced within a public sphere to which all the potential participants could gain access. Democratic legitimacy is forged through public conversation and the process of mutual reason-giving and preference-formation that emerges out of that conversation (Carey, 1995). Under this model, journalism best serves democracy by creating, sustaining, and accurately representing the conversation of the public, as well as by drawing its audiences into that conversation (Rosen, 1999).

For aggregative democrats, in contrast, individual preferences are taken as given, and democratic procedures simply attempt to combine these preferences in a manner that is both efficient and fair (Gutmann & Thompson, 2004). Both majority voting and the scientific public opinion sample can be seen as emblematic of practices of democratic legitimization. In a democracy operating under aggregative principles, journalists are primarily counted on to provide the information (and correct the misinformation) relied on by their audiences to register informed preferences—preferences which will then be aggregated through either political processes like voting, or through public opinion surveys.

For Indymedia journalists, participatory journalism was fused with a vision of contentious politics that deemphasized deliberation and reason-giving (particularly when compared to deliberative notions of politics) and focused primarily on protest, conflict, and challenge to authority. It was a radical form of citizen journalism far closer to what Peters, quoted above, called "bear[ing] witness . . . moral stuntsmanship, and outrageous acts of attention getting" (1999, p. 105). This vision of the relationship between journalism and democracy, with strong roots in generations of openly partisan reporting, is best described as agonistic (Mouffe, 2000). For reporters operating in the agonistic tradition, journalism can best serve democracy by providing confrontational citizens with the information they needed to be *active* (not simply conversational) participants in democratic life. The audience here is assumed to be active and engaged, and journalism provides information that reinforces that passionate activism. Beyond Indymedia, we can point to numerous examples of this form of journalism today.

In contrast, algorithmic journalism is not reducible to aggregative, deliberative, or agonistic forms of democratic life. As Daniel Roth noted above, Demand Media articles "are not dreamed up by trained editors nor commissioned based on submitted questions. Instead they are assigned by an algorithm" (2009, p. based off of user search requests and the prices that Demand Media can get for advertising on those pages. Roth calls it "a database of human needs," though it should be added that it is specifically a database of particularly *profitable* human needs. The audience described here is certainly not deliberative in a Habermasian sense (Roth, 2009, n.p.)[2] nor is it agonistic in the manner conceived by Indymedia partisans at the dawn of the read-write Web. We might assume that algorithmic journalism is reducible to quantification and the visualization of an "aggregative audience," but if so, it is quantification grounded on rather original and unique principles.

The preceding discussion of Demand Media and similar content-producing organizations can give us insight into what we might call "the normative commitments of algorithmic journalism." Since this form of journalism is new and undertheorized, I want to conclude this article with a brief discussion of this journalism's normative practices and public values. Unlike earlier sections of this paper, this discussion of algorithmic journalism is far more speculative than empirical. It rests on neither extensive fieldwork, nor a long literary tradition within the field of communications scholarship. Research into the relationship between algorithmic processes and the news media has just begun. These concluding thoughts should thus be seen as an attempt to advance, very tentatively, a few thoughts about a largely understudied subject matter.

Algorithmic journalism can be seen as articulating both at least five commitments, and at least five linked methodological practices. Algorithmic journalism embraces "big data," drawing on highly dispersed but massive data sets. In both the collection and translation of this data, it blurs the line between human beings and machines: Both human and non-human data are treated equally in the data-gathering process (they are "flattened" or "reduced"), while algorithmic computation promiscuously mixes the human and non-human judgment. Like aggregative journalism, algorithmic journalism can be seen as centering on basic notions of individual consumer choice; unlike aggregative journalism, it lacks an emphasis on either "improving" the level of individual knowledge via better information, or by filtering out incorrect information (Shirky, 2009, Pasquale, 2009). Finally, algorithmic journalism is at least partially future-oriented. It does not stop at simply reporting the news; it also contains at least *the seeds* of an internal bias towards prediction, a bias made thinkable through a newfound ability to lean on massive amounts of algorithmically processed data.

These characteristics of algorithmic communications practices do not easily map onto traditional democratic theory—which is, perhaps, a sign that they represent something genuinely new. The seeds of such a tradition, however, lie scattered across domains as diverse as science and technology studies, sociological theory, journalism studies, and fragmentary and disconnected interventions within the field of

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2 In this discussion, I am indebted to both Geiger (2009) and Eli Pariser (personal communication, September 8, 2010).

political science. William Petty's work in "political arithmetic" (Cotton, 1981); Foucault's scholarship on security, territory, and population (Foucault, 2007); and studies of the rise of statistical reasoning (Porter, 1995) delimit some possible avenues of theoretically informed research. Once again, John Durham Peters has done the most within the communications field to advance a deeper, philosophically sophisticated understanding of the relationship between numbers and democracy (Peters, 2001). While "the notion of undistorted communication and community via quantification is a compelling moral and political narrative," Peters argues:

> [I]t cannot ultimately claim a monopoly in our ways of knowing. Peirce was right: We will wait forever for evidence to conclude arguments. Because inquirers are mortals, we never have the luxury, or the burden, of a complete sample. This lack compels us to draw inferences, make guesses, and experiment with ideas whose ultimate truth could only be established via an infinite and collective process of inquiry. Because the empirical returns never fully come in on any hypothesis, we have no choice but to hazard arguments. As the pragmatists emphasized, humans must always act on incomplete information. (ibid., p. 447)

Peters' conclusion remains compelling. But at the same time, as our technologies and methodologies mutate at ever-faster speeds, we might be inclined to reinterrogate it in light of the increasingly bold claims of algorithmic communication. In the 10 years since the publication of Peters' "The Politics of Statistics and Stories," we have seen the emergence of "big data" and the rhetorically invoked promise of obtaining a so-called "complete sample." Algorithms have a probabilistic, numerical basis, but they are not quite numbers. To grasp the relationship between quantification and public life, we could do worse than discuss how such abstract notions refract through a variety of socio-technical domains, including the domain of journalism. I have tried to begin such a conversation here. For as a set of practices with a deep claim on democratic life, journalistic techniques and visions have a politics. It is often in the newest, most exciting journalistic forms where these political commitments are the most unclear.

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