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Disrupting the News

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Abstract

Disruption has become a popular shorthand explanation among news media executives and thought leaders for describing the massive business model and innovation challenges facing the incumbent producers of news. Yet the focus on digital disruption to the traditional business model of news obscures deeper changes in the values guiding journalistic practice. This essay unpacks disruptions to the landscape of news production and the practice of journalism with an attention to the institutional logic of digital media innovations. The digital values of openness and rationalization, visible in the adoption and use of metrics and analytics, crowds and engagement, and algorithmic distribution, have disrupted both the practices of journalism and the values guiding journalists' work. This essay examines those disruptions in practice and values and outlines their consequences: new values and new identities that reconfigure the journalist/audience relationship and expand the complexity of the journalist role. The stakes of the digital disruption are issues of control and transparency in newswork. Overall, this essay claims, digital disruptions in journalism are issues of control and transparency in newswork. Overall, this essay claims, digital disruptions in journalistic values and practice are both discontinuous breaks from the past and evolutions of long-standing tensions in journalism as an institution.

Keywords: Journalism; institutional logics; digital technology; professional identity; institutional change.

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> *This is the precious work of our organization: We are the storytellers, and we are also journalists. There are more intense challenges ahead of us, other journalists are losing their jobs, we need to transform ourselves into an institution that embraces digital disruption. My belief is that we cannot run scared from the advances of the digital age but instead, we must run toward them, faster, smarter and more open to change than we have ever been in our storied history. If we cannot navigate this journey of transformation, then surely the industry itself cannot thrive, cannot grow and cannot transform, because we are among its most important leaders and the mantle of leadership is upon us.*
>
> —Public Radio Executive, January 2015

1 Introduction

Media industry watchers and media executives alike have used the term "digital disruption" as a way to diagnose the ongoing business and innovation crises facing legacy newsrooms (Christensen et al., 2012; Lepore, 2014). "Digital disruption," in both academic scholarship and industry practice, usually connotes a death sentence for incumbents. Although incumbents were once successful, the story goes, when digital change hits, incumbents find their customers and business models displaced by newer, nimbler, more innovative companies who can serve the same customers more quickly and cheaply (Christensen, 1997; J. Gans, 2016).

I heard the term "digital disruption" — and observed the fear and anxiety it provoked — in my fieldwork in public radio in 2014 and 2015. In the public radio context, "digital disruption" operated as both a portent of disaster and a magic remedy. As a portent of disaster, my field informants used "digital disruption" to refer to the collapse of newsrooms in the newspaper industry: audiences shifting from legacy formats to digital ones, and revenue draining away. The fear of disruption was a fear of losing audience and losing revenue:

> *I worry about listeners becoming non-listeners. In the on-demand world, and with the clouding of what is and is not public media, the increased competition is significant. NPR data show that listening to live radio is going down. And commercial radio listening is dropping faster. So, the interesting thing is — new audiences are great, and good to go after them, but current concern is changing behaviors of existing audience that will no longer be our audience. that is a real sign of disruption — your market that you thought you had is diminishing.*
>
> —Public Radio Executive, February 2015

As a magic remedy, "digital disruption" in my fieldwork referred to the need for stations to pay less attention to their radio broadcasts, and instead invest in new technologies, new business models, and new platforms. Podcasting, digital news verticals, digital audio, and email newsletters were all examples of innovations that could potentially save stations from disruption by providing new audiences and new revenue streams.

On the one hand, "digital disruption" when used in this way has done heavy discursive work in the field of journalism. It is a "term of choice" that has helped a variety of established actors navigate a crisis of considerable uncertainty and complexity (Alexander et al., 2016; Lewis, 2012a; Zelizer, 2015). "Disruption" provides a powerful vocabulary of motivation and justification for change (Tavory & Swidler, 2009; Turco, 2012) not just in journalism but in all areas of activity touched by digital technology.

But the use of the term "digital disruption" to describe changes in the field of journalism has also led to an over-focus on business model disruption to incumbent news organization. This focus obscures deeper disruptions in the values and practices that constitute news as a product and journalism as an occupation. In this essay, I will argue that it is these deeper disruptions in the values and practices of journalism, more than the business model disruptions to incumbent producers of news, that are bringing the field to a point of existential crisis.

I employ the theoretical framework of *institutional logics* to understand the disruptive changes in the values and practices guiding news production that have been ushered in by successive waves of digital media innovations. I will argue that the major pattern apparent in the digital disruption of news is a reconfiguring of the journalist/audience relationship to include more openness as well as more rationalization. The openness has come through digital media innovations that allow journalists to interact with their audiences in new ways (through comments sections, through social media, and through practices such as crowdsourcing). The rationalization has come through the use of digital metrics and distribution algorithms to track, measure, and quantify audience behavior. The disruption of news by these digital media innovations is leading to a transformation in the identity of journalists via changes in their core practices and values.

This essay proceeds as follows. I first briefly define the concept of an institutional logic, and argue for its utility in studying digital disruption. I conceptualize the nature of digital media innovations by elaborating their institutional logic, focusing particularly on the values they embed. Using these concepts, I then explore how news practices and journalistic values have been disrupted by digital media innovations. Finally, using those insights, I explore what is at stake in the discourse of "digital disruption" in the news industry, and ask how those stakes shed light on the ongoing changes in the news landscape.

2 Theoretical Framework

Before outlining the disruptive changes in news, I begin first with a short review of the institutional logics framework and outline the key concepts I will use in this essay.

Institutional logics are "socially constructed, historical patterns of cultural symbols and material practices, assumptions, values and beliefs by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their daily activity" (Thornton et al., 2012, p. 51). An institutional logic, at its core, acts as an organizing principle for a sphere of institutional life. An institutional logic contains taken-for-granted values as well as practices.

Institutional logics in competition and contradiction are what create institutional complexity and provide openings for social change (Seo & Creed, 2002). Indeed, part of the conceptual innovation of institutional logics is to render visible the ways in which institutional spheres are often in contradiction and place conflicting demands on individuals and organizations. This conflict, contradiction — and actors ability to exploit them — are theorized as an engine of institutional change (Battilana & D'aunno, 2009).

For the purposes of this essay, there are two institutional logics in conflict and contradiction that together constitute the phenomena of digital disruption in news. One logic organizes traditional journalism and one logic organizes digital media. Understanding digital disruptions in the values and practices of news production requires analyzing both. I will explain the changes in the logic of journalism throughout the body of the essay as I unpack the phenomena of digital disruption in news. I begin here with explaining the institutional logic of digital media.

Though a full institutional analysis of digital media is far beyond the scope of this essay, I outline two key institutional features of digital media that will help me analyze digital disruption in news.

First, a caveat: most scholars studying the intersection of digital media innovations and journalism have taken a socio-material stance — understanding the ways in which innovations operate as assemblages of technical and social processes and shift practice over time (Christin, 2018; Siles & Boczkowski, 2012). Like their cousins in organization studies (Orlikowski, 2000), many of these scholars are careful to stress that technology is not an independent variable which determines particular outcomes, but rather is deeply engaged with local variations in everyday practice and understandings (Boczkowski, 2005). Acknowledging the socio-material stance, my tack here is somewhat different: I want to analyze the ideological clashes — the clashes over values and assessments of what matters — that constitute the digital disruption of the news in order to understand how journalism is changing and what is at stake in that transformation.

To accomplish that analysis, I employ the framework of institutional logics because it highlights the taken-for-granted values and practices which constitute spheres of activity. Digital media innovations are of course shaped by the choices and valences of their human creators (Petre, 2018). Digital media innovations are also employed differently across different contexts, often with ambiguous and mixed results (Boczkowski, 2005). In focusing here on the institutional logic of digital media and how it shapes the values and practices of other institutional spheres, I am not falling prey to stark technological determinism. Rather, I am asking what can be learned about disruption in news by treating digital media as a semi-autonomous sphere of institutional activity that is in conflict and contradiction with the sphere of journalism.

3 The Institutional Logic of Digital Media

What is the institutional logic of digital media? Digital media are built atop the technology of the internet. The early technical choices which shaped the internet and the ethos which animated its early founders encoded the logic of openness and participation into digital media (Greenstein, 2015; J. Zittrain, 2008). The openness of the internet — the ability for any new endpoint to connect to the network — enabled a practice of user participation in digital media that has extended far past the early web (J. Zittrain, 2008). The logic of participation is manifested in the ubiquity of digital media platforms that facilitate the creation and distribution of user-generated content — from social networking sites to blogging software to commenting functions. This "openness" as a part of digital media's institutional logic denotes both the generativity of the internet as an ever-evolving, never-finished socio-technical system and the opportunities for participation that are available at many levels of digital media innovation (J. Zittrain, 2008; J. L. Zittrain, 2006).

The logic of participation in digital media has led to a major loss of the gatekeeping function of other institutions, particularly in journalism. Digital media allows individuals to communicate on the internet directly with each other, and with many others, with very little moderation and without having to own capital-intensive means of publishing. Digital media provides far fewer opportunities for centralized, consolidated informational gatekeeping than in traditional media (Bruns, 2008). But the deluge of digital content produced by mass participation has not meant that the need for moderation is absent (Gillespie, 2018). Instead, the moderation function has migrated from traditional publishers to the platforms that dominate digital media distribution (Gillespie, 2018; Vaidhyanathan, 2018). The severe challenge of moderating digital

media at scale is directly related to the volume of de-centralized participation that digital media makes possible.

The other primary feature of the institutional logic organizing digital media is the value of rationalization through the mechanism of digital commensuration. Digital technologies — by rendering all information into a series of zeros and ones — commensurate the offline (i.e. continuous) quantities that are digitized. Commensuration as social process has a long history — and in fact is one of the core functions of bureaucracy (Espeland & Stevens, 1998). However, digital technology in general and digital media in particular have accelerated the pace and scope of commensuration and rationalization in modern life (Zuboff, 2019; Christin, 2018).

The major consequences of the commensurating and rationalizing force of digital technologies is what Zuboff calls the "informating" of everyday life activities (Zuboff, 1985). The uniqueness of digital media is that when human expression is digital, it also rendered "informated." That is, digital media generates a second-order, reflective layer of information about the expression itself (often referred to as "meta-data"). So, for example, when a user posts a personal update to Facebook, the application both records the expression ("I had a baby!") and also information about the expression — the time it was posted, who clicked on it, who liked it, etc.

The quantity and precision of second-order information generated from first-order expression or communication is what distinguishes internet-enabled digital media from other forms of media. By rendering the content and process of communication into a comprehensive digital system of zeros and ones, digital media communications are rendered commensurate, manipulable and measurable.

In summary, the institutional logic of digital media reflects the values of openness, participation, commensuration, and rationalization. Openness and participation are values derived from the early choices of internet network architects who allowed users from any endpoint to connect to the network and to participate in its evolution. Digital media innovations have come to be valued for their openness because their use is not limited to particular parameters beyond an ability to connect to the network. Rationalization is a value derived from the calculability and measurability of digital data: the 0's and 1's that allows users to create numerical explanations as well as efficiencies using digital tools. Digital media innovations are valued for their ability to rationalize: to track, measure and then optimize bits of information and communication.

4 Digital Media Innovation and Digital Disruptions

In the next part of the essay, I take a close look at the phenomena which constitute digital disruption in news: the series of digital media innovations which have transformed the production of news and the practice of journalism. Here my focus is mostly on the disruption of news as it has unfolded in the United States and parts of Europe.

One of the hallmarks of disruption in any industry is particular "disruptive innovations" that shift consumer behavior and offer opportunities for entrepreneurs to build different products and business models that appeal to under-served consumers. As the internet era dawned on the news industry in U.S. and Western Europe the late 1990s, there was reason for hope that digital media innovations would open up new opportunities for journalists to do some things better than before. Other areas of news production, scholars and pundits believed, would be left to "new entrants" who were taking advantage of digital media innovations to engage in traditional journalistic functions (Anderson et al., 2012).

Setting aside the business model disruptions and their revenue effects, the waves of digital media innovations which have disrupted the news industry could be roughly categorized as (1) the rise of metrics and analytics, (2) the growing use of crowds and engagement, and (3) distribution via algorithms and platform automation. The scholarship on digital media innovations in news has defined this set of phenomena as "post-industrial journalism" (Anderson et al., 2012), referring to the changing set of practices, values, and organizations which constitute the networked production and distribution of news in the digital age. To begin to characterize these digital media innovations and their disruptions, I explore each briefly below.

4.1 Metrics and Analytics

Digital media innovations also rendered news content — and news audiences — measurable in a different way than such content and audiences were previously (C. Anderson, 2011; Carlson, 2018; Napoli, 2011). Though newspapers always tracked circulation numbers and sales volume (Beam, 1995; Napoli, 2011), what particular articles were read or not read was difficult to measure in the ("bundled") print format. On the web, news articles are unbundled and published separately. That means each article that is rendered as a separate page can be tracked for how many users accessed the page, how long the page is open, where the user clicked from, and what else the user clicks on.

Commercial media since its inception has been deeply entwined with the available scientific and technological methods for measuring audience consumption of news as a product (Bermejo, 2009; Napoli, 2011). Where digital metrics have departed with other forms of audience measurement in other media is both that these numbers are much closer to measure of actual consumption (though technical and methodological problems remain, especially with the rise of bots) (Kosterich & Napoli, 2015; MacGregor, 2007), and that these numbers are increasingly being used in newsrooms, whereas similar figures were limited to the "business" side in news organizations (Carlson, 2018; Coddington, 2015).

The early web-based metrics used in newsrooms consisted primarily of page views, time on site, and unique visitors (Cherubini & Nielsen, 2016; MacGregor, 2007). Through general-purpose tools like Google Analytics, newsrooms could begin to track the popularity of different pieces of content posted to their sites. Homepage placement, headline optimization, and search engine optimization were some of the early strategies digital journalists had for making use of digital information about user behaviors. As the digital news distribution landscape has become more complicated, particularly with the rise in importance of social media platforms like Facebook, the types of data can could be compiled on how users interacted with particular pieces of content have also multiplied (Cherubini & Nielsen, 2016).

What do digital metrics allow journalists or other news workers to do? Analytics systems and the metrics they provide inform different types of decisions. The first set are distribution-related decisions. For example, a reporter or editor might have to decide how to best optimize an article's headline to make sure it is properly indexed by the Google search engine and can be found in search queries. The second set are editorial decisions that have to do with story selection and coverage areas. An editor can use a tool like Crowdtangle, which can measure what is trending on Facebook, or a tool like Chartbeat, which can measure what articles are getting the most traffic on the newsroom's own site, to plan to cover particular topics or stories or to assign a particular angle on story. Analytics systems and the metrics they provide can also be used to make publishing decisions — such as what time of day is best to post certain types of stories, or how much prominence to give a story on a newsroom's homepage. At the highest

level, these metrics can be used by newsroom and publishing executives to set editorial strategy, digital product development strategy, and distribution strategy (Cherubini & Nielsen, 2016).

Though the intentional use of metrics to inform editorial decision-making was pioneered by digital-first media organizations like BuzzFeed and the Huffington Post, these practices have slowly diffused throughout the news industry, transforming the nature of journalistic practice and professional knowledge along the way (C. Anderson, 2011; Carlson, 2018; Cherubini & Nielsen, 2016; Christin, 2018; Zamith, 2018). The use of metrics and analytics systems in newsrooms has spawned entirely new role categories (Ferrer-Conill & Tandoc, 2018; Kosterich & Weber, 2018). Whereas the early adoption of web publishing in the late nineties and early aughts give rise to roles such as homepage producer, digital or online producer, digital or online editor, and digital reporter, the spread of metrics and analytics systems created new roles like audience growth editor, audience engagement editor, audience analyst (Boczkowski, 2010; Cherubini & Nielsen, 2016; Kosterich & Weber, 2018).

4.2 Amateurs and Crowds: Crowdsourcing, Co-Creation, and User-Generated Content

The digital disruption of journalism has occurred not only in the realm of metrics and measurement. Via the mediated interfaces of digital platforms, non-journalists have been able to participate in the production of news much more directly. It is useful to unpack the different forms of crowd and amateur participation in the journalistic process to understand how digital media innovations have disrupted set of actors that can produce news.

Journalists have taken advantage of crowdsourcing to examine government documents (Aitamurto, 2011; Daniel & Flew, 2010) and to contribute to disaster coverage through live blogs and twitter hashtags and comments (Dailey & Starbird, 2014). Onhoua, Pinder, and Shaffer in their review of crowdsourcing practices, define it as "the act of specifically invited a group of people to participate in a reporting task — such as news gathering, data collection, or analysis — through a targeted, open call for input, personal experiences, documents, or other contributions (p. 9). Crowdsourcing has been particularly useful to investigative reporting outlets like ProPublica. The time and resources which investigations can be made both more expansive and efficient through the use of crowdsourcing (Onuoha et al., 2015).

Yet crowdsourcing is not without its difficulties. The request made to the crowd must be specific, or the task of culling through and making sense of the responses will be overwhelming. Even with a specific request, journalists must manage the process of encouraging responses through active engagement and follow-up with the publication's audience (Aitamurto, 2016; Onuoha et al., 2015). Furthermore, verification can quickly become a major problem when the scale of crowdsourced responses increases. Aitamurto, in comparing four cases of crowdsourcing, found that journalists were often forced to compromise their professional norm of publishing only verified information because the task of verification of the crowdsourced material became too unwieldy (Aitamurto, 2016).

Co-creation, the most intensive form of open journalistic practice, brings the journalists in much closer and extended contact with the audience member (Quamby & Jenkins, 2019). Co-creation is even more time and labor intensive than crowdsourcing, and is in many ways a more direct challenge to traditional journalistic norms and practices (Aitamurto, 2016).

The results of empirical studies tracing the use of "UGC" and other forms of "citizen journalism" inside newsrooms have generally shown that the content is framed by newsrooms as an additional source of information that journalists need to subject to existing process of verification (Williams et al., 2011). In other words, rather than audience-generated, participatory

content precipitating major changes in journalistic practice, the use of such content often becomes "normalized" in the context of existing values and practices (Domingo et al., 2008; Singer, 2005). For example, Jonsson and Ornebring's 2011 study of user-generated content in online newspapers in Sweden and the UK found that opportunities for participation were mostly around lifestyle and popular culture content (as opposed to hard news), and that direct user participation in news production was limited.

Social media has also provided opportunities for non-journalists to participate in breaking news events, providing real-time, first-hand evidence and accounts of developing stories in ways that would have been incredibly resource-intensive in the old model of journalism. Subsequent empirical scholarship has shown how the widespread use of social media has indeed transformed the sourcing of breaking news (Belair-Gagnon & Holton, 2018; Broersma & Graham, 2012; Hermida, 2010).

As digital media usage and penetration have progressed, the scholarly conversation around user-generated content has widened to include descriptions of "open source," "citizen" or "grassroots" journalism (Gillmor, 2004), or "participatory journalism" (Nip, 2006). Each of these concepts seeks to capture the role that user-generated content whether on social platforms like Twitter or Facebook, or related micro-publishing digital media such as blogging and commenting, are being used to complement existing journalistic practice (Williams et al., 2011).

4.3 Machines and Algorithms: Automated Journalism and Filter Bubbles

The final area in which digital media innovation has disrupted journalism is in the rise of machines and algorithms in the processing and analyzing of massive data sets, and increasingly in the curation of news (2012). In the most sophisticated use of such technologies, news organizations are using machine learning and natural language techniques to generate stories from large, structured sets of data. Companies such as Narrative Science can take sports data or financial data and generate basic stories. For example, the Associated Press works with Automated Insights technology to publish financial news.

However, there are very clear and narrow use cases for automated journalism: when the data set to be processed is not well structured or ambiguous, the resulting stories are not usable. Crime reports, little league games, and earthquake alerts are some of the other applications of automated journalism (Graefe, 2016). As Andreas Graefe wrote in his review of automated journalism, "[it] works for fact-based stories for which clean, structured, and reliable data are available. In such situations, algorithms can create content on a large scale, personalizing it to the needs of an individual reader, quicker, cheaper, and potentially with fewer errors than any human journalist" (2016, p. 14).

There are two other ways in which algorithms and machine learning techniques have been transforming journalism, both on the production and consumption side. The increasing importance of social platforms like Twitter and Facebook for the distribution of news content has put many news organizations at the mercy of the algorithmic curation engines which prioritize and individualize what content users see in their social feeds (Bell et al., 2017; Rashidian et al., 2018). Facebook's NewsFeed algorithm in particular, has been the subject of much speculation, worry, and gaming on the part of news publishers who on the one hand, want to access Facebook's massive global audience, but on the other hand, resent its increasing economic and audience power on the web. Early warnings about "filter bubbles" (Pariser, 2011) — the tendency of algorithmically-powered content filters meant to identify and reinforce user's partic-

ular preferences — have widened into larger concerns about the fracturing and polarization of particularly political news on social platforms (Benkler et al., 2018).

5 Openness and Rationalization Disrupts the Journalist/Audience Relationship

As the digital disruption of news has unfolded, the metrics-mediated audience has given rise to the "agenda of the audience" (C. Anderson, 2011) as an independent influence on the newsworthiness, apart from editorial judgement. The textually-mediated audience has expanded from "letters to the editor" to a torrent of comments, tweets, posts, likes, shares, and emails that can influence the images that journalists hold in their minds of their audience. Audience participation has expanded from phoned-in tips and sources to a whole range of user-generated media content that journalists can incorporate into their newswork (or not). And finally, the algorithmically-mediated audience expresses its preferences through the the curation engines built into new social platforms that journalists must take into account when publishing their work (Tandoc Jr & Vos, 2016). Through the mediation of digital media innovations, the audience is present in journalists' everyday work in new and different ways.

The values of openness and rationalization which are part of the institutional logic of digital media have disrupted the underlying values of news most profoundly through their effects on the journalist/audience relationship. The rise of metrics and algorithms (information about the audience), crowdsourcing and co-creation (digitally mediated interactions with the audience), and algorithms and automation (digital distribution to the audience) are disruptive because through the embedded values of openness and rationalization, these digital media innovations change the knowledge that the journalist has about the audience and the types of interactions that are possible with the audience.

In the high-modern period of journalism, the audience was constituted for journalists most often as colleagues, editors, sources, and immediate friends and family (DeWerth-Pallmeyer, 1997; H. J. Gans, 1979). Much of the sociology of news in that period focused on unpacking what kind of an impact those face-to-face relationships had on journalists and on the production of news as those roles functioned as proxies for the audience (Fishman, 1988; Tuchman, 1978). Many scholars found that journalists were writing for other journalists, for the sources they interviewed, and from their experiences with friends and family outside the workplace (DeWerth-Pallmeyer, 1997). Though the business side of news organizations engaged in market research to understand typical readers and their motivations, this knowledge rarely made it into the newsroom.

In contrast, the role of the audience (or, as Rosen (2006) famously coined, "the people formerly known as the audience") has shifted with disruptive digital media innovations that have brought readers/users into different relationships to media content. As this has unfolded, the role of journalists has changed as well. The nexus of that change — and the one of interest theoretically here — has been in how journalists construct and orient to the images of the audience that they carry in their minds (C. Anderson, 2011; Robinson, 2019). The role of the imagined audience in constituting the role of the journalist is important to understand because, unlike face-to-face social roles, such as doctor and patient, or mother and daughter, the typical journalist goes about his or her work without much face-to-face interaction with members of the audience. Thus the cognitive typifications of the audience are an essential component of the role of journalists, the identity of journalists, and the institution of journalism (Douglas,

1986).

As successive waves of digital media innovation have unfolded, the audience/journalist relationship has continued to evolve to include more openness as well as more rationalization. These changes are particularly apparent in the ways in which gatekeeping practices have shifted.

6 Disruptions in Gatekeeping Practices

Gatekeeping refers to the practices of story selection exercised by editors in a newsroom. It is, "the process of selecting, writing, editing, positioning, scheduling, repeating and otherwise massaging information to become news" (Shoemaker & Vos, 2009). The digital disruption in gatekeeping practices stems from the role of metrics, algorithms, and engagement in signifying audience preference. This is because inherent in the idea of gatekeeping is the counterpositioning of editorial judgement and audience demand — a balancing act between what the editor thinks the audience needs to know, and what the audience wants to read (H. J. Gans, 1979). Gatekeeping practices are thus deeply tied to the images of the audience that editors (and really any news workers who use metrics) hold in their minds (C. Anderson, 2011) and to editors' sense of their professional obligations to the public.

The audience/journalist relationship has often been an arms-length and ambivalent one, with the preferences of colleagues, peers, friends and family often standing in for the editor's a generalized notion of "the public" (DeWerth-Pallmeyer, 1997; Robinson, 2019). To the extent that metrics, engagement, and social platforms are used in newsrooms to produce to interpret audience preferences, those preferences can then have the power to shape the practices of editorial gatekeeping. If audience tastes and editorial preferences were aligned, then the gatekeeping of editors would not change much with shifts in the quality, type, and timing of audience preference information. Yet studies of gatekeeping in both the "high modern" period of journalism (DeWerth-Pallmeyer, 1997; H. J. Gans, 1979) and more recently (Boczkowski & Mitchelstein, 2013; Bunce, 2017; Petre, 2015) suggest that by and large, the tastes of the audience and the professional tastes of editors tend to diverge. Editors and reporters tend to prefer "hard news," while readers tend to prefer more sensational "soft news" (Boczkowski, 2010; Mitchelstein & Boczkowski, 2010; Singer, 2011).

And yet as metrics, crowds and engagement, and algorithms have diffused into digital news production, the "agenda of the audience" (C. Anderson, 2011) has shifted from a background influence to a locus of strategy and monetization. Much of the scholarship on metrics and analytics uncovered a push-and-pull between gatekeeping sensibilities and audience preferences (C. Anderson, 2011; Christin, 2018). But as metrics and analytics systems have become more precise, and as digital distribution technology has become more functionally targeted, newsrooms are increasingly adopting the language and practice of customer segmentation and customer targeting to build their audiences.

The practices of "audience development" and "audience growth" are relatively new developments on the digital journalism landscape, both made possible by the use of tools that can segment and target readers. As these tools spread, they carry a logic of hyper-rationalization to the creation of audiences. The concept of an "audience funnel," borrowed from the discipline of consumer marketing, is on its way to being fully ensconced in journalistic practice. This development marks a complete inversion of traditional gatekeeping practices via the rationalizing logic of digital media innovations. In service of audience growth (and reader revenue), the rationalized "agenda of the audience" is the only agenda that has legitimacy and is the locus around which editorial and business practices are increasingly organized.

7 Transformed Values

I have argued thus far that the values of openness and rationalization which are embedded in the institutional logic of digital media have disrupted the audience-journalist relationship by changing the gatekeeping practices of journalism. In this section, I explore the transformative effects of openness and rationalization on the traditional occupational values of journalism via these profound changes in practice. To do so, I draw on the four core values that make up the occupational ideology of journalists: autonomy, ethics, immediacy, and public service (Deuze, 2005).

7.1 Autonomy

Autonomy is a core value of journalistic work. The ability to make independent judgements of newsworthiness, and the first amendment freedom to publish free of interference or censorship are two of the most important defining features of journalism. How is autonomy reconfigured by the openness and rationalization of digital media innovations? The rationalization of digital metrics has been clearly interpreted as a threat to editorial autonomy, as the metrics-driven "agenda of the audiences" impresses itself on the editorial process. The standards of performance for journalists is also shifting under the rationalizing force of digital metrics — think of the Kinja leader board at Gawker, which ranks writers and editors by their traffic numbers (Petre, 2015). A set of critical scholars in journalism studies have pointed out that the rationalization of journalistic labor led by metrics is eroding the autonomy of journalists, and empowering managers of news organizations to control ever larger parts of the labor process (Bunce, 2017).

The autonomy of journalists is being reconfigured by the value of digital openness in other ways as well. The freedom of the press is deeply entwined with the modes of publishing available to journalists. As the networked press migrates to large-scale technology platforms which dominate the application layers of the internet — Google, Facebook, Twitter — the architectures and policy choices of those platforms exert a powerful influence on what the public sees, reads, and hears (Ananny, 2018). The autonomy that print journalists have enjoyed until very recently was in large part dependent on the monopolies their employers enjoyed over publishing channels. As the publishing function has become disaggregated from news production (Bell et al., 2017), the autonomy of journalists to shape the news agenda has also been eroded (Rashidian et al., 2019). The openness that these platforms have provided to audiences — the ability for anyone to participate in the production and publishing of media content — has also ironically consolidated considerable power in the hands of a few companies and away from the press as an institution.

7.2 Ethics

The ethics of this digital disruption in journalism are also in flux as the openness of digital technologies brings new actors into the journalistic field. What does verification and accuracy mean when news organizations are deluged with information, some of it credible but much of it misinformation (Benkler et al., 2018)? The revelations of targeted mis and disinformation attacks on social platforms (D. Lazer et al., 2017; D. Lazer et al., 2018) have raised the question of the ethical responsibility of journalists in the new digital media landscape to a fever pitch. Credibility has been a core ethical principle of journalism and a key outcome of the gatekeeping role of editors (Kovach & Rosenstiel, 2014). And yet, given the ongoing migration of publishing

power away from news organizations and towards digital technology platforms, the question of how precisely to exercise that gatekeeping power in an effective way is ever more vexing.

Neutrality and objectivity are similarly ethical values in flux. The monopoly on publishing power in industrial journalism meant that very few editorial points of view could be expressed in any given information space and that journalists could claim the mantle of objectivity and neutrality without much challenge (Hamilton, 2004). Indeed, in historical perspective the rise of an independent and neutral press was deeply related to the monopoly power publishers held in their markets, and the need to appeal to as wide a swath of the public as possible (Hamilton, 2004).

The radical openness of digital platforms at one point promised a new networked public sphere (Benkler, 2006), the right of any citizen to contribute their voice and opinion to the public debate on issues of importance to civic society. The monopoly of the press to claim neutrality and moral authority, and thereby shape public opinion would be supplanted, the thinking went, by a symphony of new publics (Benkler, 2006; Gillmor, 2004; Shirky, 2008).

To some extent this has been true, as the value of digital openness has ushered new and different voices have entered the public sphere. The challenges leveled at the neutrality and objectivity of the press have only gotten louder (the current U.S. President being the loudest example). In addition to verification and editorial gatekeeping, neutrality and objectivity are also inputs to the production of credibility that has been the mandate of professional journalism. Thus the challenge to press neutrality via the value of openness has also contributed to the erosion of press credibility and a threat to its legitimacy (e.g. "Fake news").

The value of rationalization has similarly re-configured the ethical values of traditional journalism. In the rationalized logic of audience segmentation and targeting, the question of what constitutes neutrality and objectivity becomes difficult to answer. If audience behavior, captured and codified via digital distribution tools, signals a preference for content with a particular point of view, does that point of view then become the objective referent for that audience? What does it mean to take a "neutral" position in a public sphere that has been algorithmically personalized?

7.3 Immediacy

The value of immediacy in the reporting of events has mostly intensified with the digital disruption of journalism. The openness of participation in the breaking news process, which social media has brought about, increases the pace at which breaking news can be reported. In these arenas too, journalists are grappling with questions of verification and credibility. A number of recent controversies are illustrative. For example, shortly after the terrorist attack on the Las Vegas music festival, Google search results surfaced inaccurate and unverified identification of the shooter's identity. Those results were picked up and reported by some news organizations. This prompted a debate within the profession — where does the responsibility lie for the spread of such misinformation? When the public demands for real-time information and immediate answers from social media pull against the journalistic process of verification and promise of credible information, where does the culpability lie when lies are spread on the internet?

7.4 Public Service

Finally, what does it mean to serve the public in an open and rationalized digital media environment? The notion of a singular public has almost completely collapsed in the digital media

space. The networked public sphere evolved to be a network of micro communities, each insulated in their own filter bubbles (Pariser, 2011). The principles of homophily and emotional contagion which drive information flow on social platforms (Stieglitz & Dang-Xuan, 2013) and the rationalized curation algorithms which ensure that like content follows like content (Benkler et al., 2018), have now thoroughly fractured the digital public into a series of disconnected publics (Hindman, 2008).

To the extent that newsrooms gain traction on a notion of public service in the digital news landscape, it is often because of an elision between an idea of "the public" and an idea of "the audience." In the context of rationalized and targeted audiences, "public service" as "audience service" actually becomes an empirically testable question. Did the new newsletter have an open rate above 5%? Did the new blog format attract users who returned more than three times in a month? Those questions are much easier to ask and answer than are the stickier ones of what constitutes a public in a pluralistic, polarized, and unequal society. Thus public service in this new milieu is a truly vexing value. Some scholars have argued for a "right to hear" in this new networked space, with reimagined notions of tree freedom to support that right (Ananny, 2018).

8 Ascendant Values

Alongside the unfolding reconfiguration in the traditional values of journalism is a new set of ascendant values brought about by the new types of interactions between journalists and audiences made possible in digital media. The rise of impact, engagement, and user-as-consumer, each have roots in older conceptions of journalism, but are coming to the fore in new ways in the disrupted news landscape.

8.1 Impact

The value of impact refers to the effects that a piece of journalism has in the world of politics, policy, and ideas (Green & Patel, 2013; Pitt & Green-Barber, 2017; Powers, 2018). Impact is something of an antidote to rationalized metrics — as an occupational value, journalists often use it as a standard to assess the value of a piece of work apart from its digital performance (Powers, 2018). As foundations have exercised increasing influence in the news landscape, adopting the value of impact has become a pre-requisite for newsrooms seeking philanthropic support. Yet it would be a mistake to conclude that philanthropic values of impact and journalistic values of impact are one and the same. Indeed, some of the most interesting developments in the post-industrial journalism landscape are the new forms of reporting, like solutions journalism, that explicitly take on the tension between journalistic and philanthropic impact, and attempt to create new practices and values that are hybrid of both.

8.2 Engagement

Engagement is another ascendant value. This refers to the quality and amount of interactions (sometimes digital, sometimes face-to-face) between journalists as particular audience members (Nelson, 2018 & 2019). In the context of fracturing publics and audiences as gatekeepers, engagement is like a twin to public service and is increasingly considered a good unto itself, though it can also boost the relative competitive advantage of publications (Hansen & Goligoski, 2018). In the early days of social media, engagement was mostly an add-on to the standard editorial

process, a step in the distribution work flow that ensured social media users could find and consume a publication's content (Bell et al., 2017). But as the digital advertising business has tilted against the commercial interests of publishers, social media as a tool for raw reach has faded in importance (Rashidian et al., 2019). Engagement in the last five years has come to mean something much different: a two-way relationship between newsroom and audience, a "new social contract" (Rosen, 2017), that envisions a productive and generative open relationship between journalists and readers. The platform Hearken's strategic transformation from an "engagement tool" to an "engagement approach" tracks nicely the evolution of the value of engagement from distributional to interactional.

8.3 User as Consumer

Finally, some scholars have pointed out the ascendant journalistic language around the audience as a user-consumer (Bruns, 2008). In a highly commercial media context such as the U.S., the audience member has always been both a consumer and a citizen — the consumer was identified, measured, and served to an advertiser by the business side of the news organization, and the citizen was served by the newsroom. Digital media innovations have introduced a new role of the audience member as a user — a person on the other end of a news article who is not just embedded in the state as a citizen and in the market as a consumer, but is embedded in the digital world as a user of technology (Lewis, 2012b). This user has a smartphone with some apps, a desktop computer with a browser, a smart-home speaker. This user has particular needs and is seeking particular gratifications that news organizations and increasingly journalists are expected to provide through the practice of user experience design (Hansen & Goligoski, 2018).

At the same time, the commercialization of web services has exaggerated the role of the audience member as a consumer (Wu, 2016). The harvesting of user data and the use of such data to hyper-target digital advertising to users is the most obvious example of user-as-consumer that dominates the digital media space (Zuboff, 2019).

Some scholars have termed these new values "entrepreneurial" and see their ascendancy as the product of both digital trends and the disintegration of traditional employment and career paths in the news industry (Davidson & Meyers, 2016; Vos & Singer, 2016). It is true that these values are more present in some of the new organizational forms that have begun to dot the news landscape — digital-first non-profit newsrooms, for example (Carlson & Usher, 2016). At the same time, the evolution of these values inside legacy news organizations suggests that these ascendent values are not only embedded in the edge experiments of journalism, but are part and parcel of the wider transformation of journalism in the disrupted landscape of news. (And it might be more accurate to say that, "entrepreneurial" values are in fact a part of a "product" design and the product lifecycle mindset elevated by the cultural and economic supremacy of Silicon Valley.)

9 Role Transformations

Overall, as this essay has tried to show, the digital disruption of journalism, through the clash of traditional occupational values with the digital values of openness and rationalization, has led to both de-professionalizing and a re-professionalizing of the journalist role (Meyers & Davidson, 2016). On the one hand, some of journalism's long-held practices and values have collapsed. On the other hand, new roles and sub-occupations are being formed almost yearly in response to this evolving change (Kosterich & Weber, 2018). Social media teams, audience

growth editors, audience engagement editors, are a few of the newer roles that have grown up in response to the new possibilities (Ferrer-Conill & Tandoc, 2018). Organizationally, the digital disruption of journalism is eroding and reworking the traditional boundaries between business and editorial functions inside news outlets (Hansen & Goligoski 2018). These new roles often sit at the intersection of business and editorial functions — feeding insights about the audience to the business and marketing teams, while translating those insights to editors who can make informed choices about content strategy.

These changes are not the same everywhere. The digital disruption of the news, far from bringing about convergence to a single model, has led to a fracturing of the news media ecosystem. There are many different types of news organizations serving many different needs, and the operation of the digital disruption manifests in very context-specific ways.

On the consumption side, scholars and practitioners worry that the digitized news which is the product of a disrupted journalism — personalized, measured, and widely distributed — is eroding the common knowledge and public understanding that were central outcomes of the ethical and public service values of journalism (Tandoc & Thomas, 2014). For journalists as workers, the digital disruption of news and the economic fragility of news organizations have thrown them into a class of precarious workers, in which the tension between openness, rationalization, and their traditional occupational values confronts them very clearly and has prompted conflicts with professional norms. As one scholar noted, "journalism as an institution is still struggling to define clear professional norms for the use of audience clicks and at present sticks — at least in words — to traditional norms" (Welberset al., 2016, p. 14).

10 Reconciling Rationalization and Participation in a Disrupted News Landscape

My analysis of the transformation journalistic values through the influence of the institutional logic of digital media raises the question of how the values of openness and rationalization are themselves held in dynamic tension. The simultaneous rationalization and democratization of newswork would seem to be a contradiction. How can digital disruption of an institution like journalism produce both more rationalization and more openness? Wouldn't an openness to the contributions of actors outside the traditional boundaries of an institution — readers, lay experts, bloggers — suggest less rationalization in the practices of production? Rationalization through metrics, after all, has typically been theorized in the sociological literature as leading to more standardization and centralization of control (Christin, 2018; Espeland & Stevens, 1998; Espeland & Stevens, 2008). And the scientific management literature has long taken for granted that increasing rationalization leads to more formalization and more efficiency, qualities that would seem to be at odds with open participation by anyone with an interest or motivation to join in a particular form of institutional work. How do these two values of the digital logic become reconciled?

Anderson, in his fieldwork of digital newsrooms in Philadelphia and New Jersey (2011), uncovers and theorizes this underlying tension between openness and rationalization in the nature of digital newswork. He writes, "[the] specific puzzle that emerged over the course of my research [was] the tension between the common rhetorical invocation of the news audience as a 'productive and generative' entity, and the simultaneous, increasingly common institutional reduction of the audience to a quantifiable, rationalizable, largely consumptive aggregate" (Anderson, 2011, p. 551). How is it, Anderson asks, that these two logics — one of generative, open

audiences, and one of quantified audiences — can operate simultaneously?

Specifically, the ability to see which types of stories were doing well (being read by more visitors) versus which types of stories were doing poorly (being read by fewer web visitors), was changing how editors and reporters felt about their work, and how they assessed story quality and newsworthiness. Anderson clearly shows in his ethnographic data that although there was a fascination with traffic numbers, particularly in the Philly.com newsroom, that the gap these numbers exposed between traditional judgements of newsworthiness and the demonstrated preferences of the audience, was both changing practice and generating some mixed feelings.

The professional change in assessment of newsworthiness was a numbers-driven rationalization of what the audience wanted to read. The tension between a quantified audience (whose behavior has been measured and analyzed through digital traces) and a creative audience (who has agency and can participate and influence the news process) is thus, Anderson argues, resolved at the level of professional motivation and self-conception. If being a good digital journalist means being responsive to the needs of the digital audience, then the digital data available to quantify and rationalize audience behavior is a key piece of the knowledge required to produce valuable digital journalism. Thus, the rationalization of digital technology becomes the mechanism which promotes digital democratization, and vice versa. As Anderson writes, "The preferences of active audiences, in other words, need to be measured and taken into account" (p. 564). This is not a complete revision of previous professional values, however, as Anderson's case of audience comments clearly shows. In the qualitative arena of digital interaction, the professional code of distance and skepticism between journalists and their audiences still seemed to hold sway.

At the theoretical level, I want to take Anderson's analysis a step further. The reconciliation of rationalized audiences and participatory audiences precipitated a shift in the identity of the journalists he studied. That is, their self-conceptions of what it means to be a good journalist were shifting as a result of the reconfiguration of the journalist-audience relationship. Anderson found evidence that the rationalized journalist-audience role relationship and the participatory journalist-audience role relationship both existed simultaneously in a more complex professional identity than what preceded it. This suggests one of the core disruptive effects of digital media innovations is the evolution of actors' identities to contain more complex role relationships, which are complemented by a reconfigured set of values, and undergirded by a transformed set of practices.

11 The Stakes: Control and Transparency

The previous sections reviewed reconfiguration in the occupational values of journalism as a result of the ongoing clash between the values of openness and participation encouraged by the use of digital media innovations, and transformations in the identity and role of journalists. At this point, I want to abstract up another level to ask what is at stake in the digital disruption of the news. I have traced the contours of digital changes in practice, values, and roles, and identity produced by the disruptive nature of digital technologies but have so far left the deeper question of the so what. Why does it matter? What is at stake for the institution of the press as journalism transforms?

The stakes of this change in the immediate information and interactional environment surrounding journalist's everyday work is the level of control they can exert over their production of knowledge about society, and the level of transparency and exposure their work is subjected to. Digital metrics provide a level of informational transparency into the reception of a journal-

ists' work in ways that were not and are not possible in other media. Audience metrics in other media are probabilistic, and provide much less information granularity than sophisticated digital metrics (especially those collected from social media platforms).

Similarly, the ability for journalists to engage in new types of digitally-mediated interactions with individual audience members provides the potential for more transparency between a journalist, her process, and the user. This transparency can be mobilized for a productive two-way exchange between a journalist and her readers in ways that enhance the quality of the final product (e.g. ProPublica's use of crowdsourcing), or it can devolve into digital abuse. Either way, the journalistic process, and the journalist as an individual, is laid bare in the digital space. Under these conditions of enhanced transparency — both in terms of quantification and visibility of process — some of the mystification of expertise can dissolve.

The second, related, set of stakes in the digital disruption of journalism is the level of control that journalists can exert in their work. The agenda-setting role of the audience—through the information that metrics and algorithms can provide, and through the possibilities for collaborative and co-creative interactions on digital platforms — has shifted both the level of control over the news agenda and core journalistic values of newsworthiness (Anderson, 2011). In other words, the openness and participation of amateurs, and the rationalizing force of metrics and algorithms, has displaced a degree of professional control that was enjoyed by journalists in purely monopoly media contexts. This control has not been given up lightly, and not ceded fully (Deuze, 2005; Singer, 2005). Yet newsrooms of every stripe have had to wrestle with just how much control over knowledge and process to cede to the openness and rationalization of digital tools, and how much to retain in order to justify their (economic and social) value and maintain the moral authority to speak on behalf of the public.

12 Conclusion

Yet it would be a mistake to conclude that the disruptive effects of digital media innovations, and the stakes of their operation, are completely *sui generis*. What stands out in the analysis of how the incorporation of digital media innovations are disrupting the production and distribution of news is how many of the conflicts were present in the institutional complexities of journalism to begin with. Though scholars have pointed to a high modern period, particularly in the U.S., the practice of journalism has varied widely across regions, types of media, and types of organizations. Journalism as practiced in public service broadcasting is and was different from journalism practiced in metro newspapers or in network television newsrooms. Because of this variation, the "same" technologies introduced into different social contexts have had very different trajectories (Boczkowski, 2005). As Boczkowski pointed out in his groundbreaking early study of digital transformation in newspapers — digital technologies evolve inside of different newsrooms facing different local contexts, each with their own particular technical histories.

Yet there is one, obvious, persistent tension in the institution of journalism, which the incorporation of digital media innovations has not resolved but rather exacerbated. The market logic of capitalism has existed uneasily alongside the occupational logic of journalism from its early days (Schudson, 2003). In the ideal-typical case, the editorial integrity of the newsroom is insulated from the demands of the market, represented in the commercial interests of the news outlet and its advertisers. Yet in actuality, there has been almost ceaseless public and scholarly debate over whether and how the commercial interests of advertisers influence the editorial agenda of newsrooms (Hamilton, 2004).

The rise of digital media innovations in journalism has heightened and aggravated this tension. This is partially because the level of competition in the digital media environment — and the eventual consolidation of advertising market power in the hands of a few big internet companies — has meant that news organizations stood very little chance of exercising the kind of monopoly power in digital media that they enjoyed in print or broadcast. The search for financial viability in digital news has come to entail the incorporation of commercial concerns into parts of the journalistic process (particularly audience growth and publishing) that were not so strongly present in other media.

Nevertheless, as digital media innovations have developed and spread in the field of journalism, the values of openness and rationalization, embedded in the institutional logic of digital media, have created new conflicts and tensions, many of which I have laid out in this essay. Tracing how the values and practices of digital media's openness and participation are changing the values and practice of journalism has revealed continuities, discontinuities, and radical reconfigurations.

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