Original Article

Sharing Knowledge and "Microbubbles": Epistemic Communities and Insularity in US Political Journalism

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Abstract

This article examines the peer-to-peer dynamics of Washington political journalists as Communities of Practice (CoPs) to better understand how journalists connect to and learn from each other and establish conventional knowledge. We employ inductive computational analysis that combines social network analysis of journalists' Twitter interactions with a qualitative, thematic analysis of journalists' work histories, organizational affiliations, and self-descriptions to identify nine major clusters of Beltway journalists. Among these are an elite/legacy community, a television producer community inclusive of Fox producers, and CNN, as its own self-referential community. Findings suggest Washington journalists may be operating in even smaller, more insular microbubbles than previously thought, raising additional concerns about vulnerability to groupthink and blind spots.

Though a critique of "Eastern Liberal Media" generally dates to Barry Goldwater in the 1960s (Hemmer, 2016), the accusations in the United States against the "elite media" and "coastal elitism" have reached a fever pitch in the Trump era. Journalists widely predicted that Hillary Clinton would win the 2016 election. The aftermath prompted renewed interest among journalists and scholars focused on the United States as to whether political journalists, particularly those in Washington, were in a "media bubble." In fact, Benkler et al. (2018) found that journalists on Twitter had almost no exposure to Trump supporters. US journalists are more likely to be insulated in liberal political bubbles in big cities that are growing "bluer" (Shafer & Doherty, 2017). In Washington, often referred to as "the Beltway," journalists are overrepresented at 10 times the density and are paid more than anywhere else in the United States (Bureau of Labor Statistics, 2018). Normatively, there is reason to be concerned that insularity leads to blind spots, perhaps worsening what Frank (2003) calls "intrusive reporting and excessive coverage" in "the face of public disaffection" (p. 441).

However, scholarly research on elitism and insularity in political communication tends to be largely theoretical (e.g., Bennett, 1990; Entman, 2004; Scheufele, 1999), descriptive at small scale (Bennett et al., 2008; Davis, 2002), and often demonstrated via content analysis (e.g., Dunaway & Lawrence, 2015; Zhou & Moy, 2007), rather than as explanatory accounts of work routines, knowledge production, and sense-making. New research that uses Twitter data augments these insights (e.g., Freelon & Karpf, 2015; McGregor & Molyneux, 2018; Molyneux & Mourão, 2019), though this work tends to be functionalist, focusing on how practices are normalized into work routines, leaving critiques of power on the periphery.

Given the current context of record distrust in news media both in the United States and abroad (Pew Research Center, 2018), the case for a contemporary inquiry into the "power elite" (Mills, 1959), and more specifically, what S. Lichter et al. (1986) called the "media elite" is warranted. Of particular interest is the knowledge-generation and sense-making processes in the "Beltway bubble." In this article, we focus on US political journalists' interactions *among themselves*, rather than their role in larger system of information flows. We apply research on Communities of Practice (CoPs), and the closely related concept of epistemic culture, widely established in management and sociology research (Knorr Cetina, 1999; Lave & Wenger, 1991), to understand the

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mechanisms through which political journalists engage with each other to develop shared practices and knowledge. CoP research has often been used in the context of social learning with the aim to improve how knowledge and resources can be shared within and across organizations (Brown & Duguid, 1991; Mørk et al., 2008). When epistemic cultures become fragmented or closed, the consequences can be catastrophic, from space shuttle disasters (Vaughan, 1996) to disruptions in global financial markets (Knorr Cetina & Preda, 2005). How political journalists make sense of what news to cover and how to cover it, particularly as peers across news organizations, stands to shed insight into the contours of the insularity long observed in political communication scholarship (Harcup & O'Neill, 2017).

We employ an inductive computational approach that seeks to bridge qualitative inductive approaches with big data (Usher, in press) to examine a purposive sample of 2,506 Beltway journalists. We conducted a social network analysis of 133,529 tweets along with analyses of word clouds, biographical, and employment data. Empirically, we find that Beltway journalism should not be generalized as a monolith, and instead should be understood as multiple CoPs tied together by distinct types of shared knowledge practices, norms, and routines. In short, the Beltway's "media bubble" looks more like a collection of "micro bubbles," suggesting Beltway journalism may be even more insular than previously thought.

CoPs and Epistemic Culture

Zelizer's (1993) theoretical insight that journalists form "interpretive communities" is fundamental to discussions about in-group identity formation, claims to cultural authority and institutional legitimation, and the ways in which journalists mediate events. Metajournalistic discourse, a closely related concept, reflects how journalists and those interested in journalism engage in a process of critique and reflexivity about journalistic practice (Carlson, 2015). The CoP approach extends these concepts focusing on what Mørk et al. (2008) identify as "the relationship between practice, learning and innovating" (p. 13). This is intentional, as CoPs help reveal why knowledge production and transfer stalls, why openness to innovation and new ideas breaks down, and what facilitates building networks of intra- and cross-organizational knowledge (Orlikowski, 2002; Wenger, 1998).

Moreover, considering epistemic cultures within CoPs reveals what Knorr Cetina (1981, 1999) calls "machineries of knowledge production"—that knowledge cultures are mechanistic, produced through, and constituted by practice. CoPs are based on mutual engagement that brings together actors of different abilities bound by a "shared repertoire of communal resources (routines, sensibilities, artifacts, vocabulary, styles, etc.) that members have developed over time" (Wenger, 1998, p. 98). Members involved are presumed to engage in shared goals or beliefs and have a sense of joint enterprise and identity (Wenger, 1998).[1]

As such, these concepts help us think more generally about how journalists come to know about particular subjects, who they engage with, and help us uncover tacit understandings of purpose, practice, and identity. In a 2005 collection, *The Practice Turn in Contemporary Theory*, Knorr Cetina et al. (2005) bring scholars together to think about the connection between practice, power, and knowledge. Schatzki (2005) offers a general gloss on "practice" as a form of non-regularized knowledge organized by practical understandings and rules. The connection between shared practices and knowledge generation has distinct power dynamics; as Barnes (2005) explains, "to engage in practice is to exercise a power . . ." (p. 28).

In addition, Fox (2000) argues that CoPs are also subject to peer-established disciplinary forces.

Indeed, Knorr Cetina's (1981, 1999) closely related concept of epistemic culture (a.k.a., epistemic communities) suggests devastating consequences for insular CoPs filled with elites. Knorr Cetina (2007) argues that epistemic cultures emerge "when domains of social life become separated from one another—when they curl up upon themselves," which in turn suggests "rich and potentially complex internal environments with warped geometries" (p. 364). Amin and Roberts (2008) characterize epistemic communities as characterized by "collaborations involving experts with substantial egos, high expectations, frequent turnover, rudimentary rules and procedures, tight deadlines, and considerable ambiguity and uncertainty" (p. 361).

Knorr Cetina's research on high-frequency traders has many parallels to Beltway journalism. These traders see themselves as engaged in specialized knowledge production and are constrained by tacit and explicit norms that limit input from outsiders. Similarly, their peer-to-peer relationships are distributed across loose networks, facilitated via Internet communication technologies. Shared sense-making and knowledge production becomes increasingly important as traders work faster and faster with diminished opportunities for independent research. Imbued with a sense of power, privilege, and invulnerability, the more insular and confident these "masters of the universe" (Wolfe, 1987) become, the harder they can fall.

Existing research on CoPs and epistemic culture in journalism is sparse. However, this is a missed opportunity; CoPs complement the findings of early newsroom ethnographers (Gans, 1979; Tuchman, 1978), who examined how the knowledge production process was influenced by actors inside and outside journalism who ordered practices of knowing. More recently, García-Avilés (2014) discussed how online newsrooms constituted CoPs, while Borden (2007) used CoPs to explore the tacit understandings of journalists' "virtue ethics." Husband (2005) and Matsaganis and Katz (2014) consider how ethnic media operates as CoPs, suggesting a rationale for considering other beats/media specializations. Overall, CoPs are united by a common material point of inquiry, object, or concern, but epistemic cultures

are vulnerable to collapsing inward, resulting in Knorr Cetina's warped geometries.

Beltway Insularity and Twitter

Political journalists are high-ego actors whose loose connections to each other are facilitated by instant communication (in particular, Twitter). Like most journalists, they are asked to do more with less time (Hamby, 2013), which can lead to shortcuts and imitation (Boczkowski, 2009). Yet even in a hybridized media environment, Washington political journalists still have outsized power, status, and influence in shaping what the public knows about politics. Part of this power comes from Washington's clubby insularity, in which national media and political elites engage in a process of mutual influence and dependence (cf., Bennett, 1990; Davis, 2007; Entman, 2004) and drive each other's agendas as well as the public's (McCombs et al., 2014). The regular and ongoing informal socialization and formal professionalization, long hours on the job (often in places exclusively designated for the press), and underlying pressures of competition among news organizations can also lead to conformity and homogenized coverage (Cook, 1998; Davis, 2007). As Bennett (1996) finds, this type of socialization leads "national news organizations to the same information sources and, as a result, to much the same stories" (p. 373), which in turn can "naturalise" the perspectives of powerful elites (Hall, 1973; Harcup & O'Neill, 2017).

The consequences of the insularity observed among the Beltway elites are significant for the kind of knowledge produced. Research on pack journalism suggests evidence of journalistic "groupthink," which Matusitz and Breen (2012) define as "a consensus-seeking propensity in certain groups" (p. 898). They point out the danger of pack journalism, defining it as "a practice whereby large groups of reporters cluster around a news site, engage in copycat reporting by using and sharing news information, and lazily refrain from confirming the data through independent sources" (p. 898). Similar trends have been observed among other elite beats, such as science journalism. In 1980, Dunwoody observed how a small "inner club" of writers of science journalists who knew each other and cooperated over a long period had outsized influence on shaping science coverage for US readers (p. 14). Brüggemann and Engesser (2014) observed this among contemporary climate journalists, noting the practice of knowledge sharing and production reifies powerful journalists and establishes consensus. Moreover, Berkowitz and TerKeurst (1999) suggest a geographic community's culture and power structure can shape news decision-making processes—supporting the importance of inquiry into the knowledge-generation practices of journalists within the Beltway. Similar concerns are present where large concentrations of journalists gather to cover political power (e.g., the "Brussels Bubble," "Westminster Village," or Berlin's "spaceship"; Cornia, 2010; Hanusch, 2018; Nielsen, 2014), though political journalism is

"no one thing, not in the United States and certainly not across all of Western Europe" (Nielsen, 2014, p. 172).

Overall, previous research into offline political journalism practices highlights proclivities toward groupthink, insularity, the silencing of divergent perspectives, and limitations in knowledge production, suggesting the importance of a CoP analysis of Beltway journalism. However, there is a paucity of in situ observational research on how political journalists work in the contemporary environment (though see Davis, 2010; Lawrence, 2015). The classic *The Boys on the Bus* (Crouse, 1973) and more contemporary memoirs by journalists (e.g., Chozick, 2018) tell us a bit about the peer-to-peer knowledge production processes of political journalists. However, academics have distinct challenges to accessing these settings, and while not a replacement, exploring peer-to-peer dynamics of journalists on Twitter functions as a proxy for observational studies. The ability to observe these dynamics at scale through social network analysis provides a different, possibly more ecologically expansive perspective than the fieldwork of a single scholar.

If there is one academic occasion, when it is appropriate to say that Twitter is representative of the lived experience of the people using it, the case of Beltway journalists would be it. For political journalists, Twitter functions as a synchronic, digital extension of political journalists' offline lives as they do their work and engage with each other (Kreiss, 2016; McGregor & Molyneux, 2018). Twitter serves as a virtual "watercooler" (Hamby, 2013); Lawrence (2015) quoted one journalist who said, "The people I know who are on Twitter are other journalists" (p. 93). In the contemporary agenda-setting process, journalists and news organizations play an outsized role on Twitter and are more influenced by Twitter, "indicating processes of monitoring, imitation, and co-orientation between different media outlets" (Harder et al., 2017, p. 14). In fact, as McGregor and Molyneux (2018) show via an online survey experiment, the more time journalists spend on the platform, the more that journalists' news judgment changes to normalize Twitter with more standard forms of newsgathering. Of course, this is not to say that journalists do not engage in more varied mechanisms for enhancing their reporting, editing, and analysis, such as traditional sourcing and in-person interviews.

Indeed, the CoPs of journalists that exist offline are thus facilitated by Twitter. Journalists tweet to and about other political journalists more than they engage with any other type of user (Molyneux, 2015; Molyneux & Mourão, 2019); Twitter can make or break the reputations of political journalists jockeying for hierarchy and prestige (Mourão, 2015). Twitter is now the primary place to break and spot breaking news, to demonstrate humor, snark, and insider knowledge, and to be validated by journalism peers (Freelon & Karpf, 2015; Hamby, 2013; Mourão et al., 2015). Twitter use by journalists can also reinforce predominant interpretations of ongoing events (Thompson, 2016). In fact, as Jürgens et al. (2011) argue, political journalism Twitter has a "small world"

effect that is highly influenced by a small number of users critically positioned in the structure of the network. Insular tendencies and power dynamics observed offline are also present, and in some cases, amplified on Twitter, as shown by research on gender disparities in Beltway journalism (Usher et al., 2018).

McGregor (2019) found that journalists rely on Twitter as a standard bearer for public opinion. Still, we do not know as much about how journalists use each other, via engagement on Twitter, as a site of knowledge generation, despite the significant consequences for news production. Thus, to better understand how political journalists engage with each other as CoPs in an era of Twitterified journalism, we pose the following research questions:

RQ1. What are the peer-to-peer dynamics in political journalism?

RQ2. Why might these community dynamics occur?

RQ3. What kind of knowledge is shared by/among political journalists?

Method

Data Collection

We identified a purposive sample of journalists who could all be described as elite political journalists, drawing from the list of 5,783 credentialed congressional correspondents (in categories of daily press, periodical press, and radio/TV) found in the Congressional Directory for the 114th Congress of the United States.[2] To be credentialed, a journalist is vetted by The Standing Committee of Correspondents, which consists of five journalists elected by their peers. Journalists must permanently reside in Washington, DC, work full-time as a journalist, and be "editorially independent of any institution, foundation or interest group that lobbies the federal government, or that is not principally a general news organization" (Congressional Directory, 2016, p. 976). This credentialing is a requirement for joining the White House Correspondents Association, and most news outlets will also pro-forma apply to credential their Washington journalists. As such, the list is among the most comprehensive of Washington journalists.

From this list, we identified journalists with active Twitter accounts and updated the list, eliminating journalists who were identified as no longer working for a news organization or residing in Washington and confined our sample to English-language outlets. This list-building process took 2 months and was completed on May 31, 2017. Though this list inevitably changes, it is nonetheless a sample of journalists living and working in Washington who share key measures of occupational prestige: elite political journalists doing work considered worthy of permanent credentials to cover Congress.

Our purposive sample started with 2,506 credentialed Washington journalists with Twitter accounts. Using Twitter's timeline application programming interface, we collected 680,021 tweets posted by 2,292 accounts from February 1 to March 31, 2018, a 2-month timeframe that gave us both enough data and temporal specificity about significant news stories/events, giving us a better sense of the content Beltway journalists were talking about with each other on Twitter. To set the network boundary, we further narrowed our data set to only tweet conversations *among* the Beltway journalists. That included retweets, replies, and original tweets where a Beltway journalist *directly* referenced another Beltway journalist. Excluded tweets were those from accounts outsides of our sample that referenced Beltway journalists, as well as tweets from Beltway journalists that engaged with accounts other than those journalists in our sample. The final data set consisted of 133,529 tweets from 2,015 journalists (one-third of all credentialed congressional correspondents). Close to one fifth (19.63%) of these tweets were interactions with other Beltway journalists in the sample; if we included not just Beltway journalists, but all the journalists our sample engaged with, extant research suggests this percentage would likely be greater (Table 1 shows the percentage of in-group tweets within the specific communities).

We imported the final data set *Gephi* (Bastian et al., 2009) to visualize the internal patterns of clustering and inter-cluster relations among the Beltway journalists (Figure 1). Ties were formed based on three types of relationships, namely, mentions, retweets/quote tweets, and replies. A directed tie from user A to B was established when user A either mentioned user B in an original tweet or when user A retweeted or replied to user B's Twitter posts. In total, there were 137,620 directed ties (separate ties were drawn when one single tweet mentioned or replied to multiple Beltway journalists). Edges in the network were then "weighted" based on the number of ties between two Beltway journalists.[3]

Inductive Computational Analysis of Communities

Our work proceeds through a methodological innovation called inductive computational analysis (Usher, in press), which helps us address a methodological difficulty: the inability to understand at scale the enduring patterns of interaction among political journalists. Asking more than 2,000 Washington journalists, how they engage with peers, who they think they talk to the most, and how they use insights from others to develop their story frames and ideas is impossible to do given limited resources and still would have the limitation of only providing individual perspectives on peer-to-peer relationships. Observational work is also particularly challenging as regular access to spaces within the corridors of political power is difficult to obtain. Therefore, the aim of inductive computational analysis is to answer questions often

Table 1. Description for Each Prominent Cluster.

Cluster	# of journalists	Color Fig. 1	Major newsrooms in each cluster		Top 5 #hashtags		Top 5 @mentions		Word Cloud
19 Elite/legacy	611 (30.32%)	Red	Washington Post NBC News National Public Radio New York Times Politico		pal8 amr marchforourlives olympics syria	9.98% 7.20% 6.87% 5.07% 4.09%	usatoday realDonaldTrump AP PressSec SpeakerRyan	68.10%	
0 Congressional journalism	401 (19.90%)	Cyan	Bloomberg News Politico Associated Press Wall Street Journal CQ Roll Call C-SPAN		pharma biotech fda opioidcrisis cdc	14.71% 14.21% 10.97% 10.97% 9.73% 5.49%	WSJ AP cspan dcexaminer realDonaldTrump	56.49%	
8 The CNN cluster	212 (10.52%)	Green	CNN Thomson Reuters Time Magazine		awshow aw pal8 cnnsotu cpac2018	51.89% 8.02% 4.72%	CNNPolitics TheLeadCNN CNN realDonaldTrump PressSec	57.99%	
2 Television (producer)	193 (9.58%)	Grey	ABC News Fox News CBS News		foxnews superbowl breaking gooddaycharlotte olympics	21.76% 22.80% 19.17%	realDonaldTrump ABC CBSNews POTUS FOX46News	61.07%	
10 Local political news	189 (9.38%)	Brown	WRC–TV / NBC–4 WUSA–TV WTTG–Fox TV WJLA–TV / Newschannel 8 WTOP Radio		wmata breaking marchforourlives olympics oscars	20.11% 16.93% 14.29% 14.29% 9.52%	nbcwashington wusa9 WTOP fox5dc ABC7News	80.48%	

(Continued)

Table 1. (Continued)

Cluster	# of journalists	Color Fig. 1	Major newsrooms in each cluster	Top 5 #hashtags		Top 5 @mentions	Proportion of in-group interaction	Word Cloud
4 **Regulatory journalists**	128 (6.35%)	Blue	Bloomberg BNA E&E News S&P Global Market Intelligence	scotus osha omnibus epa oott	46.09% 25.78% 5.47%	EENewsUpdates EPA BloombergLaw EPAScottPruitt bloombergbna	76.39%	
7 **Foreign affairs**	101 (5.01%)	Orange	Voice of America Sightline Media Group Federal News Radio 1500AM	russia syria isis china northkorea	16.83% 8.91% 6.93%	Militarydotcom WashBlade POTUS DavidLarter LosAngelesBlade	64.56%	
5 **Longform/ enterprise**	79 (3.92%)	Purple	McClatchy BuzzFeed The Atlantic Stateline.org Thomson Reuters	scotus pa18 oscars trump metoo	22.78% 16.46% 12.66% 10.13% 7.59%	POTUS pewtrusts PressSec dominicholden BuzzFeedNews	56.11%	
1 **Social issues**	67 (3.33%)	Grey	BBC Education Week	marchforourlives edtech puertorico cpac2018 parkland	43.28% 22.39%	educationweek realDonaldTrump SmithsonianMag BetsyDeVosED BBCWorld	55.10%	

$N = 2{,}015$; Modularity = .36; A chi-square test for independence showed a significant relationship between newsrooms and cluster assignment, χ^2 (11,603) = 37,500, $p < .001$ (Effect size using Cramer's $V = .674$).
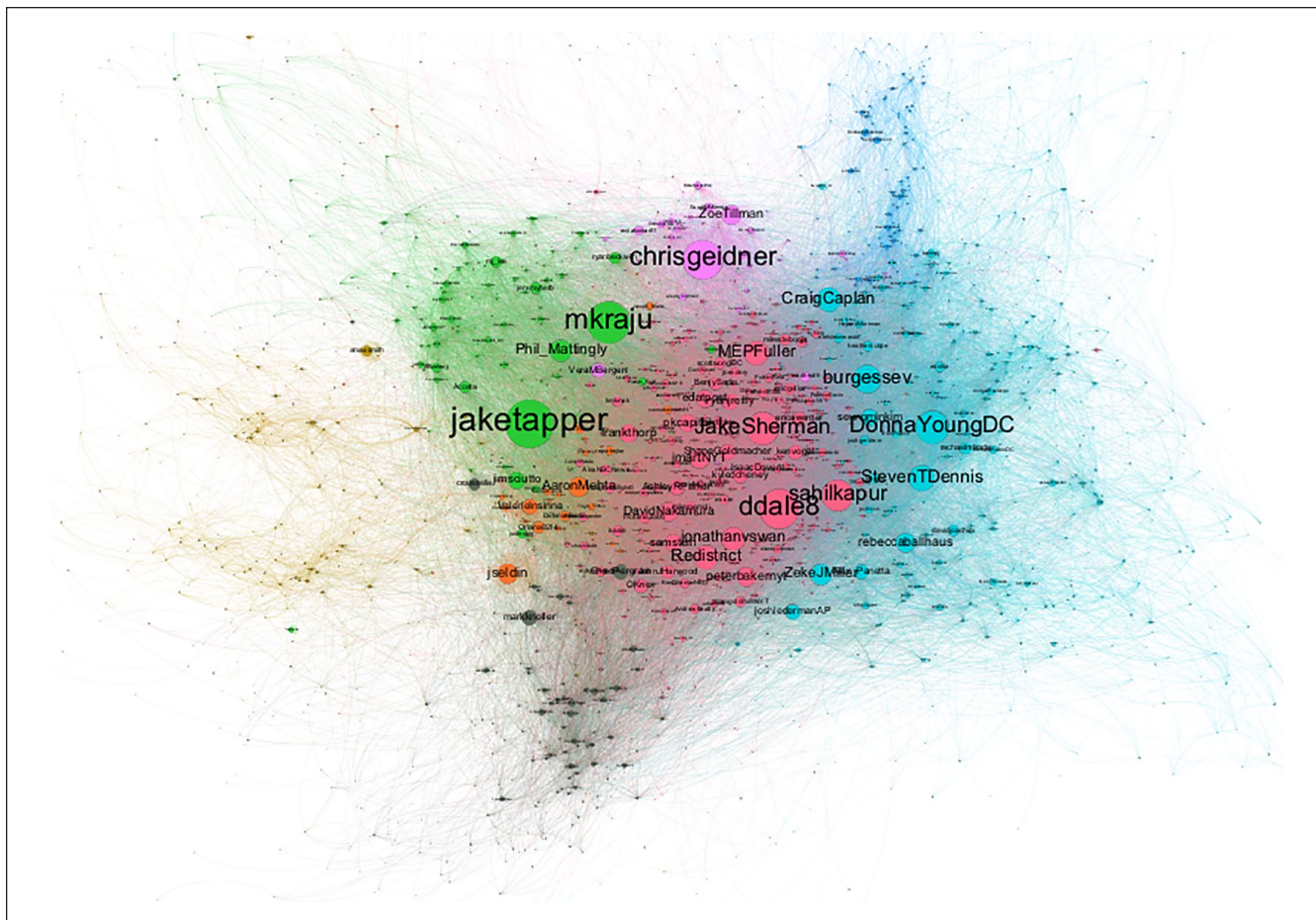
Figure 1. Twitter network graph between 2,015 DC journalists.
Note. Nine major clusters are highlighted (colors can be referred in Table 1); node size depends on in-degree centrality.

posed by a qualitative researcher by "interviewing" and "observing" big data sources instead of (or in addition to) interviewing and observing a population of interest.

As we were interested in understanding how CoPs of Beltway journalists interact and engage, we applied network community detection to identify clusters of journalists that have strong within-group connectivity versus between-group interactions. One of the pertinent properties in real-world social networks is their community structures. Generally, a community is defined as a group of nodes (i.e., journalists in this study) having similar affiliations different to the rest of the network (Yang et al., 2010). Community detection identifies cohesive subgraphs of users that are more densely connected to each other than to the rest of the network (Papadopoulos et al., 2012). We specifically used the Louvain modularity algorithm (Blondel et al., 2008) to examine the community structure, where a zero modularity score represents randomly connected networks and a score greater than .3 infers networks with substantial community structure (Newman & Girvan, 2004). This algorithm performs particularly well on large and weighted networks (Blondel et al., 2008; Lancichinetti & Fortunato, 2009) as well as networks

based on social media (e.g., Haynes & Perisic, 2009). The output of community detection usually results in networks with hundreds of identified clusters with many clusters only containing a few users; however, little research has provided an appropriate cut-off number to analyze clusters (Guo et al., 2018). As such, we chose to analyze clusters that contained at least 1% of the network's total users.

Our inductive computational process was iterative; we looked for key trends and used extant theory to guide our interpretation, a process similar to more traditional qualitative coding. In addition to investigating the network structure, we also studied the degree of professional connectiveness/insularity among Beltway journalists by examining the types of interactions that connected users within a community and which newsrooms these interactions came from. We took the output of the community detection analysis and used these network graphs, along with a frequency analysis of top hashtags and top mentions in each community, as well as a word cloud analysis of most frequently occurring words within the corpus of journalists' Twitter bios to help us posit why certain patterns of interactions might be observed. We also looked at prominent accounts in each community and

referenced our original list of journalists, which contained additional information about journalists' beat specializations, past work history, educational background, and time spent in Washington. While we did not specifically examine the semantic and sentiment content of tweets, frequent hashtags and mentions allowed us to compare whether these communities exhibit strong single-mindedness, giving us insight into how knowledge is exchanged and among whom. This interpretative process added an additional, explanatory layer to the social network analysis.

Results

Our research questions are intentionally broad—we do not expect to be able to definitively describe, in detail, specific instances of how journalists are sharing knowledge and establishing consensus on or off Twitter, though asking why their communities form the way they do on Twitter gives us a sense of patterns of interaction at scale. We find that Beltway journalism, long presumed to be insular and conventionally understood as a monolithic journalistic culture, instead consists of nine major CoPs, each with its own epistemic culture. Findings suggest that journalists do seem to be in communities with those working at the same news outlets, but organizational affiliation alone does not explain the heterogeneity. Rather, based on our analysis, these epistemic communities can be explained by different rationales, such as shared media format, a reputational association, or common orientations in news coverage.

> RQ1. What are the peer-to-peer dynamics in political journalism?

Community detection revealed nine major clusters. The modularity value was .36, indicating strong community structure (Newman & Girvan, 2004). Figure 1 provides a visualized network of Twitter interaction among Beltway journalists with nodes and edges colored according to the group that the nodes belong to.

Each community reflected several distinct dominant news outlets (Table 1). A chi-square test for independence reflected a very strong relationship between newsrooms and cluster assignment (χ^2 (11,603)=37,500, $p<.001$, Cramer's $V=.67$), confirming that Beltway journalists indeed clustered according to their professional affiliations, though this alone did not tell us much about underlying logics of the clusters themselves.

> RQ2. Why might these community dynamics occur?

> RQ3. What kind of knowledge is shared by/among political journalists?

Using inductive computational analysis, we relied on biographical data, word cloud insights, and hashtag/mention analysis to interpret these nine communities. An assessment of in-group interactions provided us with a measure of "insularity" for each cluster. We identified those nine communities as elite/legacy; congressional journalism; CNN; television (producers); local political news; regulatory journalism; foreign affairs; longform/enterprise; and social issues. In the following section, we further describe our rationale for assigning these characterizations to each community (*RQ2*). We use top hashtags, mentions, and the community characterization from *RQ2* as indicators of the types of sense-making processes at work within these clusters (*RQ3*). As the analysis was inductive, analysis of *RQ2* and *RQ3* worked recursively, with insight from one query informing the other, and thus are discussed together.

The Elite/Legacy Community

Based on our analysis, Cluster 19 was the largest community. It can be thought of as the *elite/legacy* community: it contained the largest grouping of legacy news outlets, suggesting a dense clustering of the most esteemed news brands among each other. Outlets included *The Washington Post, NPR, The New York Times*, and NBC News, and a smaller but still notable portion of *Politico* journalists. Word clouds helped reveal trends in the Twitter bios of these journalists, with "politics" and "White House" being the dominant self-descriptions of coverage areas, suggesting that these journalists are more likely to be covering general interest political news and may spend most of their time at The White House. RQ3 queries what kind of knowledge is being discussed. Proxies such as top hashtags and mentions suggest this cluster is focused on general interest political news. Top hashtags include a Pennsylvania House of Representatives special election, the March for Our Lives, the Olympics, and Syria.[4] This is further bolstered by the fact that the PressSec handle is among the top five mentions, suggesting that these journalists are on hand to cover the press secretary or are otherwise concerned with reporting information from The White House. Notably, this is the largest cluster (30.2% of our sample) and also highly insular—of the tweets from journalists in this group, 68.1% are to other journalists in this cluster, providing further support for *RQ3* and our concern about insular epistemic communities.

The Congressional Journalism Community

Cluster 0, the second largest community of journalists, included journalists from *Bloomberg, Politico*, the *AP, The Wall Street Journal, CQ/Roll Call*, and *C-SPAN*. Findings suggest this epistemic community was organized around peer-to-peer relationships of journalists who were "inside Beltway journalists" with topical beats and whose mandate it is to cover what it is happening in Congress (*RQ2*). Further support for this analysis emerged from the top five hashtags. The top hashtags were "wonky"—pharma, biotech, FDA,

opioid crisis, and CDC, giving us a sense that the knowledge being exchanged was subject-specific (insight into *RQ3*). While the hashtags might suggest a health policy focus, the word cloud and bio data revealed a wider range of reporting responsibilities, such as tech, banks, trade, health, and business *(RQ2 informed by RQ3)*. "Policy" jumped as a weighted word; the weighting of "Politico Pro" reflected the presence of *Politico* journalists who work for a separate, subscription-only service focused on niche issues; these journalists are paid to be beat experts covering Congress. But it was not so niche that it was detached from broader conversations, and top mentions are primarily of other media organizations and the President's Twitter account. This builds support for journalists building knowledge (or at least discussing it) from the work of other journalists, with over 56% of the tweets in this cluster directed at the in-group *(RQ3)*, and for specific attention paid to Congressional developments (the AP and CSPAN, both of which provide gavel-to-gavel coverage; *RQ2*).

The CNN *Cluster*

Cluster 8 can be defined as the *CNN* cluster. While the cluster was not entirely homogeneous, *CNN* journalists were over 50% of the cluster's composition *(RQ2)* Notably, Jake Tapper, the most influential journalist in our network as measured by weighted in-degree, promotes and is promoted by the *CNN* community. The following top three mentions suggested a preoccupation with organizational branding: @CNNPolitics, @TheLeadCNN (the show hosted by Jake Tapper), and @CNN itself. Top hashtags included references to Tapper's weekend show, CNN State of the Union, a special election congressional race in Pennsylvania, and the CPAC conference that happened outside Washington during data selection. The PressSec account also appeared as a top mention, perhaps indicative of CNN's highly public "battle" with the Trump White House. Overall, in assessing *RQ3*, this *CNN* cluster suggests a dense peer-to-peer network where CNN content is amplified and reamplified, as well as a focus on "inside the Beltway" interests such as CPAC and, possibly, *CNN*'s relationship with The White House, a "CNN Twitter," that was highly self-referential and insular (57.99% of the tweets were within and among the cluster).

The Television (Producer) Cluster

In Community 2, the three biggest news organizations represented were *ABC News, Fox News*, and *CBS News*. Interestingly, two other TV networks were in different clusters: *CNN* (on its own) and *NBC* (in a mix of primarily legacy, newspaper outlets). This is likely because NBC has multiple platform divisions, namely, broadcast, cable (*MSNBC*), and a large digital team responsible for text-based reporting; its correspondents may have more common ground within the elite/legacy cluster with the other TV networks. While one might presume *Fox News* journalists

would not be engaged with news organizations that the network accuses of left-wing bias, this was not the case. In trying to unpack the inclusion of Fox journalists in the television community, we considered additional factors, such as whether or not there were strong ties like past shared work history. The most notable explanation for peer-to-peer relationships within this community was that these journalists mostly self-described as TV news producers *(RQ2)*. Hashtags reflected interests in topics beyond just political news, such as the Super Bowl and the Olympics, suggesting television specific-news judgment with an eye toward entertainment (Lotz, 2009). Notably, this was the only cluster to have #breaking as a top hashtag. This may reflect the importance of the producers' role in flagging emerging news stories and considering their merit for possible segments on their news shows. Inquiry into the CoP of producers, wherein Twitter facilitates surveilling other producers' possible booking and segment-planning decisions, could provide additional evidence of mimicry and consensus formation *(RQ3)*.

Community of Longform/Enterprise

Cluster 5 is a longform/enterprise cluster. Members' Twitter bios contained a nuanced mix of specialty political beats. The word "investigative" was featured prominently, as were other words, such as "justice," "immigration," "security," and "national security," "supreme"(court), and, amusingly, "nerd." Top hashtags, while reflecting dominant issues in the news, also suggested more thematic rather than episodic coverage; this was the only cluster that had #metoo and #scotus as top hashtags. Similarly, "pew trusts" appeared as a top mention, which was the only top-ranking reference to a thinktank across our data set, suggesting that these journalists may be sharing knowledge about these thematic stories relevant beyond the day's news *(RQ3)*. The outlets that were most represented in this cluster were *Buzzfeed, McClatchy*, and *The Atlantic*, all of which self-described as avoiding "the stories of the day"-type of reporting and instead focus on impact-driven scoops or insight analyses (Critchlow, 2015; *McClatchy* DC correspondent, personal communication, March 2, 2018; *RQ2*).

The "Local" Political News Community

Cluster 10 is a Washington local news cluster. Washington local news, which serves the largest concentration of federal employees in the United States, also anecdotally may provide more political news adapted for a local level. Not surprising for locals who were experiencing ongoing frustration over DC's subway, the @wmata metro account was a top mention. One of the top hashtags was #marchforourlives, which reflects local interest in political news. As with most other clusters, the top mentions outside the network of Beltway journalists' accounts were self-referential to the most-represented news outlets. This community of

Washington journalists within the larger Washington political journalism Beltway was the most insular, as 80.48% of these tweets were in-group.

Communities of Regulatory Journalists, Foreign Affairs, and Social Issues

Clusters 4, 7, and 1 also showed coherence in their topical connectivity. Cluster 4 was dominated by *Bloomberg BNA* (46.09% of the cluster) and also included specialty news outlets such as *S&P Global Market Intelligence* and *E&E News*. The top hashtags reflected regulatory concerns such as #osha (occupational health and safety), #epa (environmental protection agency), and #omnibus (a reference to an infrastructure bill). Cluster 7 journalists were predominantly focused on issues in foreign affairs and the US military. Members' Twitter bios included "pentagon," "foreign," and "military." Top hashtags all reflected a preoccupation with foreign affairs (#isis, #china, etc.). Finally, Cluster 1, the smallest cluster, included outlets concerned with social issues, such as education and gun violence. Each of these three clusters showed smaller, topically specific rationales for peer-to-peer engagement; biographical data and outlets offered a clue to their composition and community rationale, while key mentions and hashtags served as proxies for knowledge exchanged (*RQ2* and *RQ3*),

Overall, this analysis of CoPs gives us an understanding of some of the organizing logics of the various Beltway journalism Twitter communities. We cannot answer what each journalist happens to be learning from Twitter and how her engagement on Twitter informs her work. However, we can see peer-to-peer engagement at scale. Within an already insular system of knowledge production and sense-making, we find concentrated clusters that are more variegated than a single version of "Beltway journalism." Nonetheless, these CoPs show smaller silos, or microbubbles, of high-ego actors who have tremendous power to shape public information but who are also vulnerable to groupthink, blind spots, and the warped logic that results when an epistemic community folds in on itself, as Knorr Cetina warns.

Discussion

This project offers two interventions to augment our understanding about the news production processes of elite political journalists. First, it introduces the productive potential of a CoP approach, which can illuminate not just how peer-to-peer dynamics influence social learning, consensus, and shared practices, but also provides an entry-point for critical inquiry into the consequences of powerful actors inhabiting insular epistemic communities. Second, the article suggests a way to use big (or biggish) data from social media platforms in ways that can be conducive to more qualitative, humanistic questions of the kind we have asked here. Indeed, research

questions approached from this perspective do not have to have definitive answers resolved by the case.

Our approach shows how loosely distributed networks of powerful political journalists self-organize in different CoPs (*RQ1*) and then explores the different logics for these CoPs (*RQ2)* to consider what kinds of knowledge-generation and shared practices might emerge (*RQ3)*. Our findings suggest even smaller, more insular communities of journalism that function as silos or even "microbubbles" with their own sets of concerns. We know from existing research that these journalists are engaging in story ideas, joking around, and burnishing their own careers (Kreiss, 2016; Mourão, 2015). They are doing so, however, within even smaller communities of like-minded journalists that have been previously considered. If journalists are talking to even smaller groups of journalists who share similar orientations, there is a real concern about the limitations of these epistemic communities in generating knowledge and information for the public. In these insular epistemic communities, newness is controlled and incorporated within these power domains (Barnes, 2005), and critique that veers outside the norm of general banter or the emerging consensus may be disregarded. Indeed, these microbubbles risk folding in on themselves, as Knorr Cetina (1999) suggests. In particular, it is concerning that *CNN* journalists are tweeting mostly to other *CNN* journalists about *CNN*. Even if this is an organizational mandate, it nonetheless serves as a powerful echo chamber that leaves *CNN*'s internal sense about what news matters unchecked and reconfirmed by those who work there. On Twitter, a platform absolutely integral to the political journalism news production process, *CNN* journalists have limited engagement with other Beltway journalists.

Previous research has suggested that journalists care more about their own branding than their organization's; this self-branding tactic is a hedge against the precarity of the news industry (Molyneux, 2015; Usher, 2014). However, across all clusters, we find that top mentions are often referential to the top media organizations represented in each cluster, which suggests Beltway journalists prioritize branding the organization they work for. Organizational affiliation is not a sufficient enough explanation for the heterogeneity of the communities, but these organizational ties provide an important counterpoint for previous presumptions about self-branding practices among journalists.

Would these communities look different given a different temporal slicing of the data? Perhaps. While the specific concentrations of the makeup of journalists might change, the underlying rationale for each epistemic community's practice orientation around specific knowledge production would likely be consistent, given what we have observed based on the biographical details of Twitter bios, the range of organizations represented, and thematic consistencies among hashtags and mentions. Here, we focused on a single network in isolation, but the triangulation of several network

structures (e.g., of follower networks) might illuminate other insights. We acknowledge our normativity in suggesting that media diversity in Washington should be desirable. However, these patterns on Twitter may be suggestive of an even more self-reinforcing journalistic experience than research has previously acknowledged.

Normativity aside, this research reveals that Washington journalism is far more nuanced than it might seem. In addition to the sub-communities of journalists, the epistemic foundations for their clusters suggest the importance of remembering there are multiple audiences and multiple stakeholders outside the generally accepted waterfall schematic of press–politics–audiences (Entman, 2004). These sub-clusters within Washington may be less immediately visible but they are not necessarily less important, and their potential influence on political actors and other journalists, not to the public, deserves our attention.

This research calls for more detailed analyses of media elitism in the United States and elsewhere. The dangers of journalists having limited perspectives are real. While this study does not purport to show possible worsening over time, it does provide support that shows siloed communities of journalists and thus offers an important, empirically grounded caveat about their vulnerability to groupthink and blind spots. While political journalists have been traditionally explored as part of the source-journalist "tango" (Gans, 1979) and examined within a broader political communication structure (cf., Entman, 2004), to stretch a metaphor, we argue it is important to consider what happens when journalists are dancing with other journalists, who they pick as partners, and the songs they dance to.

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Notes

1. We sidestep the problematizing of "knowledge" and "community" as concepts in this article, as Knorr Cetina and others have made this central to their point of inquiry in the area literature.
2. Data from https://www.journalism.org/2015/12/03/the-numbers-overall/
3. Github link: https://github.com/margaretnym/BeltwayJournalists
4. The list of top hashtags also surfaces AMR, which stands for Andrea Mitchell Reports; Mitchell tags all of her tweets with #AMR, which significantly inflated this hashtag count.

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