

Chapter 7

Parsing the Online Ecosystem: Journalism, Media, and the Blogosphere

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Introduction

Familiar questions about whether blogs and other web-native media are obsoleting legacy mainstream media, particularly institutional journalism, tend to oversimplify the matter. New and old forms are held up as antagonists in a zero-sum fight over eyeballs, money, quality, professionalism, and legitimacy. The key question is taken to be about where people will encounter their news, entertainment, and other media objects, and secondarily about qualities of those objects. Will weblogs replace newspapers as primary sources of information? Will online video downloads reduce television viewing hours? Are the articles as fair, opinions as informed, and facts as correct coming from a new media source as from an old one? These questions are important, not least to legacy media institutions, but there is a bigger picture to consider as the Internet continues to rewire society's collective nervous system.

We tend to view current changes through an accustomed lens and ponder what is going on with “the media” in the face of the Internet. It is taken to be a story about information consumers and their preferred troughs: readers and their newspapers, couch potatoes and their TV shows, commuters and their radios, the peanut gallery and the stage. In truth, we are witnessing a recasting of the socio-technical infrastructure of public communication in which the line between audience and stage is blurring; public discourse is less a lecture and more a conversation (Levine, 2001). Cyber-utopian hype notwithstanding, this emerging conversation is not and probably never will be particularly egalitarian. Some voices will always speak louder than others. But there are a lot more voices, and more importantly, these voices are enmeshed in structured, self-organizing, and at least somewhat meritocratic networks of interest and expertise that *produce* information, knowledge, and opinion as much as they *transmit* and *consume* them. But while legacy media institutions face very real commercial challenges in the new information ecosystem, they continue to perform a central role. Continued pride of place in the emerging *networked public*

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sphere, to use Yochai Benkler's phrase (Benkler & Ebrary Inc., 2006), is available to those that adapt and survive. But as the mass media era passes and the theatre of public communications becomes a circus, newer versions of these old players will compete for center ring, as there will be no center stage.

The empirical core of this analysis demonstrates several things about the vibrant new network environment of blogs, online media, and other websites. First, emergent clusters of similarly interested bloggers provide structure to this network, shaping the flow of information by focusing the attention of thematically related authors (and their readers) on particular sources of information. Second, the network includes new actors alongside old ones, knit by hyperlinked multimedia into a common fabric of public discourse. And third, legacy media, particularly journalistic institutions, are star players in this environment. These points reinforce and ground some observations we can already make about the ways in which Internet-based technologies, and the manifold genres of interaction they afford, are re-architecting public and private communications alike and thus altering the relationships between all manner of social actors, from individuals, to organizations, to mass media institutions.

Many Networks, One Text

The online genre we call a "weblog" or "blog" is now employed by virtual every sort of entity represented online. Firms, groups, organizations, clubs, government offices, schools, political parties, event organizers, and on and on now have blogs, publishing streams of posts about whatever serves their objectives, which are many and varied. Blogs by individuals in particular demonstrate a wide variety of purposes; professional, social, and personal goals are frequently accomplished on the same blog. Originally viewed essentially as a form of amateur editorializing, aimlessly un-directed at whomever in the big anonymous world might happen to care, blogs have come to serve actors at all levels of social scale, in pursuit of all manner of ends, as a key interface for public interaction.

Interaction *with whom* becomes a very interesting question. Because they are publicly visible, as opposed to other more private modes of online interaction with known and selected actors, blogs are promiscuously available representations of what a person or organization would like the world to know. In practice however, it is not the world at large that cares about the content of any given blog, but specifically interested others, as often arise around offline social configurations with which we are quite familiar. Networks of blogs bring together parents, open-source software geeks, citizens riled up about ideologically polarized political issues, hobbyists of many stripes, far-flung academic colleagues, celebrity fans, cat lovers, and in short, interest groups, communities of practice, and all manner of networks that exist offline as well in some recognizable form. Certainly there are new networks we could identify as web-native, but mostly blogs serve as the public interface for a wide variety of "real world" *weak tie* networks.

Online readers typically navigate hyperlinked chains of related stories, bouncing between numerous websites, returning periodically to favored starting points to pick up new trails. The collection of hyperlinks that structures a reader's experience also comprises a network, which is itself a sub-network of the enormous tissue of links connecting most sites on the global Internet. As the number of blogs has increased in recent years, this "citizen generated" network is quickly becoming the Internet's most important connective tissue. The combination of text and hyperlinks (and increasingly, *hypermedia*) makes the blogosphere arguably as much like a single extended text as it is like an online newsstand. And to the extent that readers' patterns of browsing tend to follow the direction of links available in this hypertext network, the structure of the blogosphere suggests a kind of "flow map" of how the Internet channels attention to online resources. The blogosphere is a text authored by emergent collectives: public, persistent, universally interlinked yet locally clustered, and representative of myriad social actors at all levels of scale. It is not simply "media" in the familiar sense of packets of "content" consumed by "audiences."

The Blogosphere and Online Media: A Network View

Blog networks contain a number of different kinds of hyperlinks. There are links for navigation, links to archives, links to servers for embedded advertising, links in comments, and links to link tracking services, among others. This analysis is concerned with links that represent the conscious choices of bloggers, and these fall mainly into two categories: *static* and *dynamic*. Static links are those that do not change very often, and are typically found in the "blogroll," a set of links a blogger chooses to place in a sidebar. Blogroll links are created for different motivations, but the network formed by them is relatively stable, and represents a collective picture of bloggers' perceptions of the blogosphere and their own positions within it. *Dynamic* links change frequently, and typically represent links embedded in blog posts, a hard measure of a blogger's attention. Analysis of dynamic links allows identification of groups of bloggers who are more "attentive" to similar online links. Over time, they share preferences for linking to sets of online resources, including mainstream media (MSM), other blogs, NGOs, local community websites, and government. These *attentive clusters* comprise bloggers who share common interests and preferred sources of information. Identifying these clusters and discovering how they drive traffic to particular online resources is the key to understanding the online information ecosystem.

Before looking at how different communities channel online attention, however, a baseline view of the whole is in order. Figure 7.1 shows the distribution of dynamic links over the past year (links in blog posts) from the 10,000 most highly linked English language blogs. On the left we see that the most popular outlinks (websites linked to by these blogs) account for a large proportion of the dynamic links from bloggers. A "long tail" of increasingly smaller players gathers the rest. The top 100 outlinks, of which only 24 are blogs, account for 37.6% of all dynamic links.

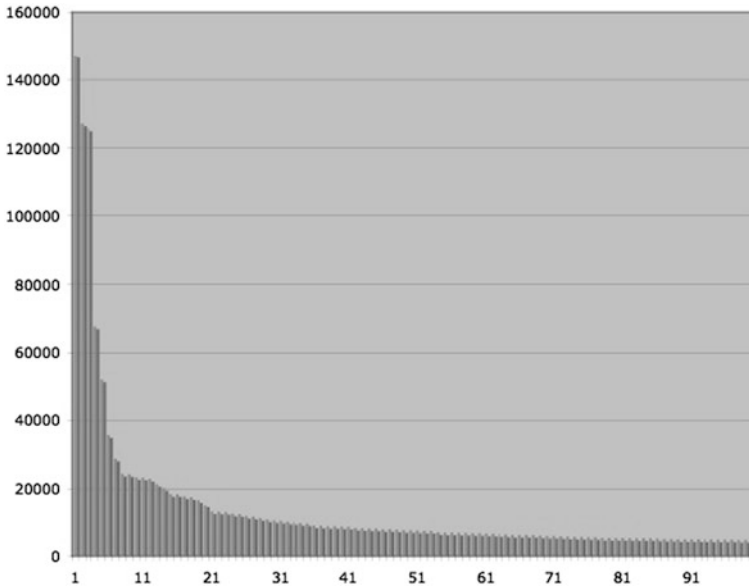


Fig. 7.1 Distribution of dynamic links among top 100 sites

Remarkably, the top 20 outlinks alone account for nearly a quarter (22.4%) of all dynamic links. And the blogosphere channels the most attention to things besides blogs. Of the top 10,000 outlinks, only 40.5% are blogs, and these account for only 28.5% of dynamic links. In fact, the websites of legacy media firms are the strongest performers. The top ten mainstream media sites, led by *nytimes.com*, *washingtonpost.com*, and *bbc.com*, account for 10.9% of all dynamic links. By contrast, the top 10 blogs account for only 3.2% of dynamic outlinks. And though the top 10 web-native sites (blogs, Web 2.0, and online-only news and information sites combined) account for 10.8% of dynamic links, two-thirds of these (7.2% of total) are due to Wikipedia and YouTube alone. Legacy media institutions are clearly champion players in the blogosphere.

Another way to understand the role of MSM in the blogosphere’s attention economy is to analyze the network of outlinks formed by co-citations. Co-citation analysis has been used to map the structure of scientific and scholarly disciplines,¹ and similar approaches used in power structure research.² If we construct a network in which each node is an outlink, and each tie represents that one or more bloggers linked to both sites, we in essence draw a map representing the collective allocation of attention by the blogosphere. As Fig. 7.2 shows, the co-citation network of outlinks is highly centralized (unlike, as shown later, the social network map of the blogosphere itself). The large dot at the center of the map is *nytimes.com*, and other MSM websites are also clustered at the center of the map. Websites of niche interest to smaller numbers of bloggers are located farther from the center, in proximity to other sites favored by the same bloggers. The map shows how, despite the large number of interest-specific, niche sites on the Internet, websites of the legacy

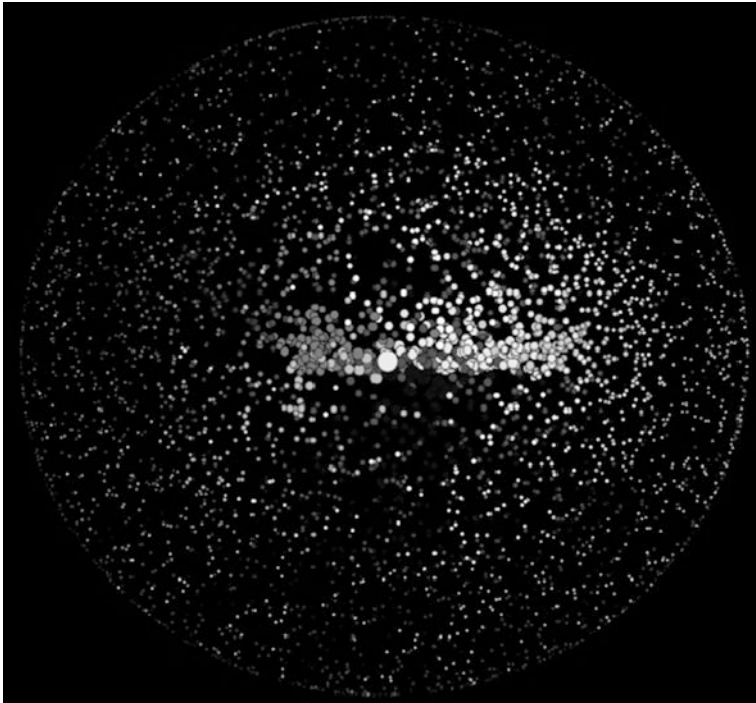


Fig. 7.2 Co-citation network of links from top 10 K bloggers

media, along with newer players like YouTube and Wikipedia, in fact form a locus of common attention for the blogosphere.

The fact that bloggers share a number of common targets of attention does not mean they lack divergent tendencies as well. Bloggers link preferentially to other bloggers who share common interests, and this tendency is especially pronounced for political bloggers, who have a strong tendency to link to their ideological friends. Similarly, bloggers who focus on particular topics and interests will link to sites that serve that niche. So both tendencies are present: blogs channel attention to common resources like the MSM as well as to divergent online resources (e.g., organizations, businesses, interest groups, niche publications, other blogs).

Blogs and the Fabric of Hyperlinked Attention

The blogosphere is not an undifferentiated mass, and therefore as a lens for social attention it is not monocular. It is often described as a kind of haystack, hierarchically organized with a famous A-list on top and B–Z lists extending downward to a floor of complete obscurity. But the blogosphere has a complex yet ordered network structure, formed by billions of individual choices by millions of bloggers about whom and what to link to. Large-scale regularities in these choices result in pockets

of network density around things people care about, for one reason or another. These comprise informational communities in which ideas and information spread quickly. The preferences that lead clusters of bloggers to link to one another with disproportionate frequency also lead these clusters to link preferentially to other things, such as particular media sources or NGOs. Each one of these clusters is thus like a lens, focusing attention on particular sets of online resources.

By identifying some particular clusters of blogs and examining their relative frequencies of linking to large numbers of other websites (outlinks), we can observe this preferential linking phenomenon and identify those sites that have particular influence among key communities of bloggers. This approach provides a method for qualitative understanding of the principles behind the formation of particular network clusters, as well as insights into the role of mainstream media, civil society organizations, and other actors in the “ecosystem” of online communications. Whether or not a blogger links to the New York Times, or YouTube, or Wikipedia reveals very little about his or her interests. At some point, the majority of the top 10,000 bloggers link to each of these three sites. But other, less dominant sites are preferred by particular clusters of bloggers, receiving a far greater proportion of links from them than random chance would allow. Studying the proportion of links from particular sets of bloggers shows the patterns of preference.

The English language blogosphere contains bloggers from across the world. There are native-speaking English bloggers from Britain, Australia, Canada, and New Zealand for instance, and bilingual bloggers from every part of the world who for one reason or another choose to blog in English as well as, or instead of, their native tongue. The latter include members of diasporic or expatriate communities (e.g., many Iranian bloggers), bloggers seeking a global audience (e.g., many African bloggers), and members of networks of practice (e.g., software developers) which benefit from globally shared information. But the largest network structures found among English language weblogs are formed by American bloggers, and in particular political bloggers. Analyzing political blogs around the 2004 elections, Adamic and Glance³ found a large network structure of blogs, clustered into two ideological groups (liberal and conservative), with most links occurring within clusters, but some across them. The current approach, which selects blogs for mapping on the basis of global network prominence (in-degree) without regard to any prior assignment to thematic categories (e.g., political, parenting, technology), is able to locate these large political clusters as well as a number of other clusters which upon subsequent analysis prove to have their own thematic foci, including *technology*, *parenting*, *science/medicine*, *celebrity/entertainment*, *law*, and *security/strategic foreign policy*.

Figure 7.3 presents a social network diagram of the most highly cited (linked to) 8,000 weblogs in the English language blogosphere.⁴ The map uses a physics model algorithm⁵ to visually cluster weblogs, represented by dots, into network neighborhoods. In the map, each weblog is represented by a dot. The size of the dot is the number of other blogs which link to it, a measure of its prominence. A general force acts to move dots toward the circular border of the map, while a specific force pulls together every pair of weblogs connected by a link. In this way, the connected tissue of weblogs curdles into its more densely interlinked neighborhoods. The shade of a

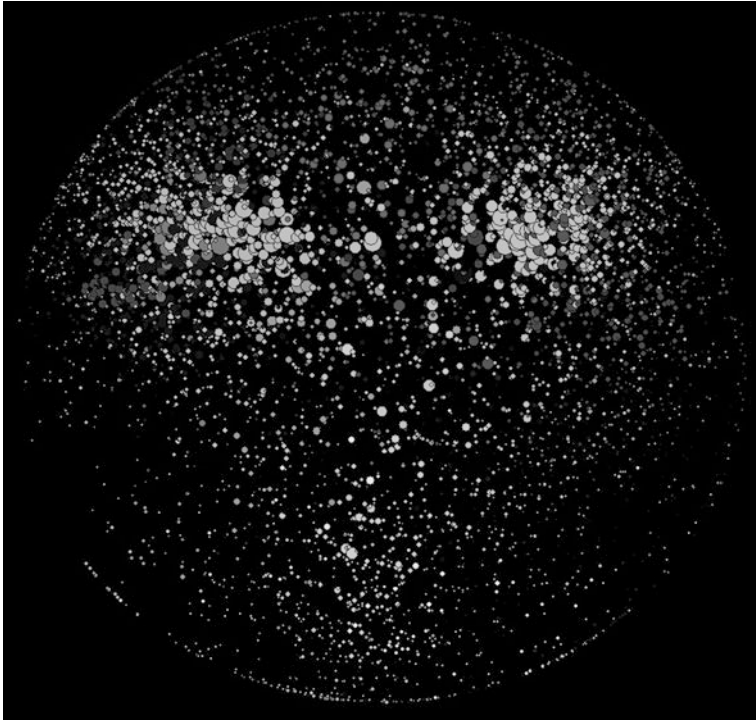


Fig. 7.3 Social network map of the English language blogosphere

dot represents its assignment to a particular *attentive cluster* based on its dynamic link history. Groups of blogs represented by the same shade link to similar things, statistically speaking.

In this map we see the prominence of US political discourse in the network. The two large clusters in the upper region represent liberal and conservative political blogs and are the most visible concentrations on the map. To be clear, this does not mean that most English language blogs are political. Most are not. It means that the largest structures are political, which is to say that political discourse organizes more bloggers into densely linked network neighborhoods than any other topic of online discourse. Note that the liberal and conservative poles break down into a collection of different *attentive clusters*. These allow us to observe different tendencies and interests among bloggers on the same side of the political divide. Some of these clusters are easy to characterize, focusing clearly on such things as Middle East politics and a perceived clash of values with the Islamic world (on the conservative side), and identity politics (on the liberal side). Others are harder to put a label on, but seem to represent differences in principle areas of concern, such as social values vs. military/foreign policy issues (conservative) and local vs. “inside the Beltway” discourse (liberal). Both sides have a core group comprising recognized “A-list” bloggers and others who are more central in the network.

In addition to clearly political clusters, which are embedded in either *liberal* or *conservative* network poles, and non-political clusters, such as exist around technology and parenting, there are two attentive clusters that “straddle” both political poles and also have members outside the political structures. These are (1) law and (2) security. There are weblogs focused on legal matters on the political left and on the political right, whose link history profiles are nonetheless more similar to each other than to their own ideologically aligned cohort. The same is true for security, e.g., foreign policy, strategic studies. Both of these clusters exist around elite specialists in fields with their own prominent publications and organizations.

Link Preferences of Attentive Clusters

Considering the range of themes that organize links in the blogosphere, politics may be unique in organizing meaningfully “bipolar” network structures, where ideological opponents form twin galaxies of contentious discourse. But, as important as politics are, most clusters of interest in the blogosphere (at least in English) are not oppositional in nature. In the blogosphere map used for this study, non-oppositional clusters form around such things as law, security, parenting, science and medicine, technology, and weblogs from the UK and other English speaking countries, among others. In addition to these, we can also look at particular attentive clusters within each political pole, and consider the individual preferences that distinguish them from the rest of the global network, including other clusters in the same ideological category. Attentive clusters of bloggers with similar outlink preferences can be detected wherever a large group of bloggers collect around a set of concerns or issues. Preference measurement requires comparison of the link behavior of these clusters with the rest of the network as a whole.

Figure 7.4 provides an example of a *group focus* graph. These graphs plot each outlink’s in-degree (total number of blogs in the entire map that cite it) on the *Y*-axis and a standardized measure of link density from a particular attentive cluster on the *x*-axis. The latter represents the degree to which the particular outlink is of disproportionate interest to the attentive cluster being analyzed, a measure we will call the *cluster focus index* (CFI). The higher the *CFI* on *X*, the more disproportionately attentive the cluster is to the node in question. A low *CFI* score indicates that the density of links from the profiled attentive cluster more closely matches the average density across the network. Nodes of general interest across most clusters, like YouTube and the NY Times, score low *CFIs* on most cluster profiles. In Fig. 7.5 we see scores for an attentive cluster focused on law, and some examples of websites with high *CFIs* are indicated. The node marked *A* is “prawfsblawg.blogs.com,” a group blog authored by law professors at various universities. Nodes *B* and *C* indicate “papers.ssrn.com” (a site for downloading research papers) and “www.abanet.org” (the website of the American Bar Association), respectively. These examples show how this cluster of legal bloggers direct readers to blogs, organizations, and other online resources serving their particular network of professional practice.

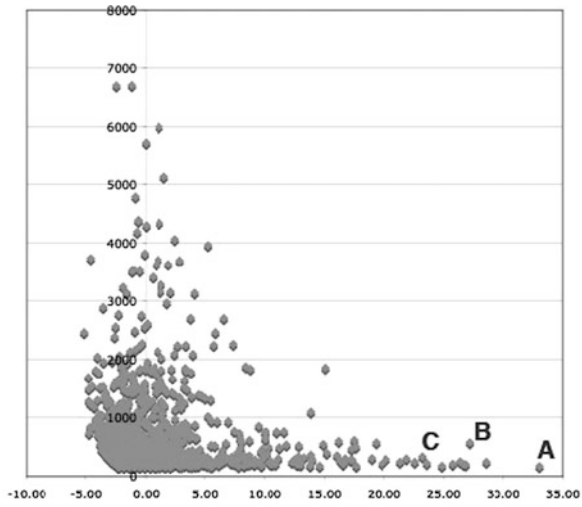


Fig. 7.4 Group focus graph for law cluster

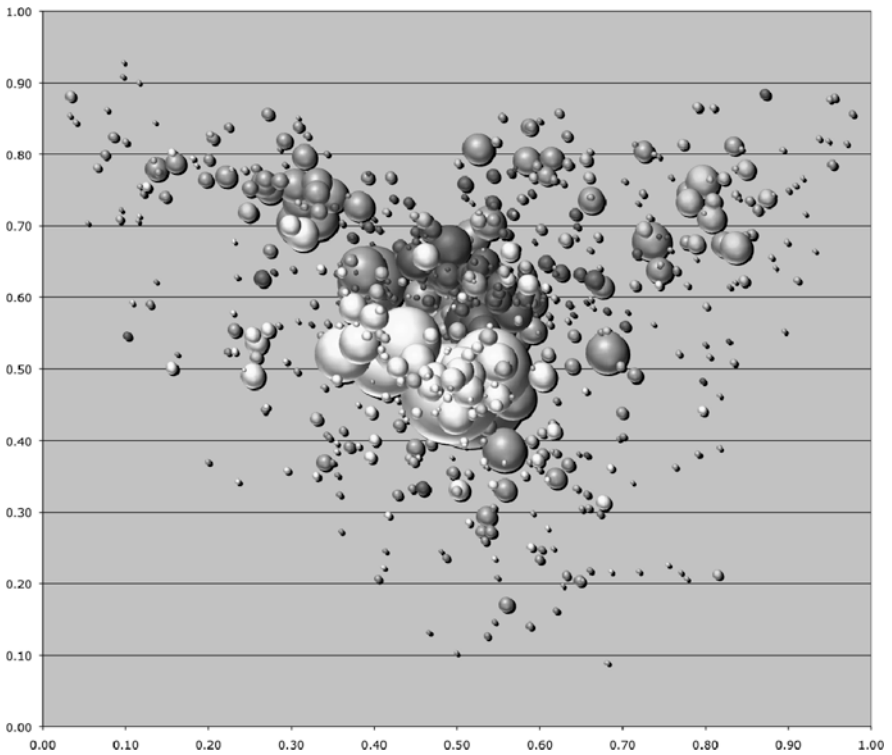


Fig. 7.5 Politicization and valence for top 1,000 news/info + NGO outlinks

All attentive clusters have preferred nodes. Examining *group focus* profiles for *celebrity/entertainment* and *science/medical* attentive clusters reveals their own preferred information sources. For the celebrity-focused cluster, the top CFIs belong to (a) “bestweekever.tv,” a blog-style site for a TV show reviewing celebrity and entertainment “news” and gossip; (b) the blog-style news and gossip aggregator of the E! (Entertainment Television) network, a subsidiary of Comcast; and (c) “nymag.com,” the website of *New York Magazine*. If the *law* example shows how blogs can serve a network of practice, these examples show how they can serve a more traditional entertainment market segment as well and create a strong feedback loop between bloggers and legacy media outlets. The collection of sites preferred by the science/medical cluster shows it to be a sort of hybrid of the two. Sites with the top CFIs are (a) “nature.com,” website of the leading science journal, which aggregates a professional and lay readership; (b) “sciencemag.com,” website for *Scientific American*; and (c) “scienceblogs.com,” a collection of blogs on particular issues related to science. These resources serve both professional scientists and a broader audience of interested non-scientists, including educators. In addition to publications, nodes with high CFIs also include government websites (several at “nih.gov,” the National Institutes of Health, and at “fda.gov,” the Food and Drug Administration) and organizations (like “realclimate.org,” a group focused on “climate science from climate scientists”).

In addition to clusters that represent their own topic domains, clusters that are subsets of other meaningful groups, such as within the liberal and conservative poles of the political blogosphere, likewise have their own cluster focus profiles. They will share certain preferences with the rest of their ideological cohort, but in addition they will have nodes to which they are drawn because of the particular interests that define their subgroup. For instance, there is a conservative cluster focused on Middle East politics, representing a strong pro-Israeli view and characterized also by claims about the dangers represented by Islam. High CFIs for this cluster include (a) “israelnationalnews.com,” a web-native site with English-language news about Israel; (b) “jpost.com,” the English language website of the *Jerusalem Post*; and (c) “danielpipes.org,” a blogger who follows the Middle East, but also looks globally (focus on United States and Europe) at issues of cultural conflict between Islam and the West. Other nodes with high CFIs for this cluster mainly include more Israeli news sites, and blogs focused on Islam (many far more strident than Daniel Pipes), with a particular interest in terrorism. On the liberal side, we likewise find a number of different clusters, include one particular cluster of feminist and racial identity-oriented blogs. Its preferred sources include (a) “brownfemipower.com,” a blog dealing with race and gender politics from a feminist perspective; (b) “blog.iblamethepatriarchy.com,” self-explanatory; and (c) “www.feministe.com,” which are in the same vein. The majority of nodes with high CFIs are blogs, though some organizations’ sites are included as well, such as “now.org” (the *National Organization for Women* website). One of the latter, “rhrealitycheck.org” (Reproductive Health Reality Check) calls itself “an online community and publication serving individuals and organizations committed to advancing sexual and reproductive health and rights,” and represents a type of organization mixing public communication, organizational partnerships, and political

mobilization. This hybridization of “talk,” “organization,” and “mobilization” is characteristic of a growing class of actors in the networked public sphere, examples of how the walls between “media” and “civil society” are softening.

Political Outlink Preferences: Valence and Politicization

While some sites mainly serve particular clusters, most receive at least some attention from blogs across the network, and at the “middle range” between particular clusters and the network as a whole, there are important trends in the distribution of attention from blogs to media and civil society websites. Regarding questions about journalism and public affairs, political blogs are especially relevant. And because of their prominent role in the network, political blogs are particularly important drivers of collective attention. There are two key dimensions to this function. The first, more obvious, one is tied to polarization between *liberal* and *conservative* blogs. Some nodes are strongly preferred by liberals, some by conservatives, and others receive attention from both. The proportion of links from one side vs. the other is referred to here as *political valence*. The second dimension, referred to here as *politicization*, is defined by the proportion of links from bloggers in political attentive clusters of either side, vs. those from non-political attentive clusters. In other words, some outlinks are preferred by political bloggers in particular, and others by non-political bloggers. If we look at the distribution of the most popular outlinks in these two dimensions, we can see how different clusters drive attention to different sites.

Figure 7.5 plots the top 1,000 outlinks in a space defined by politicization (y-axis) and *political valence* (x-axis). The distribution reveals, unsurprisingly, that nodes disproportionately of interest to political bloggers tend to be more ideologically polarized than those of more general interest across the network. That said, there are politicized nodes that receive equal interest from liberals and conservatives, and some nodes with more general appeal that nonetheless have an ideological skew in terms of the political bloggers they do attract.

The process of *selective exposure*⁶ naturally leads bloggers with strong political preferences to choose ideologically “friendly” sites to link to most often. This individual-level behavior has macro-level implications for the way various classes of online resources are drawn upon by bloggers, and these patterns reveal how new categories of actors are joining old ones in the public sphere. We can for instance distinguish between news and information websites, on the one hand, and NGO/advocacy websites on the other. Figure 7.5 presents NGOs (light gray), along with three categories of news and information site: (a) US national/global (medium gray), (b) US local/city/state (dark gray), and (c) foreign (white). Observing the graph, several points stand out:

- Liberal bloggers link more frequently to organization sites than do conservatives.
- In a pattern that is nearly a mirror image of the role of NGOs for liberals, conservative bloggers are served by politicized news/information sites.

- With a handful of exceptions, most local news and info sites receive a disproportionate number of links from political bloggers (high politicization), and yet these tend to be balanced in the number of links from left and right.
- Foreign news sources tend to be less politicized, which is largely a function of high interest among the UK/Aus/NZ cluster, which is not counted among the political poles. However, they tend to skew conservative. There are a number of foreign news and info sites (mainly Israeli and conservative British press) that are frequently cited by conservative bloggers.

We can further clarify this difference between NGOs and types of news and info sites by calculating an additional measure, *skew*, defined as the absolute value of the difference between a node's valence score and the expected valence score based on equal chances of being linked by liberals or conservatives. In other words, how politically "unbalanced" is the attention a node receives. Mean values for skew, politicization, and valence are shown (Table 7.1) for the four categories above, drawn from among the top 1,000 outlinks, as well as all .org nodes (1,579 in all) from the top 10,000 outlinks. Organization sites are clearly more politically skewed than news and information sites (including the MSM), and their valence tilts liberal. Local sites are the least skewed, and yet the most politicized, which goes against the general trend. A possibility is that local sites are rarely ideologically tilted, and yet are of high value to politically attentive people, i.e., *newshounds* who pay attention to news at the local level with similar alacrity as to national or global levels. Finally, foreign news sites have a low skew and politicization, but what tilt they do have is in the conservative direction as noted above. This is attributable largely to a conservative preference for information sites focused on Middle East politics, terrorism, and perceived dangers of Islamic radicalism.

Table 7.1 Average scores by category

	Skew	Politicization	Average Valence
NGOs (t10K)	0.267	0.537	0.58
NGOs (t1K)	0.226	0.604	0.54
Media: NAT	0.139	0.578	0.50
Media: LOC	0.086	0.620	0.52
Media: FOR	0.109	0.488	0.44

The data in Table 7.1 indicate that a new class of communicative actors, mainly NGOs and special purpose news and information sites, are linked by specialized (in this case, politicized) sets of bloggers, while the media in general hold more central position in the attention economy of the blogosphere. Though they are found across the space, the liberal side of the blogosphere interacts more heavily with this growing field of civil society actors, a finding consistent with the frequently heard claim that the liberal side of the political spectrum features more bottom-up, grassroots organization. A number of these liberal .org sites are little different than ideologically opposite versions of the politicized news and information site that serve conservatives. Popular sites like *commondreams.org* are not-for-profits that

provide alternative news sources for bloggers on the political Left. Others though represent social causes (e.g., <http://www.au.org>, Americans United for Separation of Church and State) through political organizing as well as participation in public communication via the blogosphere. And others exist mainly to provide specialized information to inform public debate: dots putting themselves forward for the world to connect, like the Iraq Coalition Casualties Count (<http://icasualties.org>).

Legacy Media and New Media

A closer look at the news and information sites provides greater resolution on the role of the media in the blogosphere. Table 7.2 provides additional detail on media subcategories. At a glance, the major trends are obvious. Local media, dominated by newspaper sites, are far more uniformly centrist than national-level media. Since there are also a lot of centrist national sites, this is just to say that national media contain a great many more politically polarized sites than operate locally. At the national level, broadcast entities are the least politically skewed, followed by newspapers. These media function as they do off-line, as “general interest intermediaries” drawing a range of readers/viewers from across the political spectrum. Magazine sites are more skewed, mirroring print magazines’ greater specialization. And online-only sites are the most skewed of all forms of news and information website. We see the essential pattern again: legacy media hold the center, online-only media fray the edges.

Table 7.2 Average scores for media subcategories

Scope	Medium	Type	Valence	Politization	Skew
Local	Other	Other	0.457	0.571	0.027
National	Broadcast	TV/air	0.453	0.595	0.048
Local	Online only	Online only	0.534	0.614	0.073
National	Broadcast	Radio	0.427	0.667	0.073
Local	Broadcast	TV/air	0.421	0.652	0.074
Local	Broadcast	TV/cable	0.463	0.543	0.089
Local	Print	Newspaper	0.540	0.620	0.093
National	Broadcast	TV/cable	0.464	0.563	0.108
National	Print	Newspaper	0.496	0.611	0.124
Local	Print	Magazine	0.530	0.590	0.138
National	Print	Magazine	0.520	0.562	0.140
National	Print	Other	0.551	0.570	0.152
National	Online only	Online only	0.469	0.583	0.162

Discussion and Conclusions

Are blogs and web-native media making old-style institutional journalism obsolete? The question has several faces. At the commercial level, institutional journalism is threatened by the Internet, both in the form of “citizen media” taking its

advertising-earning eyeballs and online “classifieds” taking its rents on informal markets. At the genre level, the integrity and validity of “objective” journalism and responsible expert opinion is contrasted to the more slippery and uncertified forms of online content found in blogs, YouTube, and other user-generated content. At the level of professional practice, journalists and bloggers argue over values of professionalism, independence, legal protection, and legitimacy as vessels of the public trust. But the picture is more complicated than the story of opposition normally lets on. Most links from blogs are not to other blogs, but to a range of online sites among which mainstream media (MSM) outlets are the most prominent. In addition, journalists are keenly attentive to blogs, often mining them for story leads and background research. Furthermore, the blogosphere is becoming as important as the front page of the paper for landing eyeballs on a journalist’s article. There is a cycle of attention between blogs and the MSM, in which the MSM uses the blogosphere as a type of grist for the mill, and the blogosphere channels attention back to the MSM. Indeed, it is becoming clear that the blogosphere and MSM are complementary players in an emerging system of public communications.

The above analyses have demonstrated that particular sub-networks of the blogosphere can be discerned based on the linking preferences of bloggers, and their preferences measured in a way that reveals online resources these groups prefer. The implication is that bloggers’ aggregate preferences serve to focus the attention of readers onto certain online resources in an extended ecology that uses collective social intelligence to match information to interests. The particular methods of measurement explored herein point toward a way to map in detail how in this way the blogosphere acts as a multi-focal lens of collective attention. Interest among bloggers creates network neighborhoods that channel attention to relevant online content. Discovery and analysis of these provides the promise of empirical exploration of new and critical ideas about the dynamics of public online media.

Even at this early stage though, there are observations to make about the interplay between new and old public sphere architectures, or more concretely, between blogs and legacy media. First, the current analysis indicates a strong symbiosis between the blogosphere and established commercial players of the mainstream media. Legacy media entities are at the center of attention across the blogosphere, continuing to fulfill the role they have aspired to in the past: to be general interest intermediaries at the crossroads of public discourse. There is nothing in the actual behavior of bloggers to suggest this role would diminish on account of lack of demand for this social function. The media’s business model problems are of course another matter entirely, but at this stage it looks safe to say that blogs do not make commercial journalism obsolete, least of all in the eyes of bloggers (regardless of what some of them say about the matter). If anything the central role of professional journalism in the expanded economy of political discourse makes it valuable in new ways, and to the extent its near-monopoly on agenda setting and public representation is broken, its role as an honest broker of verified information becomes yet more important.

Second, the Internet-mediated public sphere is not just changing the relationship among actors in the political landscape; it is changing the kinds of actors found

there, and changing what “media” is actually doing. Some of this is easy to see. Ten years ago there were no bloggers and now they are considered a formidable force in public affairs. The established media are changing as well. Newspapers and other online publishers have explicitly added blogs to their offerings and transformed the way general articles are published to seem more and more blog-like (e.g., hyperlinks, reader comments, embedded video). Bloggers on legacy media websites have quickly gained prominence, and some media companies have found great success via blogging. For instance, most people outside the Beltway think of *The Politico* as a website, not a Capitol Hill newspaper. As blogging and online media genres evolve, “blog” vs. “mainstream media” is becoming purely a cultural or perhaps commercial distinction, and not one of format.

Some of these changes are subtler however and will take a long time to play out. If the center of the outlink network is anchored by evolving versions of the MSM (with a hand from YouTube and Wikipedia), the space from the fringes inward is filling with a rich assortment of actors, including bloggers, grassroots organizations, niche publications, commercial firms, and advocacy groups. Many of these actors are essentially new or radically transforming from older selves. Organizations like MoveOn arise from nowhere, as older advocacy organizations struggle to retool for a communications environment that is changing fast. The mingling of citizens, organizations, publishers, parties, and others in a shared, hyperlinked, globally visible, and reciprocal communications space is quickly changing a lot of these participants’ game plans, just as e-commerce upset a lot of corporate apple carts a decade earlier. The resulting hypertext corpus and its topologically complex anthill of contributors constitute a new mode of knowledge production, opinion formation, and social mobilization that will grow to interface with established democratic institutions, particularly journalism, in ways we cannot fully predict.

While the Internet, vivified by blogs, fractures the landscape of public discourse across a great many new actors, a core activity of bloggers is to focus attention back to the MSM, particularly to institutional journalism. The structured tissue of bloggers, each a member of cross-cutting communities, creates a new medium of social knowing, but one which so far appears favorable to the presence of the kinds of high-visibility, central platforms represented by legacy media institutions. Big questions loom about the future of journalism in particular. The first is the one everyone is asking: how can professional journalism survive as a business model? Nobody knows of course, and opinions vary. If the answer is that it cannot, the question becomes whether and how its role in democratic society is replaced somehow. Who will be the public’s watchdog? There are questions about how well journalists have actually been performing this function, but is nonetheless difficult to see how the situation improves when they are gone, despite cyber-utopian faith in a cocktail of government transparency and blogging volunteers. If the profession finds a way to survive, its values and capacities somewhat intact, then the question becomes how its role in politics and public life changes. Much of what politicians do, they do because of fear of publicity, not its actuality. What kinds of political clout will these future journalists have? It is one thing to speak, another to be heard, and quite another to be a significant force in constraining the behavior of powerful elites. In the new

environment there is clearly a role for mainstream media in general, but commercial survival is only the first hurdle that journalism in particular must face.

Notes

1. Invisible colleges, etc.
2. Board interlocks, etc.
3. Adamic and Glance (2005).
4. Courtesy Morningside Analytics.
5. Fruchterman-Reingold reference.
6. Selective exposure citation.

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